LAB NEWS

VOL. 22, NO. 6 MARCH 13, 1970

SANDIA LABORATORIES • ALBUQUERQUE NEW MEXICO & LIVERMORE CALIFORNIA

Nuclear Fuels, Moon Rocks

New Laser Puts Heat on Materials

Occasionally a laboratory tool makes possible a whole new approach to an existing problem. Such is the case with the carbon dioxide laser, now the basis of a new materials research program.

This laser produces a steady 250 watts of infrared radiation that can be focused onto an area smaller than a square millimeter. When its beam is focused on refractory ceramic-type materials, they melt or vaporize. This suggests a new way to form nuclear fuels (whose optimum geometry is in the form of little spheres), permits studies of crystallization from supercooled melts, casts light on the origin of meteorites and the moon, and will soon be used to determine thermal properties of materials at very high temperatures.

In addition, the information obtained using this method will aid in predicting the behavior of systems during reentry into the atmosphere.

Lloyd Nelson (5224), who is conducting the studies at Sandia, notes that previously experiments relied upon weather-dependent solar furnaces or upon arc image furnaces which require huge power supplies and are difficult to operate.

"The laser," he says, "is easy to control, has a relatively low electrical input, can be operated at any time and indoors, and has a continuously variable beam power. In addition, no visible light is emitted to interfere with photographic or optical measurements."

In the short period that this laser has been in operation, it has already provided the basis for a patent application on formation of spherules, such as those used as nuclear fuels. Last summer, Lloyd, assisted by Norm Richardson (5224), and Bob Skaggs (a summer employee now at UNM) discovered that microspheres could be formed by melting the tip of a spinning oxide rod with the focused beam from the laser. The radial spray of tiny molten droplets solidified to form spherules of uniform sizes (controlled by the speed at which the rod was rotated). "This process shows promise as a means of producing microspheres of fuels for use in nuclear reactors or isotopic power units like SNAP-19," Lloyd explains.

A side-product of this work has been to demonstrate the value of the laser in geology. The result was a study with Klaus Keil, director of the University of New Mexico's Institute of Meteoritics, Milton Blander of North American Rockwell's Science Center, and Bob Skaggs. Their interest is in the laboratory simulation of chondrules (small spheres of rock found only in meteorites) and lunar spherules, which apparently result from meteorites hitting the lunar surface.

One phase of this study included using the laser to zap basalt from volcanic deposits in Hawaii in an attempt to simulate forces acting upon lunar material. The resulting glassy spherules, fine dust, and glass shards appear to support the theory of some scientists that meteorites impacting at speeds up to 50,000 mph on the moon's surface have three principal effects: 1) some of the lunar elements vaporize and disappear, 2) some material splatters out and falls back to the surface as drops, and 3) other elements, made molten under impact, condense into a glassy state. The results of the experiments were reported before the International Meeting of the Meteoritical

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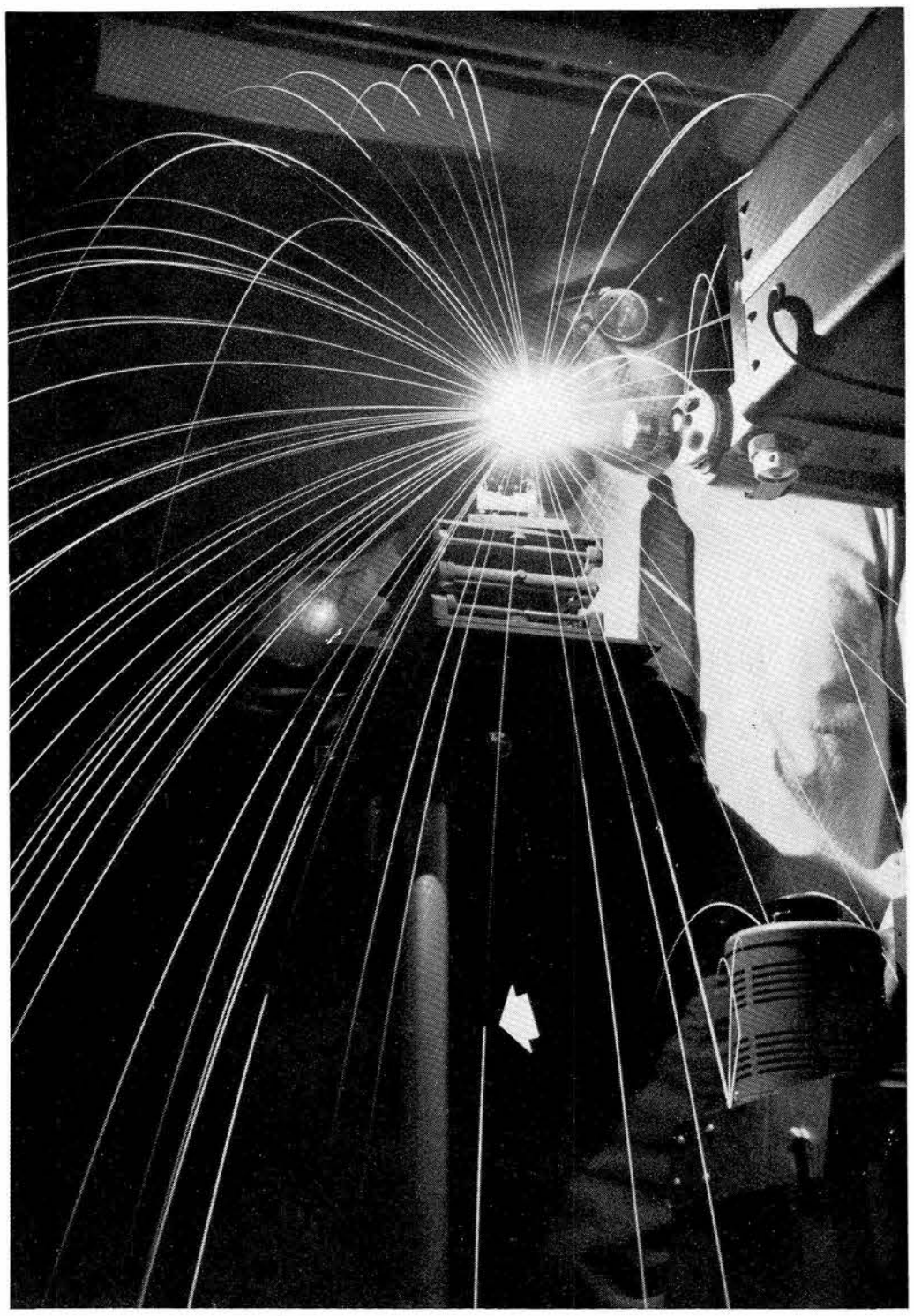


TIME-EXPOSURE PHOTO shows spray of molten droplets produced when spinning rod of alumina ceramic is melted by infrared energy from a carbon dioxide laser. Arrow points to intensified light—the "spearpoint" phenomena.

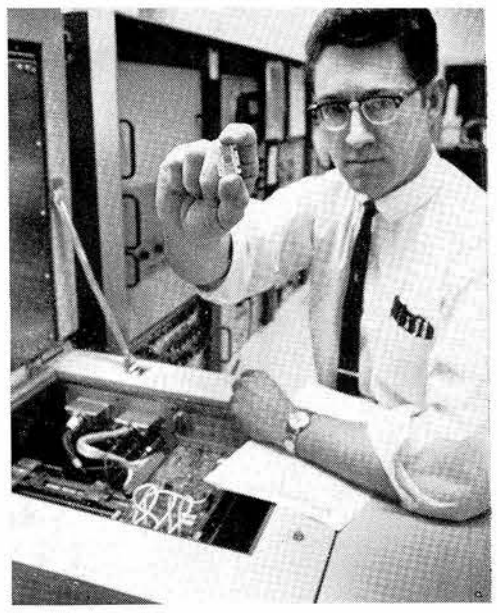
Three Contribute Chapters To Technical Books

Sandians have contributed chapters to several recently published technical books.

George Samara (5132) wrote a chapter, "The Effects of Hydrostatic Pressure on Ferroelectric Properties," for Volume 3 of the series "Advances in High Pressure Research," published by Academic Press in 1969.

Dick Schwoebel (5330) contributed a chapter, "Microbalance Theory and Design," to the book "Ultra Micro Weight Determination in Controlled Environments," which was edited by S. P. Wolsky and E. J. Zdanuk. It was published by Interscience Publishers.

Marvin Daniel (2442) submitted a chapter, "Device Modeling for Circuit Analysis Programs," for the book "Computer Oriented Circuit Design," which was edited by F. F. Quo of the University of Hawaii and Waldo Magnuson, Jr., of Lawrence Radiation Laboratory. The book was published in October by Prentice-Hall, Inc.



INTEGRATED CIRCUIT is displayed by Paul Gammil (2651). A typical test using the integrated circuit tester involves 40 performance measurements on each of 100 devices loaded in the temperature-controlled (from -65° to 150°C) test chamber. With the new EMR 6130 computer system, distribution curves of some 4000 data points will be immediately available after a test.

New 'Real Time' Computer Being Installed for 2600

A new EMR 6130 computer being installed in Bldg. 802 will increase the efficiency of test programs and experiments of Electronic Component Development organization 2600.

The new computer will make possible "real time" data acquisition and analysis of laboratory experiments and tests.

The computer is intended to service several users in what will be essentially a simultaneous manner, according to Charles Tapp, manager of Vacuum Tube Device Department 2610.

Seventeen laboratory stations will be connected to the computer system. In addition to controlling, recording and reducing experimental data, the computer can also simultaneously process regular programs.

"The laboratory experimenters will be

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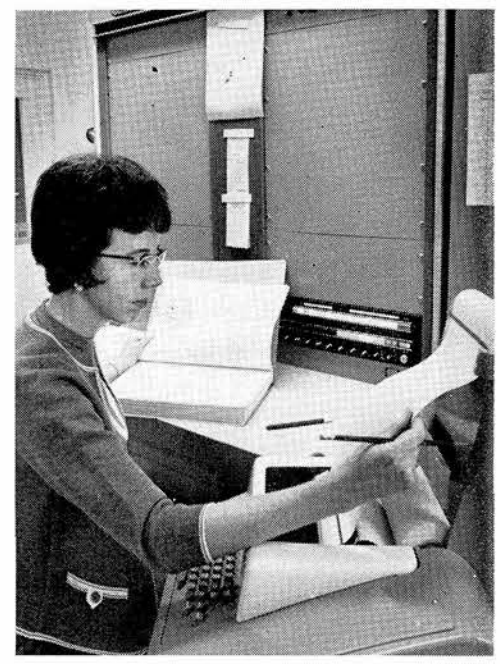


MARRIAN SALOMON (2615), responsible for applications programming for the new 6130 computer, checks data at the computer console. The new system makes possible immediate data acquisition and analysis of laboratory experiments of the Electronic Development organization 2600.

DIRECTORS of Northwestern Bell toured Sandia Laboratories recently. President Hornbeck here tells the group about Laboratories facilities and later hosted a dinner for the visitors. The Northwestern headquarters are in Omaha, Neb.

Honcho at Taos

Ski Racing Is Kid Stuff for Allen Church

The televised winter Olympic events from Grenoble, France, in 1968 gave many Americans their first close look at international ski racing. Even scaled down to New Mexico size, the thrills, competition, and detail that go into local races can almost be Olympic in size.

Allen Church (9132) has been involved in all phases of ski competition in recent years. He is junior program chairman for the Taos Winter Sports Club, is on the Board of Directors for the Rocky Mountain Division of the National Ski Association (and unofficially an officer of the Southwest Ski Council, the local branch), is a certified race timer and referee, and has two daughters who are racers—Nancy, the oldest, is among the top girl skiers in the state.

His latest activity was figuring out the ranking of more than 150 junior racers in the state. "It helps to be an engineer," he says. "I think I've figured out a simplified slide rule approach to use with the race results and handicaps." But even that won't eliminate the tears of frustration often seen on youngsters' faces when the rankings are posted. "Johnny knows he skis better than Timmy—and I know he does too—but if he failed to finish a race or had a slow time due to a fall or using the wrong wax, this will all show up in the results," Allen explains.

Allen's ties with the Taos Winter Sports Club go back to 1944. His father was headmaster of the boys' school at Los Alamos at the time the ranch house and adjacent buildings were taken over by the Manhattan Engineer District for its supersecret project. He finished his senior year at the school's temporary location at Sagebrush Inn in Taos. The winter sports club already had a junior ski program and trained near Los Ritos (roughly where Sipapu now is).

This year the club has 30 junior skiers, including about 11 from Albuquerque. The Churches and others from Albuquerque own property in Taos or at Taos Ski Valley and their children seldom have an opportunity to ski at Sandia Peak. The city kids are expected to train and compete on the same basis as the Taos youngsters.

Training gets underway in late summer with exercises and a couple hours of soccer every weekend. "We find the stop and go activity in soccer is great for the legs," Allen says. There is no minimum age for young racers, but training is pretty informal for those below eight years.

During Thanksgiving, Allen helped organize and run a four-day training camp at Taos Ski Valley which was attended by 40 persons (including the entire UNM ski team). Then Dec. 14 the official race season began and will continue until after Easter. In June, he will probably help plan a repeat of last year's popular 10-day course, which ended with a slalom in the west basin. "We had to use ammonium nitrate to keep the snow firm for all 50 contestants, but it was fun," he recalls.

Successful fund-raising events have enabled the Taos WSC to have a paid coach this season—Dadou Mayer, but it is still tough competing against Colorado clubs like Vail's which has 75 junior racers and five paid coaches. Even so, the smaller clubs try to get as many junior skiers to as many races as possible.

Janet, Allen's 11-year-old daughter, won a place on the New Mexico team which last month placed 10th in the annual Jaycee races at Winter Park, Colo. Nancy, who is 14, was one of seven juniors in the state to advance from Expert to Elite Class this season. This means she could compete for one of 18 positions on the national junior team. And that's not bad for a week-end skier whose "home" ski area is 150 miles from home.

ACTIVE WORKER for Taos Winter Sports Club's junior racing program is Allen Church (9132). Here Beth (center) and Noy Holland, daughters of Read Holland (5313), receive a pre-race briefing at Santa Fe ski area.

'Artists of New Mexico' Photo Exhibit on Display in Bldg. 802

"Artists of New Mexico," an exhibit of 30 photographs by Tom Zudick (3417) is currently on display in the lobby of Bldg. 802.

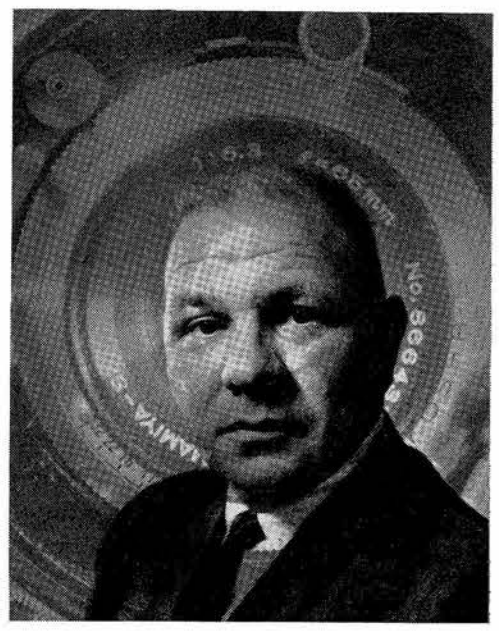
Portraits of such nationally recognized artists as Georgia O'Keeffe, Peter Hurd and Emil Bisttram are in the collection, as well as pictures of several Sandians noted for their creative work. These include Janet Jenkins (3417), Joe Laval (3433) and Wayne Gravning (3454).

Tom's photographs are part of a project which has occupied his spare time for about three years. To Tom the term "artist" includes musicians, composers, sculptors, photographers and craftsmen. He hopes to photograph all of the major artists working in New Mexico with the idea of perhaps producing a book.

"In the meantime," Tom says, "it is enough to meet these creative people, to get to know them, and to try to incorporate in a single photograph a strong character portrait with some idea of their work."

Many of Tom's photographs superimpose the artist's face onto a segment of a painting—a multiple-image or double exposure technique in photography. Others are a straightforward but dramatic treatment of the artist in his studio or work location.

The same collection of photographs was recently exhibited at the f/22 Gallery in Santa Fe and earlier at Jonson Gallery at UNM. Several of Tom's photographs (landscapes) were purchased by the Oakland Museum of Modern Art.



TOM ZUDICK (3417)
— photographer of artists —

Streamlined Tech Library Nears Goal of Relevance and Accessibility

What's going on in the technical library? Well, the librarians are about to wrap up the massive job of trimming the book collection from about 60,000 volumes down to 33,000 books of real relevance to Sandia's programs.

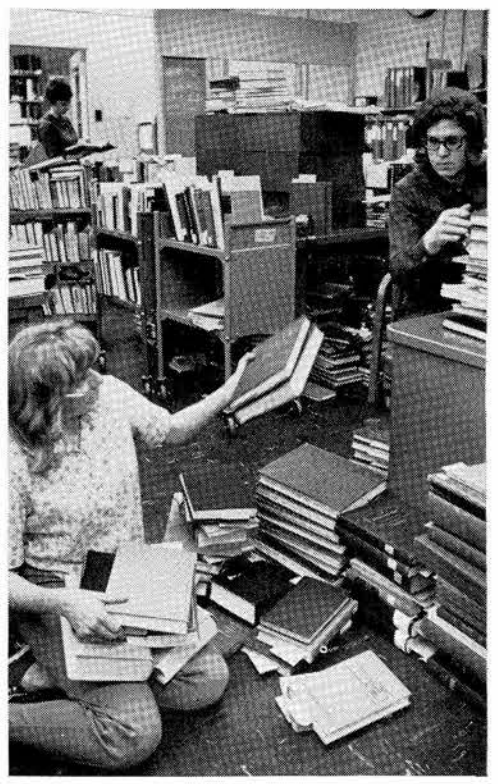
When the library was closed for three days in February, it was to allow a complete inventory of the remaining books and to change to the integrated Livermore-Albuquerque Libraries computerized circulation system.

The previous computer system had been in operation for six years and — as might be expected — there were many cases of circulation cards but no books, and books but no circulation cards. "Additions were made to the system," says Arlin Pepmueller, manager of Technical Libraries Department 3420, "but there was no readout, and it takes only a minor error in keypunching to lead to a mismatch of card and book."

In the near future, no more catalog cards! The entire collection will be listed in a computer-prepared book catalog, copies of which will be placed throughout the library and in other locations convenient for everyone's use.

The quarter-million reports have also been weeded and now number about 140,000; however, the destruction of classified reports is a time-consuming tedious task. The final stage in this process will begin about April 1.

"Having a good collection of information is not enough," says Arlin. "It is just as important to have that information cataloged correctly so that it can be utitlized to the fullest."



THE MATING GAME—Behind the doors in the Technical Library books are being matched against records as part of a complete inventory of the streamlined book collection. Barbara Garcia found the floor offered the best stacking area when desk space ran out. Kate Ruhl is working with her.

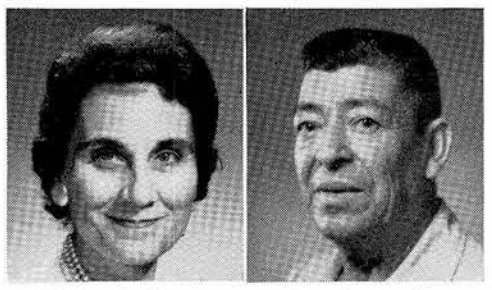
Exhibit Center Opens Tours Begin March 18

Sandia's Sphere of Science is no more. The geodesic dome structure is now called the Sandia Laboratories Exhibit Center. A new photographic display reflects technical activities of the Laboratories.

A group of students, members of the Rio Grande High School Science Club, will tour the center March 18.

Inquiries regarding visits of groups to the center should be directed to Community Relations Division 3433, tel. 264-3268.

Deaths



Virginia Southerland **Frank Armijo**

Virginia Southerland, an editorial assistant in Technical Division I 3411, died Feb. 24 after a long illness. She was 44.

She had worked at Sandia Laboratories since September 1951.

She is survived by a daughter.

* * *

Frank Armijo, a cleaner in Janitor Service Division 4574, died Feb. 20 after a long illness. He was 54.

He had worked at Sandia Laboratories since May 1952.

Survivors include his widow and a daughter.

Take Note

William Brya (5151) will discuss "Direct Observation of a Phonon Bottleneck Using a Brillouin Light Scattering" at the 5100 Staff Seminar on Tuesday, March 17.

"Approximate Analytic Expressions Describing the Attenuation of a Thin Pressure Pulse" will be presented by Larry Bertholf (5162) on March 24.

The seminar meets Tuesdays at 8:30 a.m. in Rm. 201 of Bldg. 806.

* * *

The Albuquerque Philatelic Society will hold a stamp auction Wednesday, March 25, at 7:30 p.m., East Central Branch of Albuquerque National Bank. The public is invited to bid. Officers of the club include Pete Kaestner (9323), president, and Jim McCutcheon (2326), vice president.

* * *

Attention Skiers: The Coronado Ski Club's trip to Purgatory over the Washington's Birthday weekend was washed out for lack of snow, but the area has since received some three feet of new snow. Paul Souder (1514) says Club members and their guests can still get reduced rates, however, if 20 or more sign up. Check with Paul about weekends of interest.

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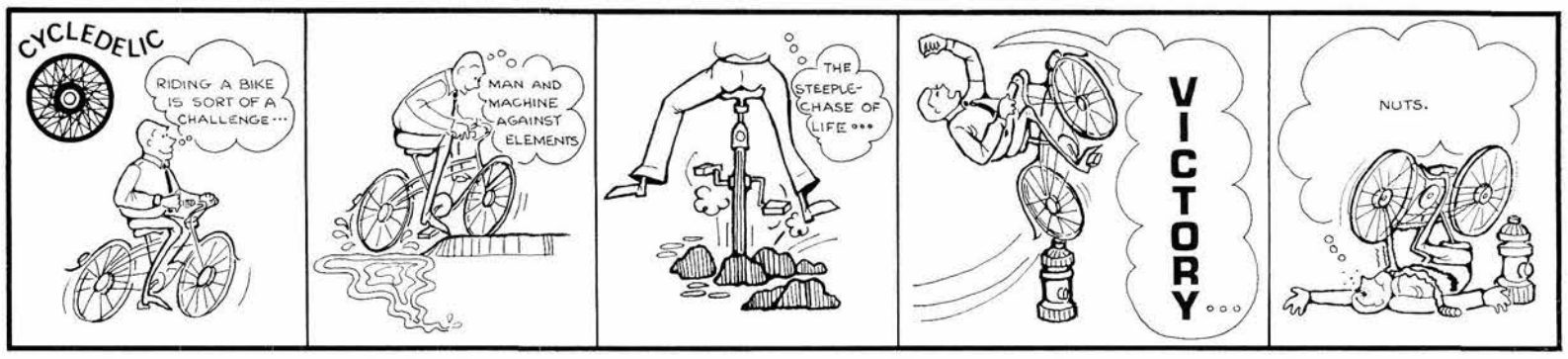


LIVERMORE NEWS

VOL. 22, NO. 6 SANDIA LABORATORIES MARCH 13, 1970

170-HORSEPOWER ENGINE is unique feature of Manx dune buggy built by Jerry Henderson (8162) in his spare time. Polished "mag" wheels and a $700 fiberglass body add to class as well as cost.

Sand Blaster on Wheels

Beach Buggy Offers Dune Fun

"Driving off the highway and away from it all is the great thing about dune buggies," says Jerry Henderson (8162).

"Originally, I had a motorcycle for this purpose, but couldn't take my family with me. Now, with my Myers Manx buggy, we can all go. Our favorite spots are Marina Beach and Moss Point Beach, both within a two-hour run from Livermore."

Jerry built his buggy from scratch. After purchasing a wrecked Volkswagen, he chopped 14 inches from the chassis, shortened control linkages, and made adjustments in the transmission to accept a bigger engine. Finally, he bought a new fiberglass body and assembled all the parts.

"I started out with a VW engine, but switched to a Corvair engine which has 170 horsepower," Jerry says. "It has a carburetion system equal to about five normal Corvair carburetors. With the combination ram manifold system and special grind cam on it, I get the high horsepower."

Working evenings and weekends, Jerry spent eight months completing the buggy at a cost of about $2500. "The cost depends on how you build it," he notes. "If you want the buggy for strictly 'off-the-road' driving, you don't put polished 'mag' wheels on it or buy a $700 body, as I did."

Being able to get off the road isn't the only reason for enjoying a dune buggy, Jerry finds. "They're easy to park, and have the same advantage of any sports car — you want to find a nice winding country road and just drive. Not babying my buggy, I get about 20-21 miles to a gallon of gas."

Jerry says he has done some racing, but usually nobody wants to compete against his buggy because of its horsepower-to-weight ratio "The one time I did run my buggy, it finished third for the best time of the day, but I was running against Cobras.

"Many conservationists say dune buggies are destroying the beaches, but I disagree," comments Jerry. "I feel that the buggy has opened up large areas where people don't usually go because it's difficult by auto or on foot.

"In fact, I'm in the process of building another buggy," Jery says, "but this time it will be a 'sandrail' which is strictly an off-the-road machine for driving in these out-of-the-way areas. Actually, there's not much to them. The main structural member of a VW is a tube down the center. By cutting away everything else, you have only this column where your seats are mounted. So it will be an engine, tires, and just enough support structure to hold a person up. Hopefully, it will weigh less than 900 pounds versus the present buggy's 1400-1500 pounds."

Livermore Golf Club Names New Officers

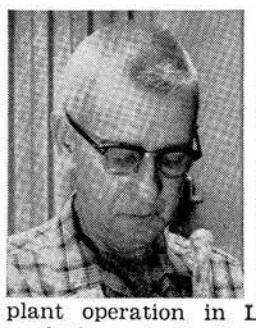
Bill Ormond (8217) has been elected president of the Sandia Employees Golf Club for 1970. Other officers serving with him are Mike Stephenson (8172), treasurer, and Moe Houk (8161), secretary.

One tournament a month, as well as weekly twilight league during the summer months, has been scheduled again this year. Prizes will include trophies, golf balls, and gift certificates.

The first tournament was played Feb. 14 at the Sunol Valley Golf and Country Club. First place trophy went to Gabe Gabrielson (8321) with a low net score of 76. Chuck Riney (8252), Bill Landt (8139), and Earle Paxton (8232) tied for second place with scores of 78.

The next SEGC tournament will be held March 14 at Las Positas Golf Club. Employees interested in joining the league or playing in this tournament should call Mike (ext. 2314) or Moe (ext. 2601) for reservations.

Retiring



Smoky Culver, a plant technician-mechanical in the Plant Maintenance Division 8222, retired the end of February after nearly 23 years at Sandia Laboratories. For the past eight years he was assigned to the steam plant operation in Livermore where he worked as a boiler fireman and as a steam plant operator.

Before transferring to Livermore in July 1962, Smoky worked for 15 years as a plant protection fireman in the Salton Sea Fire Department.

"Both my wife and I are qualified junior bowling instructor/coaches," says Smoky, "so we'll probably continue to work with kids 6-19 years old to get them ready for local and state tournaments. We'll have more time to be with them during competition play too. Then, too, my son and I plan to get some fishing in. Later on, I expect to do lots of camper traveling. There are plenty of places and people in the United States we want to visit."

Teachers Needed for Enrichment Program

Teachers are needed for this year's Summer Enrichment Program which will be offered in Livermore from June 22 to Aug. 14 for students and adults of nearly all ages.

Sponsored by the Nursery School Scholarship Fund (NSSF), the program is available in addition to the usual summer school curriculum which will be rather limited because of current financial problems.

Teachers need not have teaching credentials. The primary requirement is their interest, enthusiasm, and the desire to share their specialty with students. The volunteer teachers are invited to choose their subject and specify the exact time they want to teach, the size of the class, and the approximate age of the students.

The main objectives of the program are to provide intellectual enrichment to students and to raise funds for the Nursery School Scholarship Fund, out of which tuition costs are paid to send low income and non-English speaking children to Valley nursery schools. Last year the program raised nearly $1000 for the Fund.

Employees interested in volunteering to teach out-of-hours are urged to call either Mrs. Marilyn Lane, 447-7609, or Mrs. Judy Weiss, 447-3533, of the NSSF before the end of April.

National and Local Agencies Express Appreciation for LEAP Support

"We continue to receive letters of gratitude from the various health and welfare agencies which Sandia employees are supporting for the first time this year," says Alec Willis (8351), vice chairman of the Livermore Employees Assistance Plan (LEAP).

"These responses are in addition to the appreciation expressed by the organizations last summer when they were selected for support."

Under LEAP, employees contribute to eight local and national health and welfare agencies in addition to the United Bay Area Crusade (UBAC) agencies which previously were the only recipients.

Now, 20 percent of employee contributions are allocated to four local and four national agencies; 79 percent goes to UBAC, representing 180 agencies in the five-county Bay Area; one percent remains in reserve until the year end and is then distributed according to the specific needs of a particular agency.

Many of the letters request that the agencies' appreciation be passed on to each Sandia employee who participated. Some comments are:

Alameda County Heart Association, letter dated Nov. 11, 1969 — ". . . With the support of individuals and corporations, we are continually expanding our efforts, with notable results, in the fight against heart disease . . ."

American Cancer Society, letter dated Jan. 19, 1970 — ". . . In addition to helping support our nationwide research program, such contributions help us provide local programs of education for the medical professions and the lay public as well as direct services for the patient with cancer . . . allows us to plan our cancer control activities in advance, so that overhead costs can be held to a bare minimum."

Cerebral Palsey Center for the Bay Area, letter dated Dec. 15, 1969 — ". . . . I believe that our director has already informed you that our Center is entirely self-supporting, receiving no financial aid from any federal or state funds or from United Crusade, and therefore, contributions such as yours help tremendously in our efforts to serve these handicapped people . . "

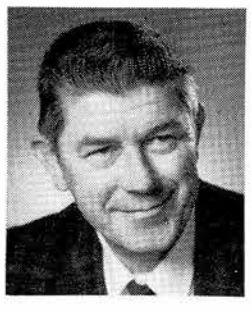
Muscular Dystrophy Association of America, letter dated Jan. 12, 1970 — ". . . Funds raised help to buy wheelchairs, braces, lifts, and to provide other needed services for patients afflicted with this disease. Your . . . contributions . . . will help a great deal to ease the discomfort of our patients and hasten the day when research will put an end to this crippler . . ."

Valley Memorial Hospital, letter dated Oct. 27, 1969 — ". . . most helpful in expanding our Equipment Funds. The need for new equipment in an era of rapidly advancing medical science cannot be overemphasized . . ."

Alec comments that the concept of LEAP, whereby employees can make a "once for all" contribution to charity, seems to be working well in the community. "For instance," he says, "the Heart Association called me recently about their annual drive. They are instructing their 'Heart Sunday' solicitors to honor Sandia's LEAP participation sticker by not actively soliciting people who display it, but simply giving the information and thanking them for their contribution through LEAP."

LEAP COMMITTEE MEMBERS (from left) Sylvester Grisby (8122), Doris Guntrum (8234), and vice chairman Alex Willis (8351) review some of the letters of gratitude received over the past several months from various health and welfare agencies, both national and local, which Sandia employees are supporting.

Death



Clifford O. Erickson, supervisor of Mechanical Design Drafting Section 8252-1, died suddenly Monday, March 2. He was 50.

Cliff joined Sandia Laboratories Albuquerque as a design draftsman in August 1954 and a year later transferred to the Design Drafting Division at Livermore. In April 1961 he was promoted to his present position.

Survivors include his widow Dorothy, two daughters Lynn and Jan, and two sons Keith and Reed.

Congratulations

Sarah Thomsen (8232) and Dick Silva (8222), married in Carson City, Nev., Feb. 7.

Mr. and Mrs. Al Reichmuth (8252-4), a daughter, Tina Louise, Jan. 18.

Sympathy

To Dick Ballard (8212) for the death of his mother in Selma, Ala., Feb. 9.

To Mike Stephenson (8172) for the death of his father-in-law in Wilbur, Wash., Feb. 1.

To Bill Brown (8161) for the death of his sister-in-law in Hayward, Feb. 15.

To Stan Serpa (8256) for the death of his brother in Truckee, Feb. 16.

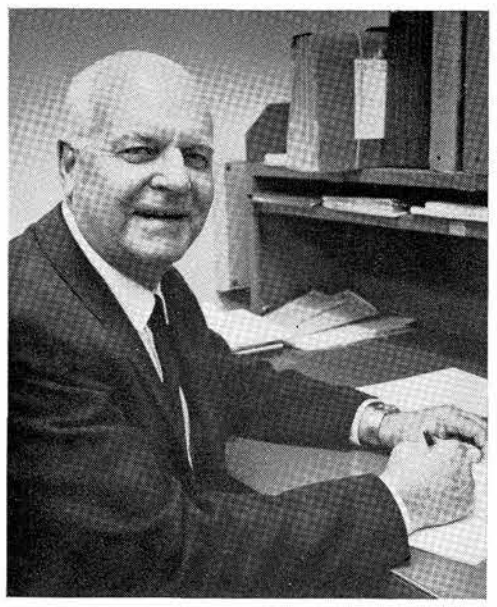
To Celso Vazquez (8256) for the death of his son-in-law in Hawaii, Feb. 18.

To Ralph Thompson (8122) for the death of his father in Mill City, Ore., Feb. 24

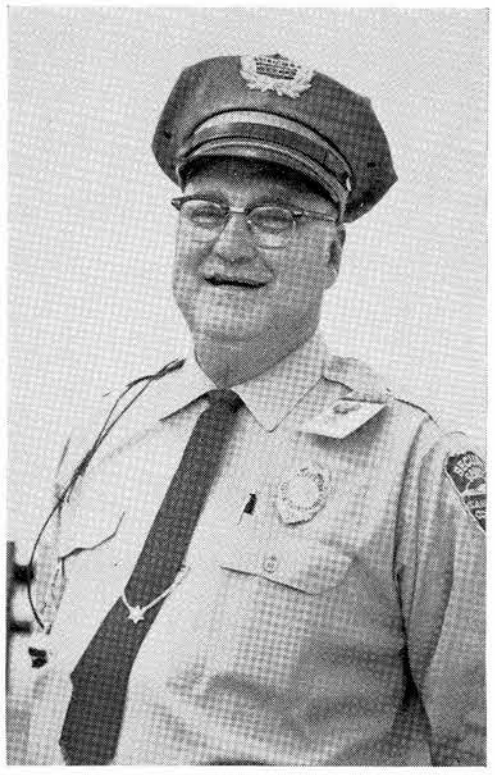
To Mo Jones (8184) for the death of his father in Lovell, Wyo., Feb. 20.

Retiring

HAZEL BOYDEN
Stockpile Systems Test & Evaluation 7422



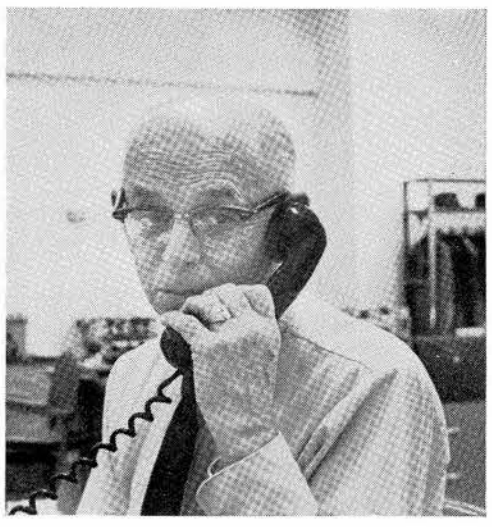
O. D. CHAPMAN
Supervisor, Self-Service Stores 4613-3



JOHN FRIZZELL
Access Control 3521

JACK BULLOCK
Supervisor, Machine Tool Maintenance 4517-2

KARL LINDELL
Instrument Repair & Calibration 7512

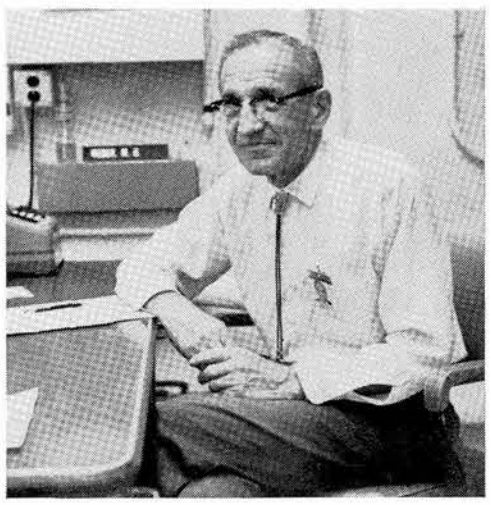


FRANK MARTIN
Financial 6021

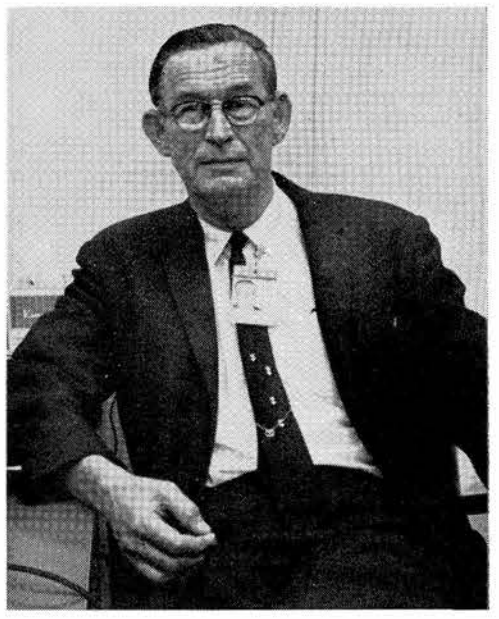
WILBUR SHEAFFER
Transducer Evaluation 7511

ELLSWORTH HUBBS
NTS Staff 9131

EMMA BENDERMAN
Records Management 3428

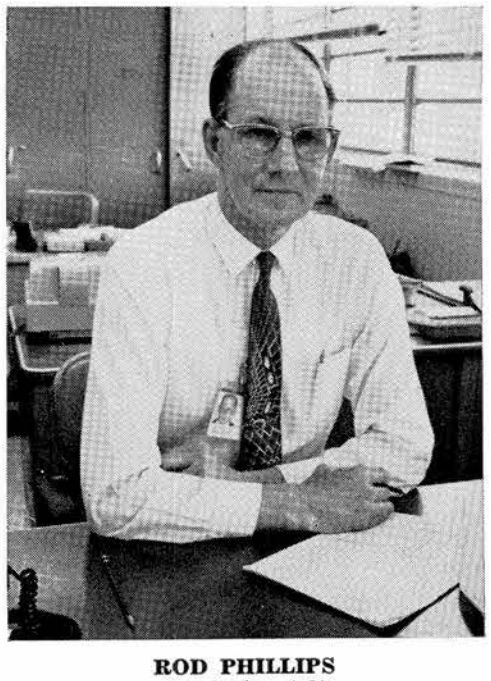


MIKE WEBER
Internal Audits 4123

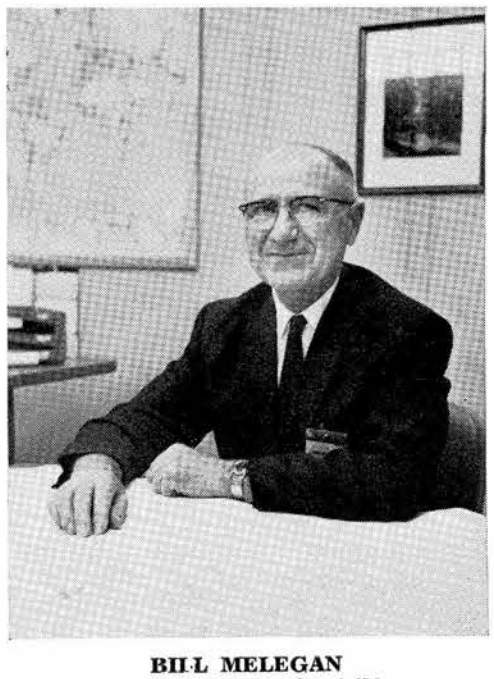


TED MORSE
Measurements Development 9116

JOY CANNEDY
Payroll & Disbusements Auditing 4131



ROD PHILLIPS
Vouchering 4135



BILL MELEGAN
Design and Drafting 7651

FRANK BACHICHA
General Stores 4613

Menaul Facility Now Operational —

Transducer, Instrument Center

Some 12 minutes from Sandia Base, via freeway, is Sandia Laboratories' "Menaul Facility." This large structure, containing some 14,650 sq. ft. of usable space, at the corner of Menaul and San Mateo, is remembered by many Sandians as a Safeway grocery store.

Now converted into laboratory and testing area for the 50 employees of Transducer Evaluation & Calibration Division 7511 and Instrument Repair and Calibration Division 7512, the facility has been in operation for about six months.

Activities of both divisions are completely unclassified. Division 7511 works with outside suppliers (through arrangements with Purchasing 4300) during development phases of special transducers to meet Sandia specifications. The location of the facility is ideal for this activity.

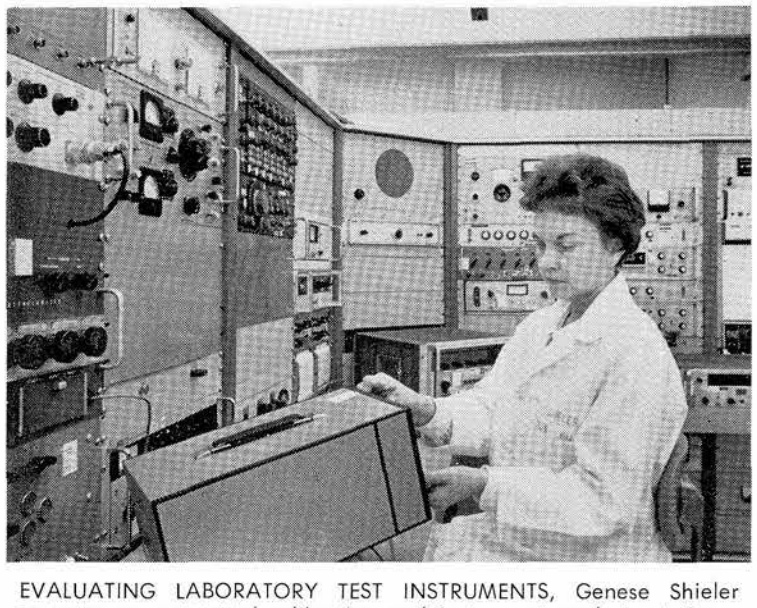
Transducers are instruments such as pressure gages, accelerometers, thermisters and strain gages which normally sense a mechanical motion and convert it into an electrical signal.

A stock of these instruments is maintained by the Menaul Facility for use by Sandia's aerothermodynamic, field test and environmental test organizations. Each instrument is calibrated against transfer standards and a record of performance is provided when the instrument is issued.

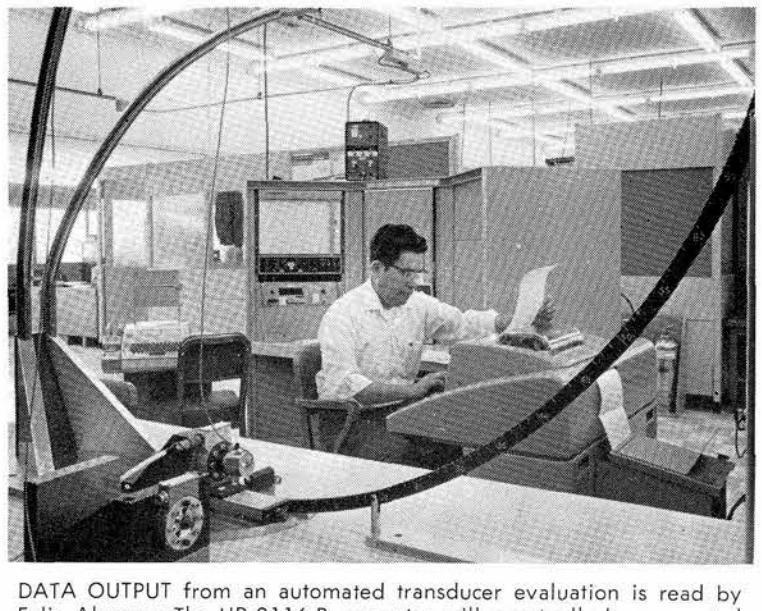
In addition to this activity, the Menaul Facility continually evaluates new transducers on the market and provides an inspection and acceptance service for telemetry components ordered by Sandia from outside suppliers.

Various laboratory and test equipment such as the High-G shock machine, vibration shaker and shock tube were relocated to the Menaul Facility. Space thus opened within Tech Area I is being used for classified technical projects.

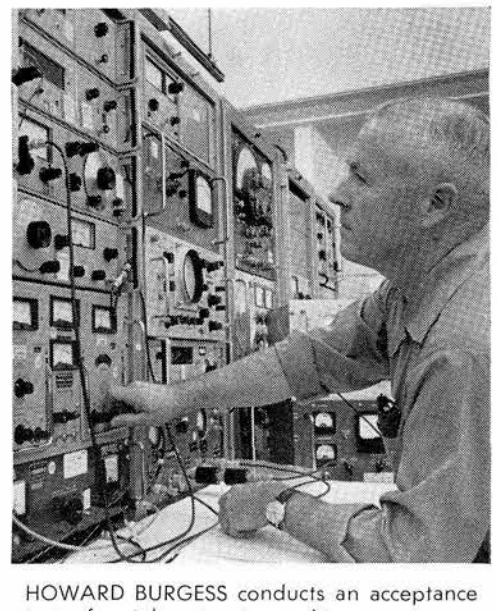
DIVISION SUPERVISORS at the Menaul Facility are Art Cole (7511), left, and Jim Harrison (7512).



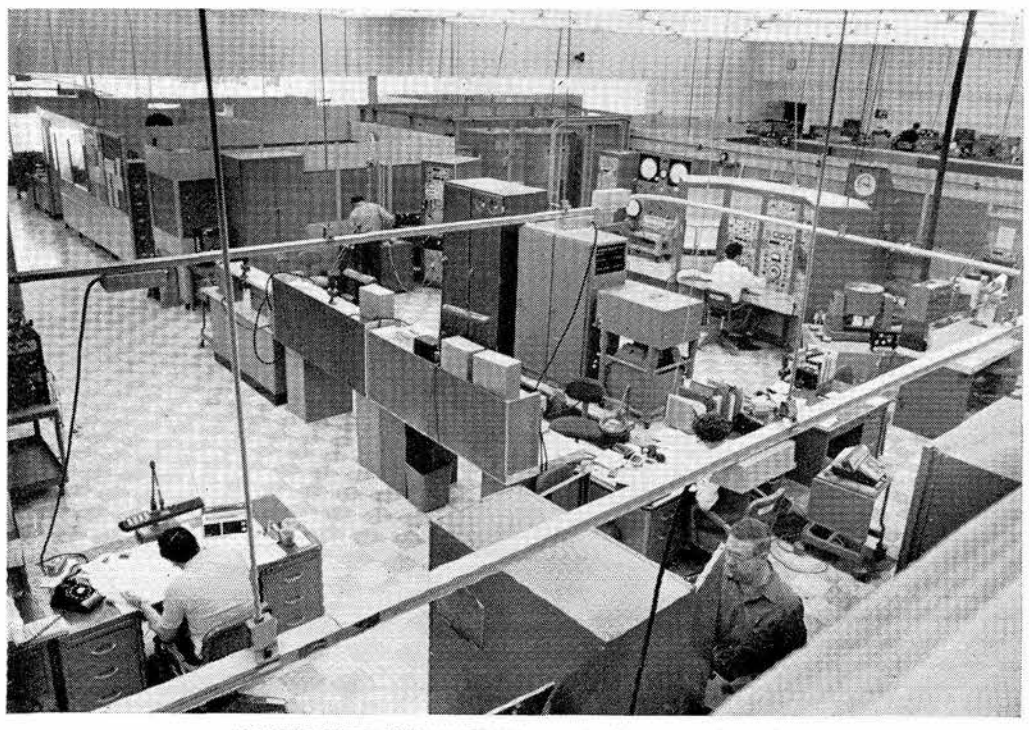
EVALUATING LABORATORY TEST INSTRUMENTS, Genese Shieler operates an automated calibration and instrument analysis station.



DATA OUTPUT from an automated transducer evaluation is read by Felix Almaraz. The HP 2116-B computer will eventually be connected to most test equipment in the Menaul Facility. In foreground is a ballistic pendulum used to calibrate shock accelerometers.

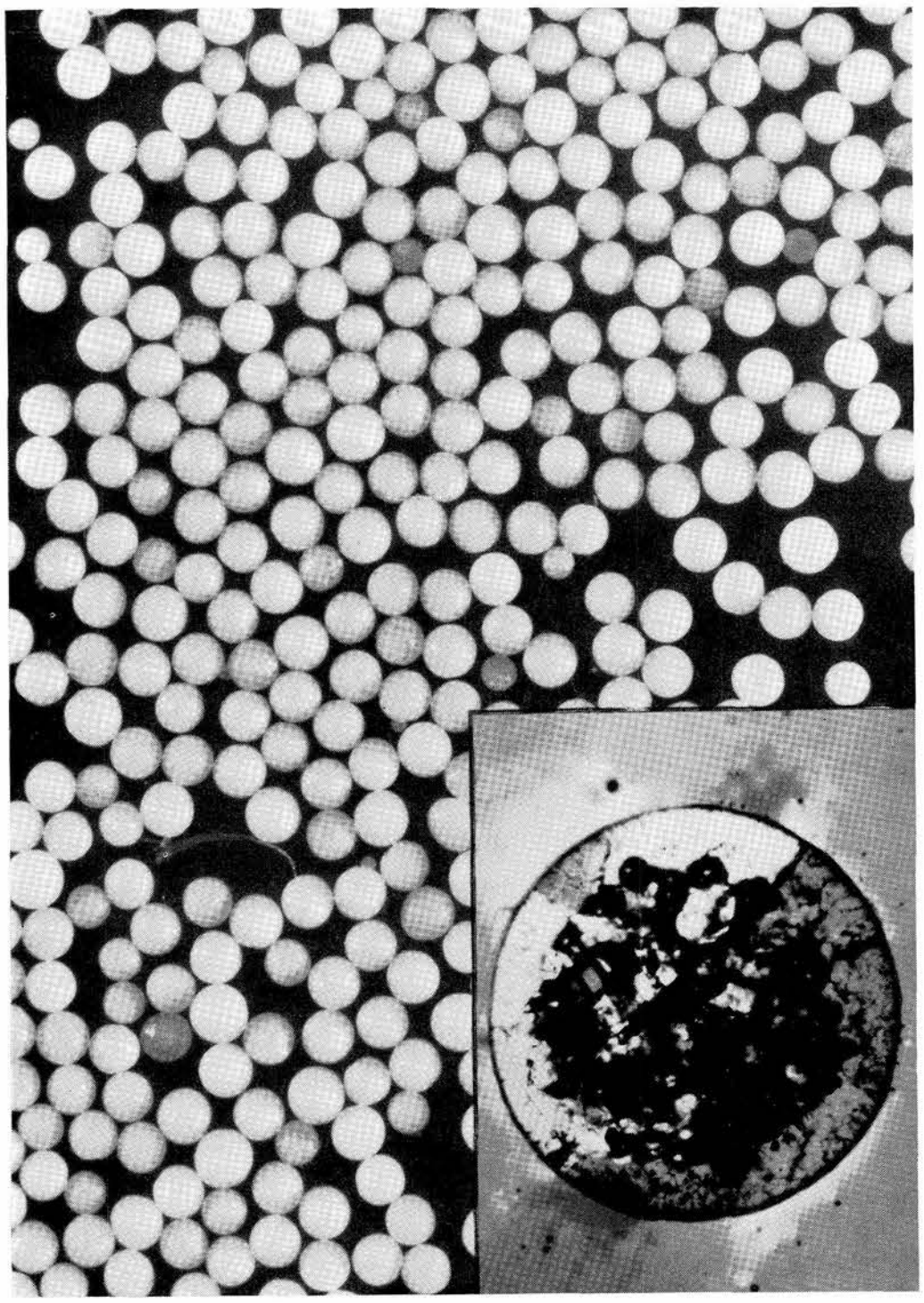


HOWARD BURGESS conducts an acceptance test of a telemetry transmitter.

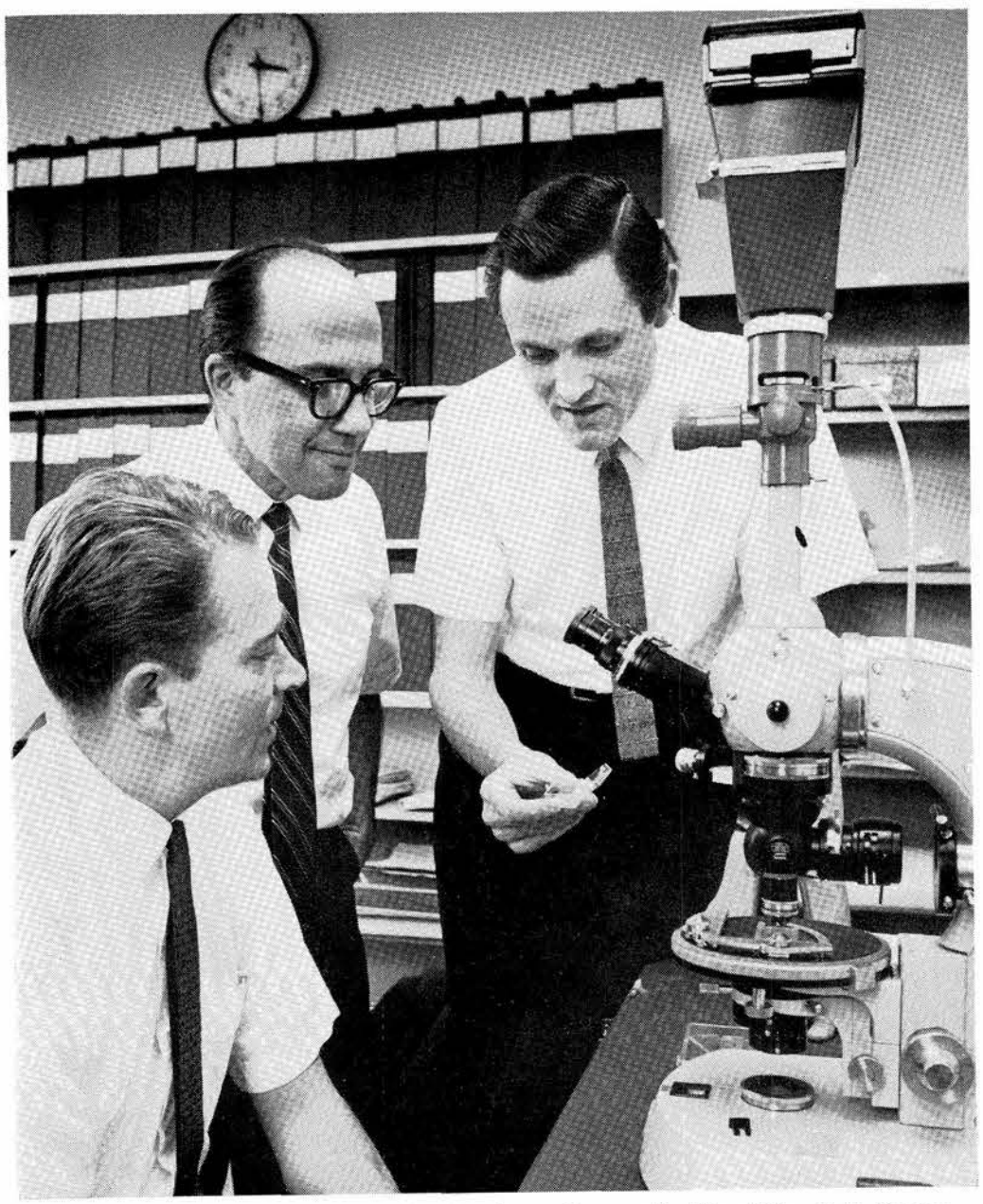


TRANSDUCER EVALUATION area in the Menaul Facility.

INSTRUMENT CALIBRATION AND REPAIR area in the Menaul Facility.



RANDOM SELECTION of spheroids created when alumina ceramic is zapped with a carbon dioxide laser. Process shows promise as new way to form fuels for nuclear reactors. Insert shows cross section of a spherule, .8mm in diameter (slightly smaller than the head of a pin). Study of crystal formation indicates possibility of six separate growths of crystals around the core.



THIN SECTION of simulated lunar rock is the object of interest for (l to r) Klaus Keil, director of the UNM Institute of Meteoritics; Milton Blander of North American Rockwell's Science Center, and Lloyd Nelson (5224).

Continued from Page One

Laser Puts Heat on

Society, held at the NASA Manned Spacecraft Center in Houston last October.

These studies relate to Lloyd's research of several years in "spearpoint" phenomena. Using the flash heating method, he found that molten droplets of many metals and oxides cool so rapidly that they go far below their normal "freezing" temperature before solidifying; then, abruptly becoming solid, the release of heat causes increased emission of light (a spear-like photographic image).

"In both the flash heating and laser methods," Lloyd says, "a unique environment is created for solidification of a molten drop. Freezing is not caused by the usual specks of impurities, container walls, or vibrations."

Special techniques developed at UNM for study of lunar samples have proved to be of great value in studying Sandia's spherules of refractory materials. Technicians in the Geology Department directed by Dr. Keil prepare the Sandia-made spherules in thin sections about 20 microns thick — thin enough so that light can penetrate the solidified material.

Microscopic study of these sections has indicated crystal growth patterns. In most cases, the patterns are similar to the crystal structure of chondrules: some spherules are glassy, some show crystals that grew as a crust, others have crystals that grew from centers inside the spherules, and still a fourth type has crystals which grow from a single point on the surface. The spearpoint studies show great promise in accounting for the differences in crystal growth.

Continued from Page One

New 'Real Time' Computer

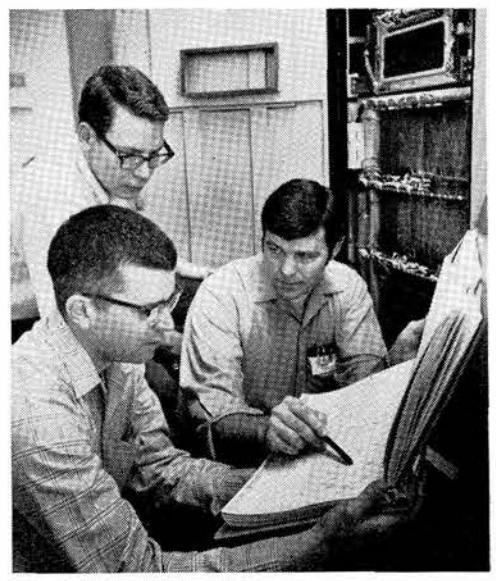
able to see graphical displays of their data as it is being accumulated," Charles says. "Furthermore, the data presented to the experimenter can be processed by the computer according to his own program and decisions based on the reduced data can be made during actual operation of the experiment — a particular advantage in reducing data from the large automated semiconductor test machines of Division 2561."

These automated testers run as many as 100 devices through a series of performance tests at various temperatures. With real-time data acquisition, the operator can spot a faulty test immediately and correct the situation.

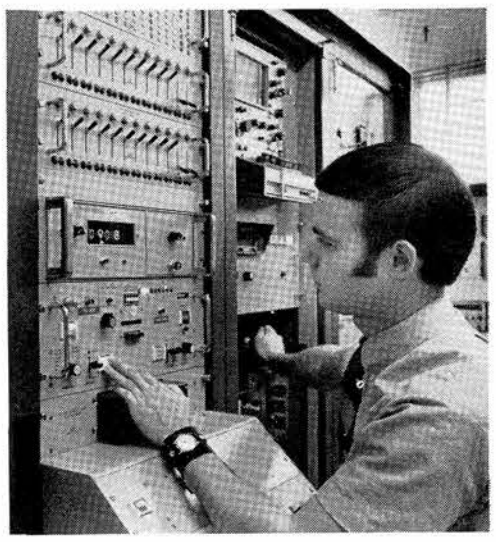
Additional applications of the computer will involve physics experiments in which the computer will be used to control the experiment — make decisions as the data is accumulated. An example would be controlling a vacuum furnace as it comes up in temperature so that at no time is a prescribed pressure exceeded.

To make the computer as usable for as many people as possible, this real-time process control capability can be programmed in ordinary FORTRAN IV language.

A similar system, using an EMR 6130 computer has been operating in the Area V reactor area since last spring. Rich Berlint and Jim Krone (both 9425), who performed systems programming for the Area V EMR 6130 computer, also worked on the organization 2600 installation in Bldg. 802. Carl Longerot (2615) and Jack Marceau (2454) are responsible for the electronic hardware interface between the laboratory equipment and the computer. Marrian Salomon (2615) is responsible for applications programming.



SYSTEMS PROGRAMMING for the new EMR 6130 computer in Bldg. 802 was performed by Jim Krone, left, and Rich Berlint (both 9421), who also worked on a similar installation in Area V. They confer with Carl Longerot (2615), right, who with Jack Marceau (2454) is responsible for the electronic hardware interface between the laboratory stations and the computer.



TACT TESTER, operated by Grayson Garrett (2651), can conduct 20 electrical performance tests sequentially on 100 transistors. The new EMR 6130 computer system will provide immediate data reduction and analysis of these tests.

Speakers

L. W. Davison (5133), "Thermomechanics of Liquid Crystals," University of Kentucky Metallurgical Engineering Seminar, March 11, Lexington.

L. S. Nelson (5224), "Laboratory Applications of the Carbon Dioxide Laser," American Society of Certified Engineering Technicians meeting, Feb. 23, Albuquerque.

R. L. Gerlach (5331), J. E. Houston (5332), and R L. Park (5331), "Ionization Spectroscopy of Surfaces," American Physical Society's 30th annual conference on physical electronics, March 30-April 1, Milwaukee.

R. T. Johnson, Jr. (5132), "Cadmium Sulfide Neutron Detectors: Annealing of Radiation Damage," Scintillation and Semiconductor Counter Symposium, March 11-13, Washington, D.C.

H. R. Holmes (9123), "Some Practical Aspects of Shock Mitigation for Data Recording Stations in the Presence of Large Amplitude Disturbances," AFSWC Symposium on Instrumentation for Nuclear Weapons Effects Simulation, March 12-13, Albuquerque.

N. G. DeLollis (5333), "What Is a Clean Surface," Society of Aerospace and Process Engineers, Feb. 23, Albuquerque.

E. C. Domme (9414), "Using Computers in Engineering Data Management Systems," Albuquerque chapter, Society of Technical Writers and Publishers, Feb. 18.

W. J. Brya (5151), "Direct Observation of a Phonon Bottleneck Using Brillouin Light Scattering," University of Illinois, March 6, Urbana.

J. M. Peek (5234), "On the Theory of Collisional Dissociation of Diatomic Molecules," University of Connecticut Physics Department Colloquium, March 6, Storrs.

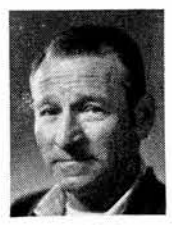
E. L. Burgess (5321), "Energy in Our Society," House High School, March 18, House, N.M., and March 13, Santa Fe High School.

R. H. Ericksen (5321), "Metallurgy — Damascus Swords to Apollo 12," Dora High School, March 20, Dora, N.M

M. K Linn (3400), "Water Planning for Equilibrium," 15th annual New Mexico Water Conference, March 12, Las Cruces.

Service Awards

20 Years

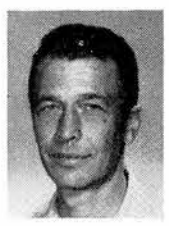


John Blythe
4232

Raymond Glass
9132

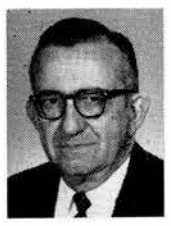
James Hann
1522

Robert Hartenberger
4573



Donald Loehle
7513

Donald Rauch
4612



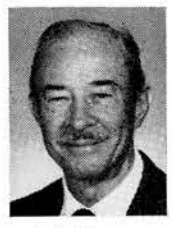
Athony Repetti
2615

15 Years

Donald Cox
5222

Mark Elich
1613

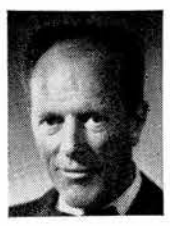
Leonard Flesner
7422



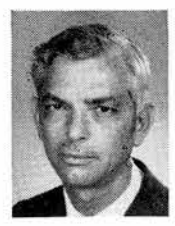
Robert Newman
3417

10 Years

David McCarthy 2341, William Burnett 3311, Wendell Nelson 4142, Charles Ray 6021, William Farrar 7532, and Richard Curlee 5312.



William Parker
7251



William Roper
7371

Events Calendar

March 13-15—"Dada Is As Dada Does," a collage of surreal plays. Old Town Studio, 1208 Rio Grande NW.

March 14—Hike into Embudito Canyon. N. M. Mountain Club, leader George Coen, tel. 268-0085.

March 15—Navigation training in the Sandias. N.M. Mountain Club, leaders Will Snyder, tel. 299-4172, and Ed Clark, tel 296-4541.

March 17—French mime "Marcel Marceau." UNM Popejoy Hall.

March 19—UNM Symphony Orchestra with George Robert, piano soloist. UNM Popejoy Hall.

March 21—Albuquerque Symphony Orchestra's Young People's Concert at 3 p.m. UNM Popejoy Hall.

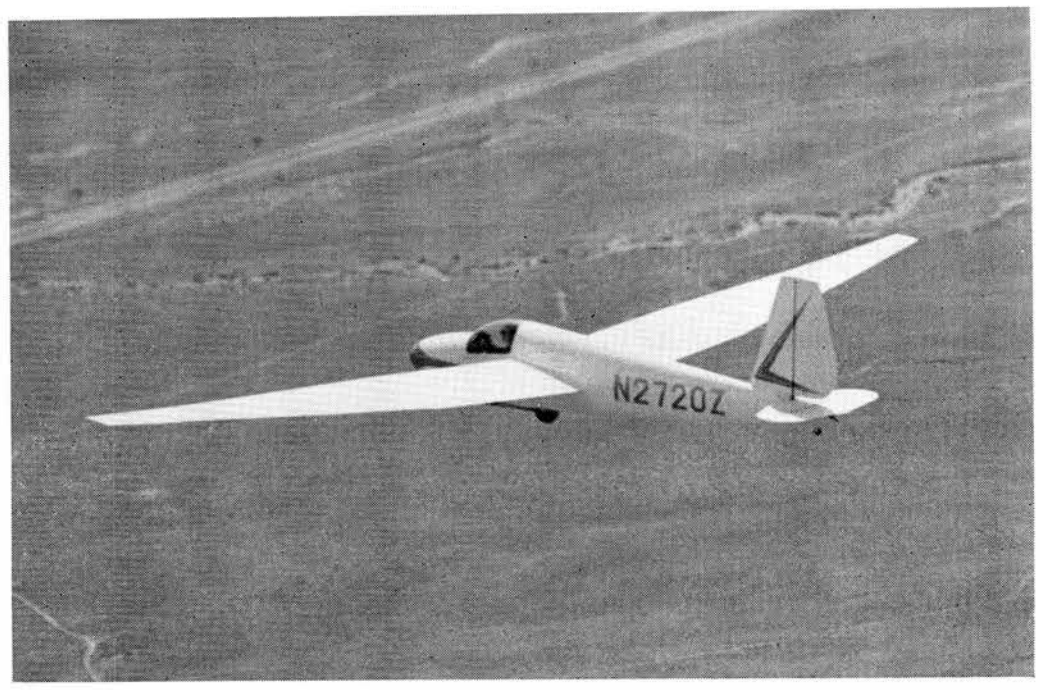
March 24-25—Theater Series presents "I Do, I Do." UNM Popejoy Hall.

Ross Aviation Succeeds Carco

Since Feb. 1 Ross Aviation, Inc., of Tulsa, Okla., has been providing air services to the Atomic Energy Commission which had been performed since 1948 by Carco Air Service, Inc. The new contract will continue through Jan. 31, 1973, and cover services costing about $1 million a year.

Ross Aviation will now fly regular round-trip service between Albuquerque and Los Alamos plus other air service as required by the AEC's Albuquerque, Nevada and San Francisco Operations Offices.

The flight for Sandia people from Las Vegas to Tonopah Test Range will also be provided by Ross Aviation.



SAILING IN THREE DIMENSIONS—Soaring, the art of riding air currents is a high-flying sport and requires knowledge of meteorology as well as skill in flying. Hugh Bivens (2611), a member of Albuquerque Soaring Club, soars above the Rio Grande Valley in his sailplane.

Sailing In Air No Comedown For Ex-Jet Fighter Pilot

Flying along at speeds of 40 to 50 miles per hour might seem a little sedate to former fighter pilot Hermann Wente (9324) but it doesn't detract from his enjoyment of a sport that is becoming increasingly popular — soaring.

Hermann, along with 10 other Sandians, is a member of the Albuquerque Soaring Club. Any weekend members are likely to be found in the Club's two sailplanes seeking out and riding currents of air which can lift the light craft to great altitudes and carry them for long distances.

"Soaring (the art of riding air currents) is to flying what sailing is to boating except that there is an added dimension — altitude," Hermann says. "It requires considerable knowledge of meteorology as well as flying skill. You have to recognize where to find lift and how to ride it and also what conditions to avoid such as thunderstorms."

Other Sandians who are members of the club include Gerry Bashein (1711), Hugh Bivens (2611), Glenn Fowler (9000), Tom McConnell (9325), Tom Myers (5521), Pat Patterson (9230), Paul Scates (1641), Ralph Schellenbaum (9226), Hank Tendall (1545), and Bob Woods (7453). Bob is operationso fficer for the club and Hermann is vice president.

There are more than 100 soaring clubs across the nation and activities include competitions, promotion of safe flying practices, and promotion of the sport. The club is also a practical way for several persons to share ownership of a glider.

Although the club owns two sailplanes and a tow aircraft, many members have their own craft. Ralph Schellenbaum is currently building one in his garage.

Glenn Fowler received recognition in 1967 when he set a state altitude record of over 28,000 feet. Flights in excess of 500 miles are not uncommon with sailplanes and altitudes over 45,000 feet have been achieved.

The Albuquerque area is an excellent place for soaring, Hermann says, because of the nearby mountains which set up "standing waves" of rising air. It was riding such a wave that enabled Glenn to set his record. Wave soaring is one of several kinds of sailplaning. The most common one is thermal flying in which rising thermal air is sought and ridden.

Sailplaning is considerably cheaper than powered flying, partly because the craft can be built by anyone with a little manual dexterity and the ability to read plans. Also, less instruction is required for a license. A private glider pilot certificate can be obtained at the age of 16 following 100 glider flights or 50 flights totaling at least 10 hours of flight time.

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RULES

1. **Limit: 20 words**
2. **One ad per issue per person**
3. **Must be submitted in writing**
4. **Use home telephone numbers**
5. **For Sandia Laboratories and AEC employees only**
6. **No commercial ads, please**
7. **Include name and organization**
8. **Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.**

FOR SALE

MISCELLANEOUS

BASSET CROSS, 1 yr. old, spayed, great pet for children, does not bark, $25; dog house, $10. Snow, 296-5148.

GUITAR AMPLIFIER, 40-watt, variable tremolo & reverb, 2 inputs, single channel, heavy duty 12" speaker, transistorized, Heathkit TA27, $59. Ortiz, 877-3025.

CLEAR GLASS punch bowl, Imperial Candlewick, hand crafted, 15 pc. set, matching pieces available at stores, $20. Nelson, 345-0440.

COLOR TV needs work, $25 or best offer; 10X telescope, $4. Thomas, 256-7775.

FARM EQUIPMENT: tractor, plow, trailer, baler, disc, land leveler. Gallagher, 1-636-2742, after 4 p.m.

BENDIX front loading washer, $25; man's Austrian ski boots, size 11, w/rack, $15. Wahlberg, 345-0890.

SKI BOOTS, men's buckle, 9½ wide, $15; 2 iron cots w/mattresses, $25; gold nylon occasional chair, $25. Peterson, 256-7514.

FRIGIDARE auto. washer w/tangle-free agitator, $100 or best offer. Clabaugh, 299-0721.

100" KROEHLER davenport, rose-colored, $135. Wright, 299-6458 after 5:30.

KOFLACH SKI BOOTS, size 11½N, used one season, $15. Smith, 298-9092.

ONE PAIR custom made lined drapes, 7' long by 128" total pleated width, white background, provincial design, suitable for LR or DR, $20. Reed, 299-7425.

SHARPS derringer, $75; Remington derringer, $85; Manhattan percussion revolver, $95; Stevens bicycle rifle, $35; want old hunting knives. Smitha, 299-1096.

7' GLASS SLIDING DOOR, complete, $45; bunk beds, $40. Adent, 299-1905.

PUREBRED Dalmation pups, no papers, $20. Morrisroe, 898-2784.

HELMETS, motorcycle-type, 2, adult size. Hueter, 242-1620 after 6.

AIRDALE, 13 mos. old, from AKC reg. litter. Smith, 344-9335.

BUILT-IN dishwasher, coppertone, Roper 3-cycle (similar to Sear's); garbage disposal; '61 Mercury shop manual. Brooks, 299-1884.

GOLF CLUBS, 5 irons & putter, 4 new woods, bag, $30. Hill, 255-6538.

UTILITY TRAILER, 3/4 ton, 15" wheels, 5 yrs. old, $125. Oakes, 898-0236.

LEATHER CHAIR, Grand Rapids Morris, brown, $75; blonde fur stole, $25. Offer considered. Collis, 255-0470.

205 cm HART GALAXIE SKIS, Marker toe, Grand Prix heel, $50. Kjeldgaard, 296-2212.

STROLLER, $8; walnut coffee table, $30; recliner, $25; toy spring horse, $8. Husa, 298-3335.

MINIATURE CARS: Matchbox, Corgi, Hot Wheels; & stunt track. Joseph, 299-6989.

HUMAN HAIR FALL, dark brown, shoulder length, case, stand, $25; exercycle $3. Stark, 296-4971.

WASHER & DRYER, nearly new, coppertone; refrigerator. Guist, 265-3250.

USED wood skis, 210cm, multi-laminated w/Mircro safety bindings & tapered metal ski poles, $20. Plummer, 243-6833.

'69 100cc SUZUKI motorcycle, $250; German-made 22 cal. revolver w/holster, $20. Rufsvold, 268-5970.

MEMBERSHIP in 10-member, 2-plane flying club. Caskey, 298-1146.

TWO Barcalounger 3-position reclining chairs, leatherette upholstery, $50 ea. Strasburg, 299-4214.

CAMERAS 35mm w/Weston lightmeter & 8mm movie camera; 8-gal. bookshelf aquarium w/reflector & filter; 4 15" Chev. rims. Snelling, 268-5895.

DECORATIVE ITEMS, many imported; demitasse cups; German paintings; some small antiques, Saturday only. Burns, 1820 Cornell SE.

1911 MODEL 45 w/holster, extra clips & clip pouch-ammunition, $60. McDonald, 299-9269.

DT1-YAMAHA 250cc motorcycle, extras include: expansion chamber, seat extender, & spare parts $525. Hermansen, 296-3705.

ORIENTAL cocktail table, black & green, 40"x 20"x14" high, $48. Browning, 299-6384.

DOUBLE-BOWL, steel sink, new, $10; sprayer & 1 qt. of spray, $2.50; 4-drw. chest, 16"x26"x36" high. Koletar, 255-4751.

TRUCK WHEELS, 8-hole, fit Chev. or Ford 3/4-ton, 17.5 inch tubeless, $5 ea. Souder, 282-3121.

200W STEREO, 2 tape decks, changer, 10 speakers, AM/FM; 3 pinball machines, reg. pool table, brewmeister, priced for fast sale — getting married. Gustke, 268-6580.

FOLDING fireplace screens, 30x48", one black, $4, one brass, $6; dinette set w/woodgrain table top, 4 chairs, 36x48", one 12" ext., $25. Hoke, 298-6619.

RUG, 9x15, orange-brown tweed, nylon w/backing, used 1 yr., $45; kitchen table & 4 chairs; coffee table; misc. Bartkowski, 265-4294.

BABY CRIB, 6-yr. delux, firm mattress, dbl. drop sides, $30 or best offer. Smith, 268-1228.

BABY BATHINETTE, $15; mesh playpen, $12. Nielsen, 298-5864.

12 GA. BROWNING auto., full rib, full and mod. choke, $85 or trade for light boat trailer. Prekker, 299-6468.

KITTENS, 6 wks. old, free to good homes. Norris, 299-4676.

SOUTH BEND hand lever turret for 9" lathe, need milling attachment. Laskar, 299-1024.

UTILITY TRAILER, 2-wheel, all metal body, 14-in wheels, spare tire, lights, shocks, overloads, tarp, 1970 license, $75. Mumm, 256-3177.

TRAIL BREAKER, 2-wheel drive trail bike, $450. Holovka, 296-8040.

WASHING MACHINE MOTOR, 1/3 hp, 2-spd., $15; machine control panel, $5.50. Weingarten, 296-1110.

KAWASAKI 90 TR, '69, 2000 miles, $295. Fimple, 296-2925.

ALEXANDER HAMILTON modern business course, 26 volumes, $75 or offer; Dyna MK III & PAM-1 amplifier, $65. Anderson, 265-3846 or 983-6819.

SEWING MACHINE, Kenmore, $20; wig, pre-curled brown stretch, $15. Nagel, 298-2779.

CUSTOM MADE 6" reflector telescope, 40, 100, 200X eyepieces w/rack & pinion focusing, slow motion hand control, lg. setting circles, Springfield mount, $125. Moss, 299-6573.

HONDA 125, 1969, 2300 miles, $350. Hastings, 344-6818.

REAL ESTATE

SANDIA PARK, 3-bdr., LR & DR each w/fp, 1¾ baths, dbl. garage, plus separate garage, 1 1/3 acres, $28,500. Mullendore, 282-3173.

BRICK, SE, 3-bdr., den, 1¾ baths, garage, sprinklers, near bases, schools, hospitals, assume 5¼ FHA. Lockwood, 256-9098.

59 ACRES in Sandias, partly subdivided, all or part; 1 acre in Corrales. Clement, 298-4994.

DELLWOOD addition, 3-bdr., 2 baths, den, w/fp, 1860 sq. ft., easy walk all levels of schools. Church, 299-2175.

CARS AND TRUCKS

'63 RENAULT Dauphine, low mileage, $395. Oliver, 299-5512.

'66 CHEVY Malibu 283, 4 spd., positrack rear end, dark green w/white top. Stevens, 256-9020.

'65 CORVAIR Corsa, new tires, 20 mpg, $50 over wholesale. Martin, Bosque Farms, 1-636-2049.

'69 PLYMOUTH Road Runner, AT, PS, power disc brakes, extras, low down payment. Ward, 299-0944.

'59 INVICTA BUICK convertible, 325 hp, 401 C.I. engine, 4-barrel carb., PS, PB, AT, w/w tires, good top, $495. Bassett, 898-1840.

'58 MGA roadster, ennine recently completely rebuilt. MacDougall, 299-8496.

'66 FORD station wagon, 390 V8 motor, AT, PB, PS, R&H, factory air, new tires, other extras, $1495. Schneider, 299-6243.

'55 OLDS Super 88, red & white, one owner, 2-dr., R&H, PS, AT, $300. Sanchez, 268-2179.

'62 DODGE station wagon, 9 passenger, V8, AC, PS, radio, $350. Harrison, 299-7928.

'59 CHEVROLET Impala, 4-dr., R&H, new tires-battery-generator. Costello, 299-0563.

'65 T-BIRD LANDAU, full power, $1695; '64 Volvo P-1800S, one owner, $1695. Schulze, 299-0152.

'59 VW SEDAN, customized, mag wheels, etc. Shaffer, 242-6507.

'68 CHEVROLET station wagon, V8, auto., PS, factory air. Kluhenz, 298-8057.

'66 PONTIAC Tempest custom 2-dr. sedan, OHC-6, 44,000 miles, std. trans., $900; will consider pickup as trade. Konnick, 296-3906.

'65 CHEV. Impala station wagon, 228-V8, AT, PS, 39,000 miles, one owner, $100 below book. McClure, 256-9055.

'64 CHEV. Impala 4-dr., air, PS, radio, AT. Miller, 299-2736.

'50 PACKARD 4-dr., 8 cylinders in line, Ultra-Matic trans., $275. Lawrence, 6709 Bellrose NE, 299-9118.

'57 GMC ¾-ton pickup, V8, 4-spd. AT, 76,000 miles; plus 9' cab-over camper; $700. McKnight, 282-3377.

'67 MERCURY Monterey 4-dr., PS, PB, R&H, AT, AC, Goodyear Polyglass oval tires, below book. Johnson, 265-4872.

'61 PLYMOUTH 9-pass. wagon, V8, PS, PB, AC, R&H, AT, $395. Loemker, 344-0278.

'67 VW dlx. camper, pop-top, split-front seats. Aeschliman, 298-7846.

WANTED

BABYSITTER, experienced, available weekends. Graham, 265-1363.

PICKUP, clean w/V8, AT. Young, 256-1361.

20 GA. slide action shotgun, must be in good condition. MacDougall, 299-8496.

BICYCLE, full size, 10-speed in good condition. Fitzmorris, 256-2785 after 2:30.

M1 CARBINE; 12'-14' canoe or kayak; home for 2 kittens, 7 wks old. Tiefa, 299-2763.

EASEL; hand wood working tools, ¼" & ¾" gouges. Hayes, 298-4682.

STUD for black miniature Schnauzer. Hesse, 265-0406.

UNIMAT BENCH LATHE. Converse, 247-4568.

RIDE from vicinity of Sunset Rd. & Bridge Blvd. to Bldg. 802. Baldonado, 264-7469.

CHILD'S PLAY HOUSE in fair condition. Garcia, 256-7606 after 5:30.

FOR RENT

GARAGE, detached, on alley near UNM, $10/mo. Hueter, 242-1620.

FURNISHED BEDROOM in 3-bdr. house, share house w/older man, Princess Jeanne area, $55/mo. Gallo, 255-3831.

APARTMENT, unfurnished, 2-bdr. 2 baths, off-street covered parking, NE, very private, available June 1. Gauster, 255-1983.

LOST & FOUND

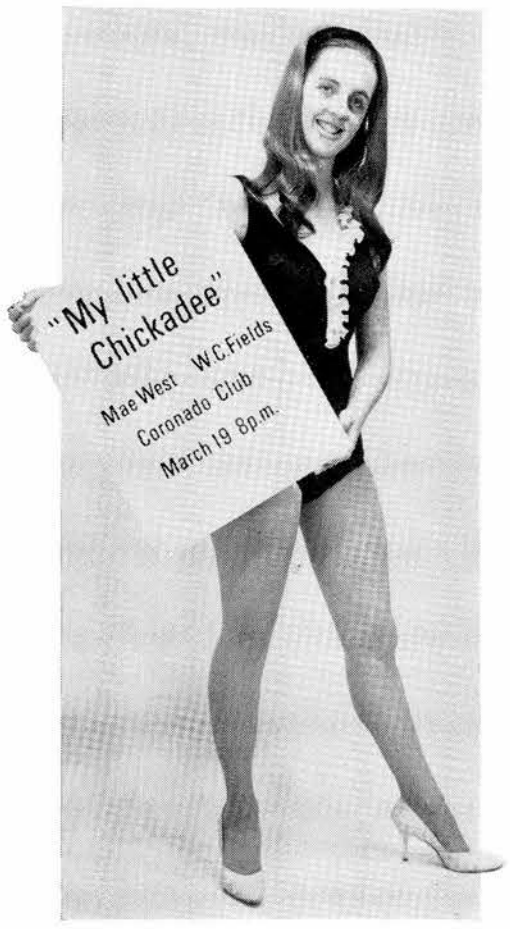
LOST—Silver oval earring, Rx bifocal sunglasses in case w/S.C. pen, man's Timex watch, key ring w/approx. 6 keys & St. Christopher's medal, S.C. 20-yr. tie chain, Rx glasses w/black frames, pr. ladies brown wool gloves, Rx bifocals w/grey frames, ladies white gold watch, yellow gold & pearl link bracelet. LOST AND FOUND, tel. 264-2757, Bldg. 832.

FOUND—Rosary, key in pouch, luggage key, single "Yale" key, red & gold bracelet, Toastmaster's pin, Masonic ring, chiffon headscarf, ladies right-hand black glove, single key, Rx glasses, 3 keys on ring, "Book of Mormon." LOST AND FOUND, tel. 264-2757, Bldg. 832.

NEXT DEADLINE FOR SHOPPING CENTER ADS 12 NOON MARCH 19

Coronado Club Activities

Lobster Manana; Soul Session Mar. 21



CRICKETT MEADERS (3256)

For the 250 people who made their reservations early, tomorrow night will be something special at the Coronado Club. The New England seafood dinner, featuring Maine lobsters flown in for the occasion, will be served starting at 7:30 p.m. A wine taste precedes dinner, dancing to Gappy Maestas and the orchestra follows.

* * *

Soul Session

"We know a good thing when we see it," says Max Newsom (1213), Club entertainment director. "Man, the Club swings with the soul sessions. From 250 to 300 party people have attended each one, so we'll keep scheduling them. The mini-skirts look great and the dancing is something else."

Max has booked Rod King and the Soul Knights to repeat the successful soul session formula on Saturday, March 21. The big modern rock sound will fill the ballroom from 8:30 to 12:30 and social hour prices will be in effect all evening. Pizza will be available from the Club kitchen. The event is free to members, 50 cents for guests.

* * *

Kid's Easter Egg Roll

An Easter egg hunt and party for members' children under six will be held Saturday, March 28, starting at 10 a.m. on the Club patio. There will be games, prizes and refreshments. Bring the little ones. Admission is free.

* * *

Social Hours

Tonight Tommy Kelly and the smiling Irishmen will make the happy music while the Club's kitchen staff wheels out the Mexican food buffet. The buffet costs $1.25 for adults, $1 for kids. It's served from 6 to 8 p.m.

Social hours start right after work on Friday evenings with special prices in effect until 9 p.m. The band plays for dancing from 6 to 9 p.m. when the TGIF crowd moves to the main lounge where Pat Reich and piano entertain until midnight.

On Friday, March 20, the Four Keys will be on the bandstand and the Club's famous chuckwagon roast beef will be the buffet feature.

Social hour will be held on Thursday, March 26, in the main lounge only since the Club will be closed on Good Friday, March 27.

In the meantime, social hours continue on Tuesdays from 5 to 8 p.m.

* * *

Bridge

The duplicate bridge group will hold an open pairs tournament next Tuesday, March 17, starting at 7 p.m. Ladies bridge meets Thursday, March 19, at 1 p.m.

Classic Comedy Night

"My Little Chickadee" starring W. C. Fields and Mae West will be shown at the Club on Thursday, March 19. So many people broke up over the last W. C. Fields movie shown at the Club that this follow-up is a natural. A social hour starts at 7 p.m. The movie will be shown at 8 p.m. It's free to members.

* * *

Noon Fashion Show

Fashions will be on parade during the lunch hour at the Club Tuesday, March 17. Rosario Ayers will comment on fashions from Fedway. Models will include Soila Candelaria (4364).

* * *

Adult Dance Classes

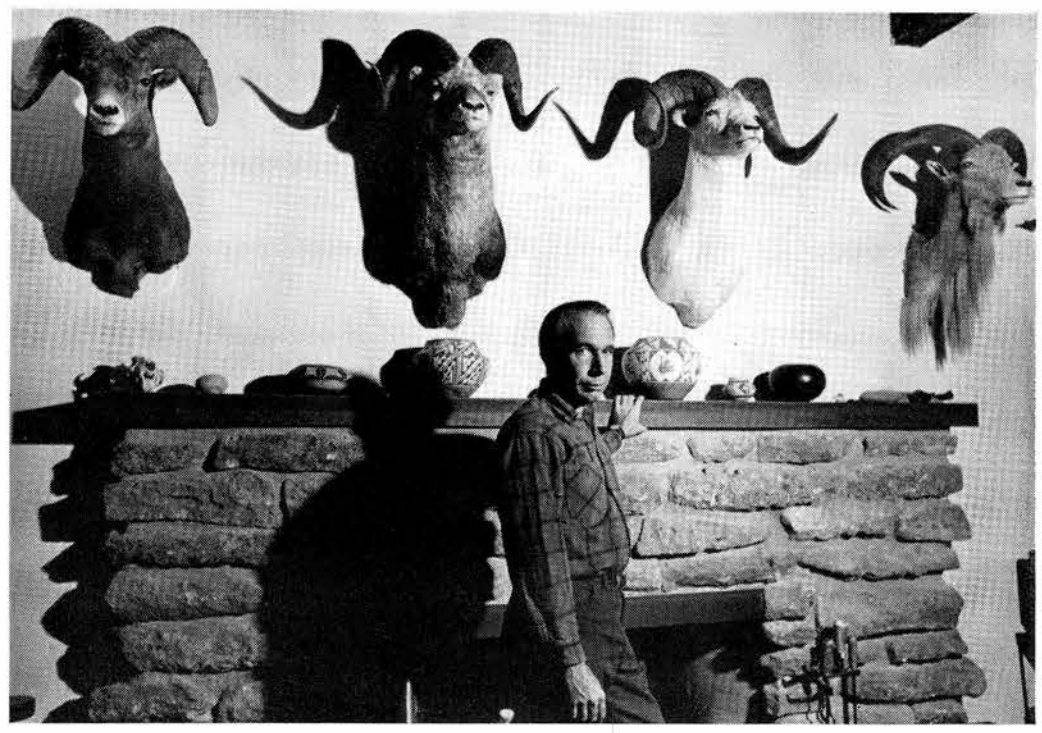
A new series of adult dance instruction starts at the Club Monday, March 30. Beginners will meet at 7 and advanced students at 8:30 on Monday evenings for 10 weeks. Enrollment fee is $20 per couple.

PUERTO VALLARTA is the destination of two Coronado Club trips to Mexico on May 5-8 and May 8-11. The four-day travel package costs $149 for the works. There is still time to sign up. Call the Club office, 264-4561, for details.

Sympathy

To George Williams (4574-3) for the death of his mother on Feb. 24.

To Mary Schwartz (6011) for the death of her father in Raton.



A HEADY GROUP—Hal's trophy collection includes wild sheep. Of the five species found in North America, Hal has four, lacking only the desert bighorn. He has bagged most of the North American game animals.

Big Game His Bag

Hal Vaughn Goes for Game in Big Way

Hal Vaughn, supervisor of Aero Ballistics Division 9325, goes after big game in a big way. Hal has hunted and claimed trophies of nearly every big game species in Canada and has bagged all but seven of the North American big game animals that may be legally downed.

His den, which looks more like a museum, has grizzly bear and mountain lion trophies and the mounted heads of deer, elk, antelope, caribou and moose, as well as assorted hides and horns and four of the five species of wild sheep found on the continent.

But the most notable thing about Hal's trophy collection is not that it is extensive but rather that he bagged the animals with rifles which have barrels designed and made by him from scratch, using bullets also designed and made by him. Bringing the skills and knowledge of his profession in aero ballistics to his love of hunting, Hal has produced rifles considerably more accurate than those available commercially.

Along the way, Hal has taught himself the art of machining and of tool and die making, since the tools and dies he needs are not available commercially or, if they are, do not meet his precision specifications.

The reason Hal makes his own rifle barrels — he buys blanks and then machines them — is that he can control the tolerances and achieve more effective rifling (spiral grooves in the barrel which cause the bullet to spin) than can be expected in mass produced guns. Combined with bullets he has made as near-perfect ballistically as possible, Hal has a hunting piece which enables him to take trophies that otherwise would be out of reach.

The results, apart from the personal satisfaction Hal gets from making better guns and ammunition, are evident in his trophy room: there is a head with huge antlers which originally belonged to a 1400-pound moose; a mountain lion that set a record in the year taken; he is one of the few hunters who has bagged four different species of North American wild sheep, and last year's elk is down as one of the 10 largest ever taken.

Among his favorite hunting areas are northern and western Canada. A typical hunting trip there includes a hunting companion, guides, a cook, a wrangler, and about 25 horses. The trips usually last about three weeks and may extend as far as 150 miles from the nearest road.

BIG, BIG GAME that Hal has bagged include this 1400-pound moose, the grizzly, lions and caribou. He has also downed one of the ten largest elk ever taken.

In addition to the game he brings back, Hal also returns with a different kind of trophy: movies documenting the trek through wilderness areas seldom seen by man. These films he shows to interested groups, and one of them is featured at a coming meeting of the American Institute of Aeronautics and Astronautics.

And what does Hal do with all his spare time? Well, he paints, pursues photography, is an amateur archaeologist, and has developed one of the most beautifully landscaped yards in Albuquerque.

Sandia Base Woman's Club Offers Scholarships

The Sandia Base Women's Club will offer four college scholarships for the 1970-71 school year. The scholarships provide $250 a semester and are available to dependents of Sandia Laboratories and AEC employees as well as active and retired military personnel and Sandia Base civilian employees.

Selection of recipients is based upon financial need, scholastic ability, recommendations of faculty members, and acceptance by an accredited college.

Scholarship applications are available at the Sandia Base Branch of the Bank of New Mexico. Deadline for application is April 1.

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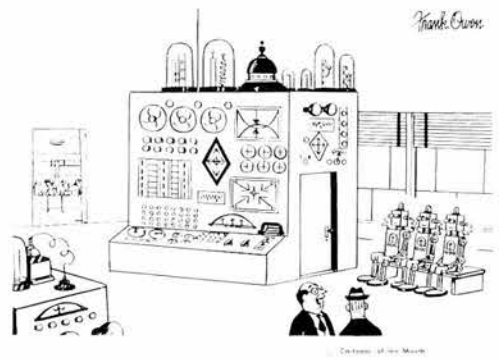

"We get speedy service when the computer breaks down. It came equipped with its own repair crew!'