

**State of Labs**

## Morgan Sparks: Labs Continues In Good Shape

"We continue to be in good shape—a fortunate situation in a time of budget cutting." That assessment of the Labs applies for this fiscal year and for the next. So stated President Morgan Sparks last week in a LAB NEWS interview that covered a range of subjects: the budget for '81 and '82, personnel levels and recruiting, weapons programs, energy activities, new buildings, the division of work at the Labs, the revised retirement plan and, finally, Morgan Sparks himself.

**The budget**—"While the new administration in Washington is closely examining costs, we anticipate our budget for the balance of this fiscal year and for all of next year (which begins Oct. 1) not to be significantly altered overall. Funding for energy programs is down somewhat, but it's up in defense programs. In fact, we expect about an overall 8% increase in fiscal '82 in funding from DOE, up to \$522 million. 'Defense programs,' incidentally, include besides weapons the Safeguards, inertial confinement fusion, and verification and arms control programs."

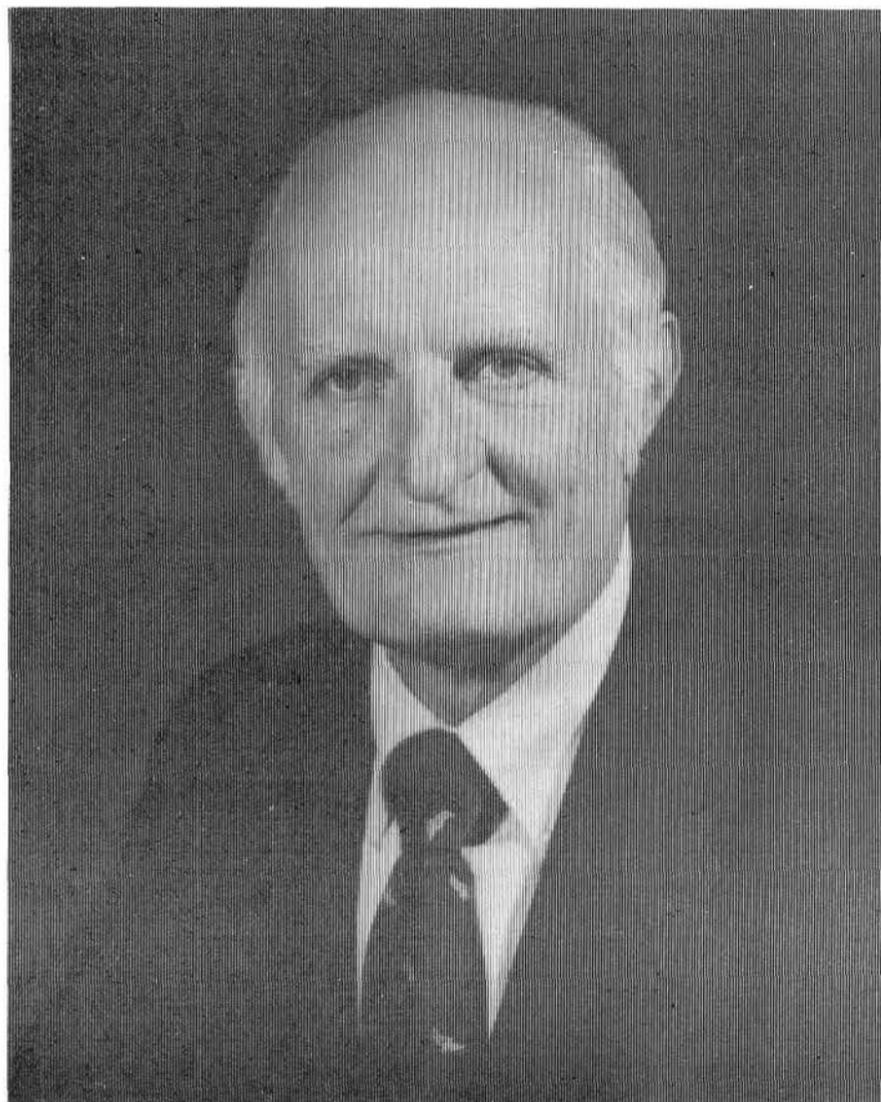
**People levels & recruiting**—"The energy related staffing, now around 1080, will likely drop to about 1000. We are planning for an increase of about 150 people in the weapons program. The diversification of our major programs is a great help in accommodating these shifts in funding. We chose our new projects to fit and to augment our existing capabilities, so we're able to move people to different jobs as required for balance. The fact is that some shifts of emphasis among our activities is a normal thing, and we include it in our planning.

"Since we're now a 'mature' company, we have an established pattern of attrition. We lose about five percent of our people through retirement and for other reasons—a healthy situation. We expect to recruit about 425 technical people next year, mostly to replace losses."

**Sandia's weapons programs**—"I anticipate that our present high level of activity will continue for a number of years, with new Phase 3s coming along periodically. It's clear that the new administration as well as the Congress is defense-minded."

**Energy sources**—"President Reagan is stronger on nuclear power

[Continued on Page Three]



Morgan Sparks



## Bond Drive Starts April 27

PROUD BONDHOLDERS are from left to right, Jose Rodriguez (1729), Ernest Padilla (2432), Alma Vandavelde (2426), and Marshall Tippy (3441). See article on Page Four.

# Afterthoughts

New species--I'm a liberal and, should you doubt that, then let me whisper to you that ultimate proof of my liberal persuasion: I give money to ACLU, even though they tend to be a little nutty. So I share with other liberals their deep aversion to capital punishment and, in this day of routine violent crime, their dilemma: how to reconcile aversion to capital punishment to the patent need to do something about those who choose to assault, ravage and murder. Let me suggest a path out of the dilemma, a route that can satisfy both the advocate and opponent of capital punishment.

First, we need a simple test of humanity because that's what it's all about. We agonize about capital punishment because we don't like to kill our own kind--few creatures do. Now the murderers among us bear a superficial resemblance to humankind, but I submit that many, not all, are actually a different species. The test of humanity that I propose would address itself to those qualities we think of as peculiarly human: compassion, unselfish relationships with others, personal achievement, making a contribution to society (even if it's only taxes), some evidence of willingness to adopt the ethical norm.

Having completed such a test, our murderer would then fall into one of two slots: human, perhaps retrievable, no capital punishment; and the other, not human, an anthropoid whom we could dispose of with the same compunction and dispatch we show a mad dog abroad in the streets. You see, it's really a matter of definition.

\* \* \*

Review--Century magazine, self-described as "A Southwest journal of observation and opinion," comes out twice a month, is now in its 13th issue. Literate, eclectic in choice of subject matter, super cartoons (home-grown, not imports), thoughtful without the heavy hand of scholasticism, fun to read. Published in Albuquerque, available in most book stores.

\* \* \*

A distinction--"What is only complex is mistaken (a not unusual error) for what is profound." -- E. A. Poe (on checkers vs. chess in Murders in the Rue Morgue) \*js

# Supervisory Appointments

RAY KRIEG to supervisor of Applied Mechanics Division IV 5524, effective March 16.

Ray joined the Labs in June 1960 as a staff member with a mechanical development group working on radars. He later worked on code development and verification and, more recently, he has conducted computer analysis of structural deformations.

Ray earned an AA degree from Delmar College (Texas) and a BS in ME from the University of Texas. As a member of Sandia's Technical Development Program, he received his MS in ME and, later, his PhD in ME, both from UNM. He is a member of ASME, the Society of Rheology and the American Association for the Advancement of Science.

Off the job Ray enjoys restoring his MG-TD, bicycling--he rides to work, running up 4000 miles/year--sailing, and backpacking. Ray and his wife Lyla have four sons and live in the NE heights.

\* \* \*

FRED PENA to supervisor of Printing Section 3154-2, effective April 16.

Fred came to Sandia in May 1949 as a messenger in the mail and records organization. He transferred to the print shop in 1954 and, from '57-'65, was a lead man in the press room and the camera and plate room. Fred left the Labs for a couple of years, returning as a press operator in 1967. Since last July he has been a printing consultant.

Fred attended Browning Commercial School. He served in the U.S. Navy from 1943-47. Off the job he enjoys hunting, basketball and baseball. He and his wife Viola have five children and 13 grandchildren. They live in NW Albuquerque.

## Sympathy

To Bill Hickerson (4372) on the death of his mother, in Trenton, Tenn., April 5.

To Rita Brandt (3533) on the death of her son in Hawaii, March 29.

To Jeannie Holmes (3531) on the death of her mother in Albuquerque, April 4.

To Luther Heilman (1400) on the death of his father in Kansas City, March 30.

## Congratulations

To Bill (2113) and Sharla Richard, a son, William Nathaniel, April 4.

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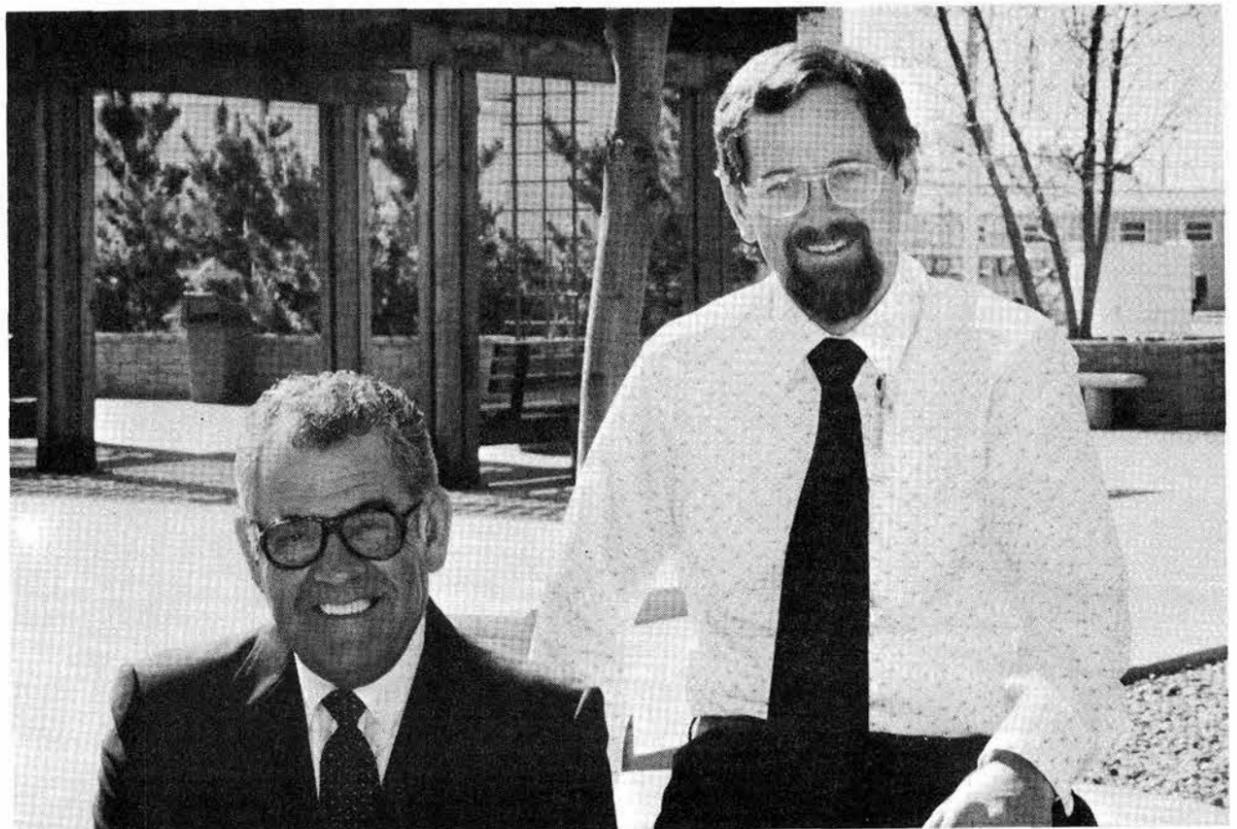
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FRED PENA (3154-2) and RAY KREIG (5524)

## Morgan Sparks: 'Labs in Good Shape'

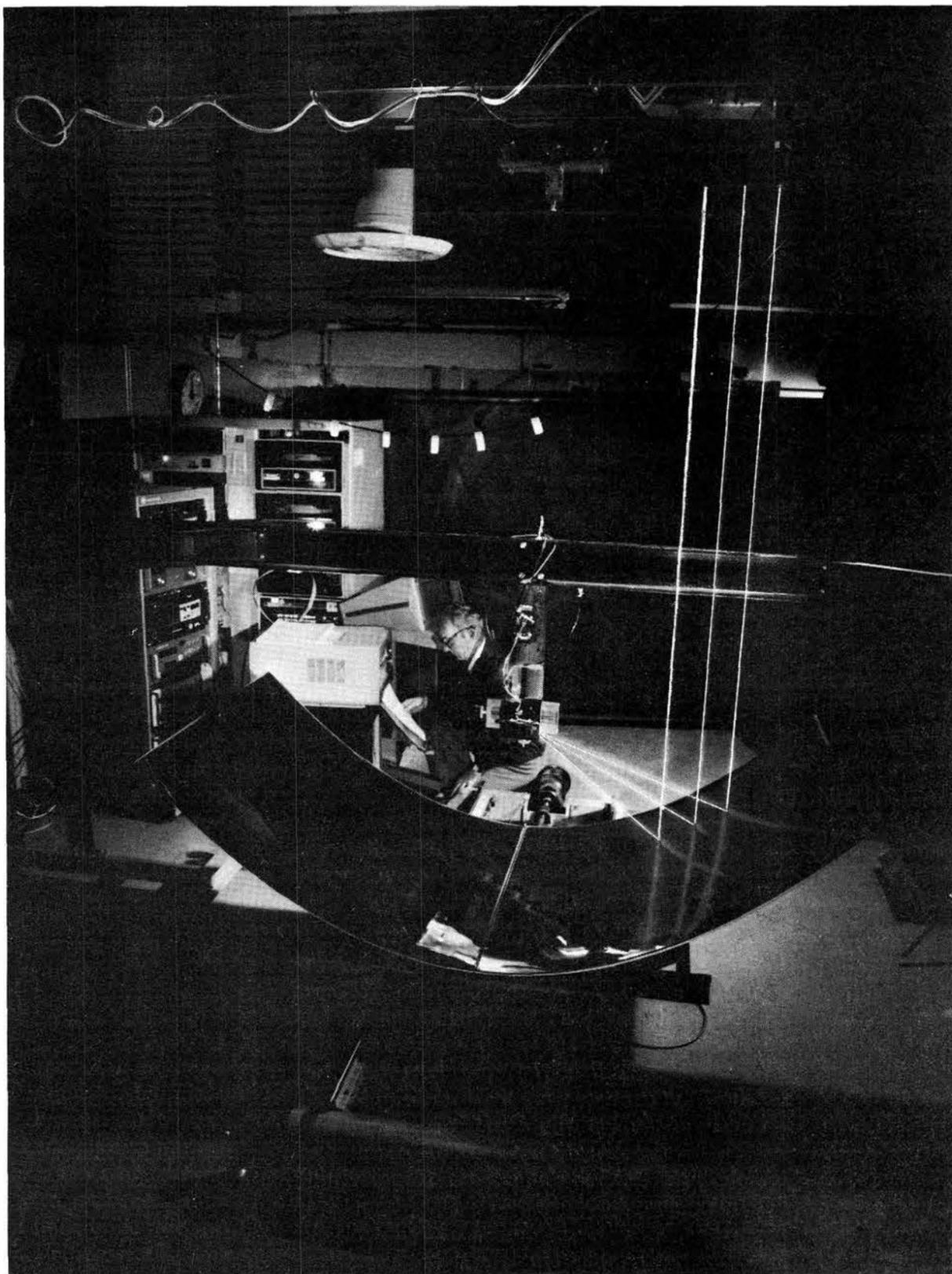
than his predecessor who characterized it as 'the source of last resort.' I think we *must* utilize nuclear energy, but I'm not sanguine about its near term future: it will take time to reverse the present anti-nuclear sentiment. Meanwhile, countries like France and Japan are going ahead with their nuclear projects—they have to—and are likely to take over world leadership. That's too bad for us. On the other hand, their successful examples could have a calming influence."

*New buildings*—"We went for 15 years with no new permanent construction and we've had to play catch-up. There has been progress: building 821 completed and Systems Research Building 823 is now well along; we broke ground this month for the PBFA II building (Area IV) and next year's budget includes funds for the Reactor Support Building (also Area IV). Next year we expect to begin design of the Simulation Technology Laboratory in Area IV, and we hope to start on the Energy Technology Building in Area I. At Livermore, we dedicated the Combustion Research Facility last month, we'll add more space to the computer facility this year, and we're planning a lab and office building for fiscal '83. At Tonopah, we've just about completed the range modernization program, and not too long ago we opened the doors of our new Operations Control Building."

*Work division*—"Our multi-program approach is seen in our work division. Some 65% of our work is defense related and stems from DOE's office of Assistant Secretary for Defense Programs, about 25% is energy, including work for NRC, and 10% reimbursables for DoD."

*Revised retirement plan*—"There are a number of facets of the plan I'd like to discuss, but first I need to emphasize one element that we sometimes overlook: it's extremely important that Sandia be able to follow the Bell System retirement plan, so that when Bell updates and improves the plan in years to come, we can assure DOE that these are the carefully-thought-through changes of our parent company. With our previous, home-grown plan, any proposed changes took considerable explanation to obtain DOE approval. And even then, we weren't always successful."

"As for the revisions themselves, let me touch on the highlights. In round numbers, the new benefit structure means on the average about a 10% increase in payments compared to the previous plan. For the management plan, the use of a specified five-year income period, e.g., 1975 to 1979, serves as one of several factors in determining retirement income and is a fairly common arrangement in retirement plans. For example, IBM and GE have such a factor in their plans. And if you should note that what is now



GEOMETRIC ACCURACY and surface smoothness of mirrors fabricated for solar systems is checked with a new computer-controlled laser measurement system developed by Bob Hughes, above, and Jim Kane of Photometrics and Optical Development Division 1556 and Bruce Hansche of Nondestructive Testing Technology Division 1552. A trough-type mirror is scanned in this multiple-exposure photograph by LAB NEWS photographer Louis Erne. The overhead laser can be programmed to move across the reflector and take readings at any point. Errors in the slope of the surface cause the reflected ray to miss the focal point, and a measure of this miss distance is a measure of slope error. Data from these tests are used in programs which compute system efficiencies. The unique device checks early prototype units of planned production models of mirrors to discover flaws in tooling or fabrication methods. In addition to sections of parabolic mirrors, the device can also be programmed to handle sections of the giant dish-type mirror reflectors and flat mirrors for Power Power systems.

appropriate considering today's economic condition may not be so in, say, 1985, then I would certainly agree with you.

"But that's true of many benefits—medical, insurance, etc. The provisions of a particular benefit tend to remain current only for a limited period. What's appropriate today may not be so in a few years, and for that reason I think that you have to look at the track record of the company. The Bell System started early as a leader in employee benefits, particularly in retirement plans, and their record of updating of the retirement plan has been excellent. Remember: the Bell System competes for good people and, to remain competitive, your benefits package—retirement plan included—has to be good.

My view is that Bell will continue to modify the plan as economic conditions warrant."

*Morgan Sparks*—"I'll be retiring the end of July and, yes, I've had discussions with our Board of Directors about possible successors. Sorry—no announcement yet. As for plans, we'll remain in Albuquerque—this is home."

## Speaker

John Hueter (3521), "Teacher Burnout," NM Industrial Arts Assn. Convention, Feb. 13, and Manzano High School Faculty In-Service Conference, Feb. 18, Albuquerque.



**ASSEMBLY BLDG. 9982** at the Power Tower facility is Sandia's largest application of passive solar heating. There is no auxiliary heat in the building. John Holmes (4713) reports that even on the coldest and cloudiest days during the past two winters, the inside air temperature has not dropped below 60°. The south wall is dense concrete 14 inches thick in the high bay area and 12 inches thick in the remainder. The other walls contain a three-inch section of polyurethane foam, cast in the concrete near the outside, for insulation. The roof is insulated above the concrete beams and its overhang shades the south

wall in summer but allows full, direct sunlight in winter months. The south wall is painted black and is covered with a double-layered glazing to absorb solar heat—an unvented Trombe wall. The prestressed concrete structure (7500 sq. ft.) acts as a giant thermal mass to store heat in the winter. The building is remarkably cool in summer—a vent fan and an evaporative cooler are used occasionally. John and Cheryl Maxwell will soon publish a report on the thermal performance of the building. Earl Rush (now 4722) developed the design of the building when he was part of the Plant Engineering project team.

### Campaign Begins

## Bonds Looking Good To Many Sandians

Sandia's 1981 Savings Bond campaign begins on April 27 and ends on May 6. During these eight days you'll probably be reminded about buying bonds or increasing your allotment if you're already taking them through payroll deduction. For many of you, the benefits of Savings Bonds will be pointed out in a film featuring the "WGRP in Cincinnati" gang (sorry, guys, Loni Anderson isn't in it).

We thought that this year, in addition to what your supervisor and Dr. Johnny Fever have to say about Savings Bonds, you might be interested in the reasons why other Sandians put their money into bonds.

"I started buying bonds when I joined the Navy in 1942," says Marshall Tippy (3441). "Victory Bonds, War Bonds, and Savings Bonds—I've bought them all. In those days my salary was \$30 a month, so I couldn't afford too much. But it was an easy, painless method of saving—as it still is.

"There're rewards to being a U.S. citizen and this is one way we can show our appreciation. I believe that buying bonds helps stabilize the economy—and that's important to those of us planning retirement. By buying bonds, I'm helping myself

and the country."

Jose Rodriguez (1729) has been with Sandia just nine months but is equally enthusiastic: "I started buying bonds in the service. Besides being a sound long-term savings plan, purchasing bonds through payroll savings is also patriotic—it's not always possible to buy American so I buy bonds. My wife and I have no children yet, but in the long run bonds represent a nest egg that can be drawn upon for whatever purposes we need."

"I've been saving since 1966," says Alma Vandeveld (2426). "Payroll deduction is the best route to go because you don't miss the money that's taken out. I'm grateful that Sandia promotes them because through payroll savings I've provided myself with my own personal retirement fund. And if I cash one bond, it won't disturb the interest on the others. Bonds are part of my legacy—what I want to leave to my nieces and nephews. Bonds have really been a blessing in disguise—they've built up so fast for me."

And finally, Ernest Padilla (2432) extolls the convenience of bonds for education: "I've been taking bonds in the name of my three-year-old son, Jason. I'll increase the allotment every year and by the time he's

ready for college he'll have enough for his education. The beauty of it is that if the bonds are bought in the dependent child's name, the first \$1000 of interest yearly isn't taxed. My wife also buys bonds through her job with the state government. I really like payroll savings—the money is deducted from my check so it doesn't hurt. I don't even see it."

Bond campaign chairman Art Eiffert (2450) points out some practical financial reasons to invest in bonds: "With the improvement in interest rates, our 1981 campaign is off to a good start. Effective November 1, 1980, the rate on Series EE bonds was raised from 7% to 8%, while the maturity was shortened from 11 years to nine. New legislation also allows Savings Bond rates to be increased as much as 1% point every six months, and a further rate increase of up to 1% may be made, depending on market conditions, as early as May. For most people, Savings Bonds are their only tax-favored investment, since earnings are exempt from state and local income taxes. Any federal income tax may be deferred until bonds are redeemed—often until an individual's retirement years when tax brackets are usually lower. Now it's up to all of us."

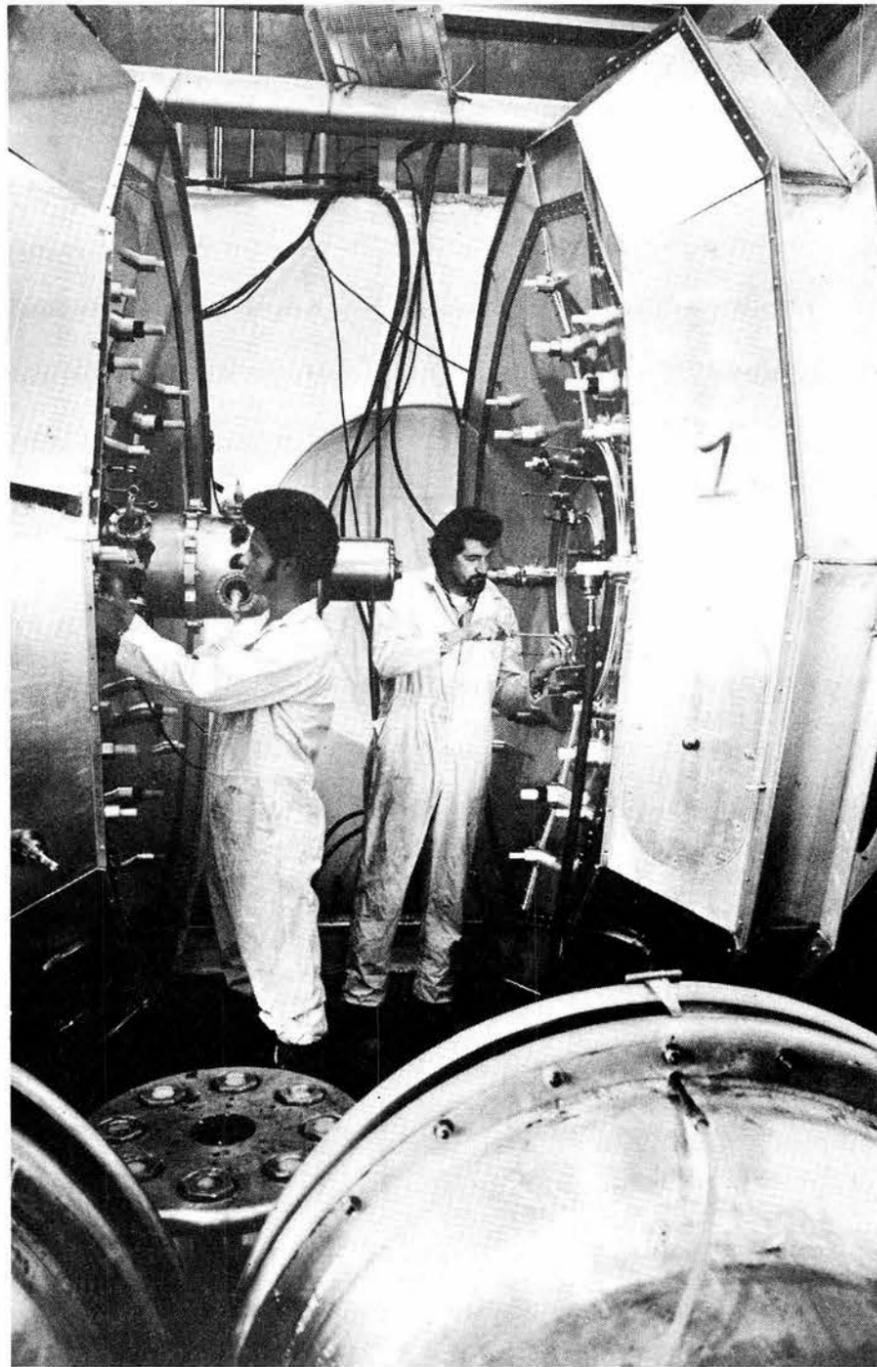
# RADLAC: For High Current, High Energy Particle Beams

The United States' first radial line linear accelerator (RADLAC I) has been tested successfully in a joint program of the Air Force Weapons Laboratory and Sandia to investigate high-current linear accelerators and their applications. So reports Ken Prestwich, head of Pulsed Power Applications Division 4253: "In 1978, Gerry Yonas, director of 4200, realized that adapting the pulsed power technology developed here to linear accelerators could lead to high-current, high-energy particle beams for many applications. The Air Force Weapons Lab had a strong interest in these applications, and they joined with us in exploring the radial pulse line accelerator technology. The programs that could be affected by these particle beams include those relating to weapons effects simulation, fusion energy and, possibly, particle beam weapons."

The generation of such high-energy beams is a new application for the pulsed power technology developed under Tom Martin (4250) during the past 16 years for simulation and particle beam fusion applications. In particular, RADLAC I makes extensive use of the technology developed for the PROTO I accelerator.

In pulsed power systems, electrical energy is stored in a capacitor bank (Marx generator) over a period of minutes. This energy is then converted into a high-power electromagnetic pulse that is discharged in 20 billionths of a second. RADLAC I uses these electromagnetic pulses to form a two-million-volt electron beam which is then accelerated through four cavities to achieve a final energy of 10 million volts.

"This is somewhat like a multistage rocket," explains Ken, "where the space capsule's velocity is increased by sequential firing of the multiple rocket engines. Each cavity is analogous to one of the rocket's stages, except that we're increasing the energy of the electrons—not their velocity—since they're already traveling at near



MAKING ADJUSTMENTS on two of RADLAC I's four cavities are Art Sharpe (left) and Larry Stevenson, both of organization 4253. Electromagnetic pulses are accelerated through these cavities to achieve a final energy of 10 million volts.

the speed of light."

The configuration used in RADLAC I was first investigated by the Soviet physicist, A. I. Pavlovskii, who in 1979 described the successful operation of the LIU-10, a 13-million-volt radial pulse line accelerator. The Soviet scientists used 42 pulse-forming cavities to get 13 million volts of acceleration.

"In contrast, the Sandia approach would require seven cavities that are charged to three million volts to accelerate a beam to 14 million volts," says Bruce Miller (also 4253). "The RADLAC I accelerator demonstrates the feasibility of high-current linear accelerators, and the development of a second-generation accelerator—RADLAC II—is now under way."

## Sandia's New Pension Plan Now On Bell System Track

President Morgan Sparks announces that Sandia is adopting the benefit structures of two new Bell System pension plans. Effective October 1, 1980, the Sandia Corporation Retirement Income Plan was divided into two plans: the Pension Security Plan and the Retirement Income Plan. (Employees can determine which plan they come under by referring to the Letter to Employees dated April 1, 1981.)

"Adoption of the new Bell System benefit structure is important because it permits Sandians to provide significant improvements in Bell System benefits which are appropriate," says President Sparks. "I am confident that you will find that the plans have the flexibility to respond to inflation and that they will meet the pension needs of our employees more satisfactorily than the current plan."

"All present retirees and annuitants will be assigned to one of the two new benefit structures and will be notified of their assignment," explains Sam Mancuso (3544). "Employees who retired on or after August 10, 1980, will have their pensions adjusted as necessary after we receive approval of the plan changes from Sandia's Board of Directors, the IRS and DOE.

"Those who retired prior to that date will be assigned to one of the two new benefit structures even though their pensions will not be immediately affected. However, the assignment is necessary in the event of future improvements to the plans."

Pension benefits for retirees as of August 10, 1980, and for employees who retire in the first year under the new benefit structures will average about 10-12%

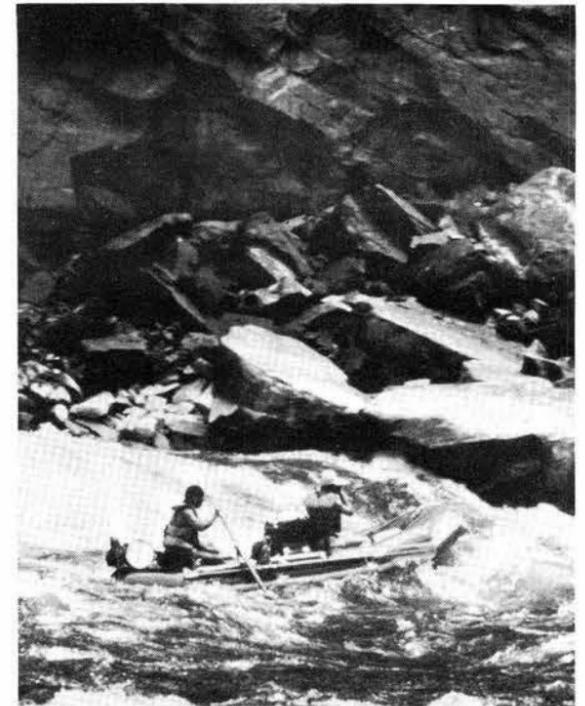
higher than equivalent benefits under the current plan.

Employees, retirees, and annuitants who were on roll or receiving benefits prior to July 1, 1975, who did not elect the Bell System benefit structure will remain under the 1967 benefit structure.

One feature of the plans will permit certain employees retiring prior to October 1, 1985, to have their retirement benefit calculated under the 1967 Career Average Formula, the high-five benefit formulas, and the new Bell System benefit formula, and to receive the largest amount. Employees meeting the Bell System eligibility requirements (except that only 15 years' service at age 55 is required), and who elected the Bell System benefit structure in 1975 will be eligible for this feature.



LEE ENJOYS the Jewels, a series of challenging but not so traumatic rapids.



MARCUS LIBKIND (8355) and Lee Griffith (8452) run one of the Colorado's big ones, House Rock Rapid.

### Unusual Vacations

## Running the Grand's White Waters

Where can you get farther away from it all than on the rapids of the Colorado River? Sandians Marcus Libkind (8355) and Lee Griffith (8452) gave it a try for 15 days last summer as they ran the 225 miles of white water from Lee's Ferry through the Grand Canyon to Diamond Creek on their 13-foot inflated boat.

Marcus says preparation for the 12-person, five-boat trip took five months of planning, ending with a two-week concentrated effort to make sure everything would operate properly. "We also built an extra deck on the raft to hold some of our gear. Because of the trip's length, we took the equivalent of enough food for one person for half a year, all of which had to be repackaged into waterproof containers. In all, the expedition gear weighed some 3000 pounds.

"Much of the river is quite calm," recalls Marcus, "with hours and hours of relaxation just absorbing the sunlight and beautiful scenery. But there are those moments of terror as we plunged through the major rapids. Some of these are the most challenging 'big drops' on our continent. And you must be careful to watch for milestones, or you can get lost in

terms of where you are on the river. Of course, certain ones you can't miss, but there are also many miles of sheer walls and side canyons right down into the river.

"Generally, every boat did its own thing, but for the major rapids we were all together. If you run all five boats at once and two flip, you still have three and that's a real safety valve. Run the rapid correctly and it can be easy, in some cases not even rough. Mess it up and you'll survive, but you'll probably not have a very good time—then or for some time afterwards."

Some of the stops along the way were at Vasey's Paradise, Red Wall Cavern, Nankoweap Ruins, Elves Chasm, Deer Creek Falls, Matkatamiba Canyon and Havasu Canyon. They spent the last six or seven days taking hikes up side canyons.

Marcus says that evenings were pleasant, with little need for warm clothes. The fourth morning, over an inch of rain caused flash floods on the terraces above. The waterfalls started flowing, then began turning red; then the river turned red and, for the remainder of the trip, was never clear again. The water temperature was a chilly 50 degrees.

Rigging the boat was a daily chore and

took about an hour. "You try to separate the food by days, so you don't have to untie everything when you make camp at night," says Marcus. "We brought a tarp for shelter and cooking, and each of us had a tent or whatever for sleeping. Our big chests unexpectedly provided ice for almost ten days, so we could have brought more fresh food.

"Turns out there's a trick to being a passenger and Lee is an expert," comments Marcus. "Just as the boat plows into a big wave, as the boat is slowing down and losing its momentum, he'd lunge at the forward tube and impart an additional force. This makes a real difference in a critical situation—like plowing through the last waves in Granite and Upset Rapids."

Marcus adds that the man-eater rapids like Crystal, Hance, Horn, Lava Falls and Hermit all leave their mark on the boatman's memory. Tales are told of these for years to come. But some of the so-called "smaller" rapids, like the Roaring '20s and Jewels, are the most enjoyable.

Driving home, Marcus and Lee are already planning their next white-water trip, the Middle Fork of the Salmon this coming summer. •lcs



FLOATING through Granite Gorge, Marcus and Lee find the river quite calm.



ARRIVING at camp, the white-water enthusiasts unload the boats.

# LIVERMORE NEWS

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APRIL 17, 1981

## Supervisory Appointments



JACK JONES to supervisor of Computer-Aided Engineering Division 8274, effective March 16.

Jack earned his bachelor's in mechanical engineering from Case Institute of Technology and a master's in aeronautics and astronautics from Stanford in 1969. Then he spent four years in the Navy as a flight officer based at Moffett Field. Following that he earned his PhD, again in aeronautics and astronautics, in 1977 from Stanford.

Jack arrived at Sandia Livermore that same year, joining 8122 where he did structural analysis work on the W79 and the solar pilot plant. Next he worked on the MX structural analysis and in his present division.

His off-hours at home in Fremont are spent with a video terminal for scientific programming which he built himself; Jack also likes to sail and fly. The new supervisor belongs to ASME, the American Institute of Aeronautics and Astronautics, Tau Beta Pi and Sigma Xi.



RON STOLTZ to supervisor of Materials Development Division 8312, effective March 16.

The division performs research and development in the areas of electroplating, powder metallurgy and structural steels.

Ron joined Sandia Livermore in 1976 to work on development of alloys for use in coal gasification environments (8314); more recently, he has conducted hydrogen embrittlement research on steels (8316).

Ron received BS, MS and PhD degrees in metallurgy and material science from M.I.T. He then spent a year in France on a scientific exchange fellowship at the National School of Mines in Paris. Later, he completed an NSF Energy Fellowship back at M.I.T.

He and his wife Susan have two pre-school sons and reside in Walnut Creek. Ron enjoys twentieth-century literature and cross-country skiing. He belongs to the American Institute of Metallurgical engineers and the American Society for Metals.

## Take Note

Ted Gold, now on temporary assignment with the DoD in Washington, received an award from DOE for his work as deputy director for the joint DoD/DOE Long Range Resource Planning Group. Ted received the Distinguished Associate Award "... in recognition of outstanding accomplishment ... His contribution to effective and efficient future planning and acquisition of weapons will greatly benefit the future defense of the Nation." Before reporting to DoD, Ted headed Systems Studies Dept. 8320.

\* \* \*

One of the projects in Sandia Livermore's ongoing energy conservation program has resulted in a savings of \$9000 in utilities costs over the past nine months. It involves the heating, ventilation and air conditioning in Bldg. 911. The south addition to 911 was built in 1971 when construction money was scarce and energy costs low; therefore, a single large air

conditioning unit was installed for the entire addition.

Recently, a smaller unit was added to accommodate the Security Communication Center, which requires 24-hour operation. The larger rooftop unit is now used only during normal working hours. The new equipment paid for itself in the first nine months of use.

## Retiring



Art Clark (8123)

## New Film Looks At Secretary's Job

Sandia's Secretarial Committee has gotten together with Motion Picture-Video Service Division 3153 in an unusual venture—the production of "Office Report," a 40-minute videotape that tells about the world of today's secretaries.

Carol Kaemper (5500), coordinator of the project and tape narrator, explains: "Our committee made several presentations at local high schools on choosing a secretarial career. It became apparent that we needed to enlighten and encourage the students: the secretarial job is a good job, there is a shortage of people to fill these jobs and, because of the electronic revolution, the secretarial stereotype—making coffee, taking dictation and typing—is disappearing."

The videotape consists of four segments—Education and Training, Office of the Future, Choices, and Hiring Hints. It focuses on Sandia secretaries but also studies the male secretary role, the secretary turned office manager, the role of an administrative assistant, and the former secretary now a bank loan officer. Film was shot at Cibola High School's office education class and it follows a coop student as she goes about her afternoon job with a local firm. It includes interviews with people at the Career Enrichment Center and the Technical-Vocational Institute.

The videotape will be offered to the public schools for use by office education teachers. At Sandia, it will be used by secretarial coordinators, recruiters, and education and training people. The tape was produced, directed and edited by Jim Williams (3153), with production assistance from Edmundo Sisneros and George Skinner (both 3153).

The videotape will be shown on April 30 in Bldg. 815 (outside the Tech Area) at 12 noon. Sandians and others are invited to attend.

## Events Calendar

April 19—Cochiti, San Ildefonso, San Felipe, Santa Ana, Santo Domingo, Santa Clara Pueblos: Easter—spring corn, basket and other dances.

April 23—Southwest Ballet Company presents Swan Lake Act II, 8:15 p.m., Popejoy.

April 24—Lecture by Christo (NY artist known for his canvas walls, fences & wrappings) in conjunction with opening of his "Valley Curtain Exhibition," 7 p.m., auditorium, Albuquerque Museum.

April 24-26—Puccini in New Mexico II, a program of opera/choral works, UNM Opera Studio and the UNM Choruses, 24-25: 8:15 p.m., 26: 4 p.m., Keller Hall, UNM.

April 24-May 2—"A View From the Bridge," Albuquerque Little Theater, Tues.-Fri., 8 p.m.; Sat., 6 & 9 p.m.; Sun., 8 p.m., 242-4750.

April 27-28—"A Chorus Line," musical, 8:15 p.m., Popejoy.

## Take Note

Young violinist Cho-Liang Ling plays with the New Mexico Symphony tonight and tomorrow night at Popejoy. The 8:15 concert features the Taiwan artist playing Mendelssohn's Concerto for Violin, Opus 64 under the direction of Maestro Takeda. Tickets: 842-8565.

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In our last issue, we reported results of a readership survey and included one reader suggestion: "I'd like to see a once-a-year listing of mountain cabins, ski area condos, and the like for rent by Sandia owners." Another reader called to propose that instead of a LAB NEWS listing, we simply maintain a loose-leaf binder with descriptions therein of the vacation properties, similar to our collection of resumes from retirees interested in part-time jobs. Sounds good to us, so if you have a cabin, condo, RV, boat or whatever you'd like to rent out from time to time for vacation purposes, then mail your name, organization and phone number to Vacation, LAB NEWS (3162). We'll return to you a form on which you can describe what you have to offer. And we'll keep readers posted on this.

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Sandians earning \$17K or more are eligible for KAFB Officers Club membership. Vern Henning, retirement counselor in Benefits Division 3543, advises Sandians planning retirement to join the O-Club before retiring so that membership may be continued. Only active employees may join, but membership may be retained after retirement. Dues are \$11 per month. At age 60, the dues drop to \$7 monthly.

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Attention retirees: there has been a change in the date of the 1981 Retiree Picnic at Albuquerque. The picnic will now be held on Wednesday, June 3, instead of Thursday, May 28, as previously announced.

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Wilson Brooks (4332) dropped by LAB NEWS to remind us that SPEBSQSA will be doing its thing at Popejoy on Saturday, April 25, at 8:15 p.m. If we lost you back there, that's the Society for the Preservation & Encouragement of Barber Shop Quartet Singing in America, and their show is entitled "All Aboard The Harmony Express." Pick up tickets at the Popejoy box office.

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The non-profit Consumer Credit Counseling Service is offering another of its money management education courses starting May 4. The eight-session course discusses, *inter alia*, credit buying, budgeting, food buying, home buying or renting, automobile repairs, and insurance. Cost is \$15. LAB NEWS (next to Bldg. 814) has folders on the course.

## Fun & Games

*Fitness Day '81*—Will be observed Friday, May 1, from 12 to 1 p.m. on the Parade Ground and, yes, you can take an extra half hour on your lunch period if you participate. Sponsored by the recently organized Friends of Health, which now has some 800 members, Fitness Day '81 offers music, a mile-and-a-half walk/jog/run, picnic lunch on the grass (your lunch, FOH will supply beverage), prizes by lottery, a speaker on fitness, and stimulating companionship. And fun. Object: to show that exercise isn't all that bad and that Sandia Labs and the Friends of Health have an interest in your becoming fit. Mark it on your calendar: May 1st.

\* \* \*

*Bowling*—The Kirtland bowling honcho called to report that summer bowling league openings are now available to Sandians, with prices at 75 cents/line, shoe rental at 25 cents. If you're interested, visit or call the West Lanes, 4-0165.

\* \* \*

*Running*—Coming up: Sun Run, 7K, April 18 (we have entry forms); Alb. Academy Bazaar 4-miler, April 26; USMC 10K for muscular dystrophy, May 2.

\* \* \*

*Biking*—A number of tours are coming up. On May 3, the century, the 9th annual tour of the Rio Grande Valley, takes place. You don't *have* to go the full hundred miles—there's a fifty-mile alternate. And, on May 16 and 17, the MS (multiple sclerosis) 150 Bike Tour is scheduled. On this you bike to Jemez Springs on Saturday, stay overnight at the nearby Hummingbird Music Camp, and return on Sunday. It's one of those where you line up sponsors. LAB NEWS has entry forms on these two tours. The NM Touring Society plans an overnight bike tour to Coronado Monu-

ment on April 25-26. Jim O'Leary is the contact: 268-3949.

\* \* \*

*And now, Jazzworks*—Neena Morganti dropped by to tell us that Jazzworks is now at the Kirtland east gym Tuesdays and Thursdays, 4:15-5:15 and again at 5:30-6:30. The cost is \$10.50 monthly and there's continuous registration. Says Neena: "Our musical routines cover more body parts than any other program and they're fun! fun! fun!" Call 881-0706 or 256-1195 for more info.

\* \* \*

*Tennis*—A series of clinics for intermediate-level tennis players, starting April 27, is being offered by the Sandia Tennis Association. Instruction is by Bill Taylor, head pro at the Albuquerque Tennis Complex, and consists of two one-and-a-half-hour sessions for a fee of \$7.50. For information on schedule and location, call Hal Baxter (4726), 6-0781, or Oscar George (5513), 4-0284.

\* \* \*

*Basic Photography*—Second in a series of Sandia Labs Recreation Program arts and crafts classes, this course includes film developing, enlarging, use of chemicals, etc. Cost is \$13.00 for eight hours of evening instruction; class begins when eight sign up. Contact Tom Lenz, 4-8486, for further information and signup.

\* \* \*

*Self Defense*—Also under the Labs Recreation Program, a six-week "Street Survival Self Defense" class starts Monday, April 20th. It's open to Sandians, DOE employees, and their spouses and dependents. It runs Mondays and Wednesdays from 5:00-6:30 p.m. for six weeks at the east gym. Contact: Dave Goodwin, 4-4970.

If you're tired of affixing an 18-cent stamp to those utility bill envelopes, not to mention the writing of four checks (water, gas, electric & phone), then here's a way to save 72 cents/month: take the bills to the Credit Union. They'll pay them out of your share draft account, provided you get the bill over there on or before the due date. The new service started April 1.

\* \* \*

Newsnotes for those following the fortunes of the South Highway 14 Village Project—We've had to shut down our honor system book stands—too many customers ripping off the merchandise. The remaining book stand is now located in the LAB NEWS trailer next to Bldg. 814 under our watchful eye. Book donations are cheerfully accepted, and we'll pick them up if you give us a call (4-7841). Money from this project helps poor families in the villages on the other side of the Manzanos. One focus is the Senior Citizens Center in Manzano which recently acquired the old rectory building across the street. The old timers are fixing up the

place and need the following: tile, linoleum, draperies, shelving material, sewing machines, pottery equipment and a desk and chair. Call us on 4-1053 if you'd like to donate any of these items.

\* \* \*

If you have visitors coming to Sandia, two new brochures, available in the badge office, may be useful. They are *Visiting Sandia National Laboratories* and *Welcome to Albuquerque, New Mexico & Sandia National Laboratories*. Both have maps, building locations and some words on amenities.

\* \* \*

The 17th Annual Symposium of the American Vacuum Society is running April 28 to 30 at the Four Seasons Motel, with technical meetings extending over the three days. The vendor show runs April 28 and 29, no fee, and a complimentary lunch is offered, plus drawings for door prizes. The show is open 10 a.m. to 5:30 p.m. on April 28, 8:30 a.m. to 5:30 p.m. April 29. Contact for additional information is Carol Ashby (5111) on 4-9851.



WHEN STEVEN CHESTER (1768) removes the bark to expose the wood on this chunk of cottonwood, he'll begin to think about ideas for the sculpture. An earlier effort produced "Untamed" (above).

## Artistry & The Chain Saw

He stands, chain saw in hand, contemplating the huge cottonwood log before him. He steps forward, absently knocks off some bark, then slowly circles the log, his head tilted, eyes searching. Satisfied, he starts the saw, the motor coughs and roars, the man is engulfed in swirling sawdust.

A woodlot scene? No way! This is Steve Chester (1768), the site is his home in the mountains, and the work is sculpting—wood sculpture with a chain saw.

Steve has been turning out his chain-saw sculptures for seven years. Scattered about his yard are animal and human figures: heads, masks, reptiles, birds, fish, even some fantasy pieces.

Because of the size—6- to 10-feet tall, weighing up to several thousand pounds—Steve works on his sculptures outdoors. All the carving is done with the chain saw. "I don't need a lot of fine detail except for a little chisel work," he says.

"For me, it's addictive. I get very involved in what I'm working on, but once it's finished I start looking over the woodpile for the next one." Steve sculpts evenings and weekends, estimates he's invested at least 150 hours in the larger pieces.

A chain hoist attached to a frame on a two-wheel trailer solves the log handling problems—first to haul the log, then to

position it for carving, finally to move the finished piece. He has to use scaffolding on large pieces.

After positioning the wood where he's going to work on it, he removes the bark. Then creativity takes over. "I have an idea of what the carving will be when I select the wood, but I set it up and think about it before I cut," Steve says.

When the carving is finished, the base is treated with creosote. Some pieces are treated with a fungicide and left to weather naturally, some are treated with linseed oil or painted with a clear polyurethane epoxy, and some are seared with a blowtorch.

Last summer, Steve was invited to demonstrate his chain-saw art at the Texas Folk Festival in San Antonio. And his work has been accepted for the Arts and Crafts Fair at the State Fairgrounds in June. "The work is difficult to display because of its size," he says, "but, yes, I'll have some large pieces on display."

"BROKEN FEATHER" was carved for a friend who wanted it for his father in Kentucky. It made quite a load in his pickup—the piece is 8½ feet tall and weighs almost 1300 pounds.



## Unusual Vacations

# Jones Sees Jerusalem From Ground Down

[Ed. Note: Have you taken an unusual vacation? Tell us about it—call 4-1053.]

On his first morning in the Old City of Jerusalem, Dick Jones (4416) was awakened at 3:30 a.m. by a howitzer being fired from the mosque next door. "It wasn't the start of a war," he explains, "just the Muslims waking up the faithful to get ready for morning prayer. Once they get their attention with the cannon, the muezzins call them to prayer through four 1000-watt amplifiers on the minaret. By four, everybody in our group was wide awake and ready for breakfast."

The group that Dick refers to is the 60 people—Israelis and foreigners—who signed up for a four-week archaeology course at Hebrew University in July 1980. "We stayed at a Roman Catholic convent operated by the Sisters of Zion, an order dedicated to Christian-Jewish understanding," Dick states.

"The convent is in an old fortress which had housed the Roman garrison 2000 years ago—the basement is believed to include the locale where Jesus was brought before Pontius Pilate.

"We stayed 16 men, or women, to a room—privacy was provided by hospital-style green curtains around our cots, although married couples had separate quarters. After breakfast, which was usually hot tea, toast with marmalade, a cup of yogurt or a hard-boiled egg and an orange or apple, we went to the dig, or archaeological site. It was an outcropping on the southwest corner of the Old City. Our project was to look for the quarter of the Essenes, a very pious Jewish sect. Their community on the Dead Sea was destroyed by an earthquake in 30 B.C., and Herod the Great invited them to settle in Jerusalem. Tradition had it that he settled them in the area where we were digging. The Essenes would have had special structures, especially bathing facilities since they went in for ritual bathing. Essene beliefs called for special entrances for them to use when they went into the city or their quarters because non-sect members were not supposed to cross their paths. We were looking for a gate, wall, towers—any kind of entrance or gateway."

Dick reports that on the first day the group found a shaft from an 1890s British dig. In the following days, they went down about 2000 years—the oldest layer dated from 100 B.C. "We found four gates, four highways, one on top of the other, all entrances to Jerusalem. We found Roman coins, oil lamps, pottery.

"My specialty was civil engineering, especially hydraulic projects," Dick explains. "I was excavating a sewer system and a small aqueduct which distributed water to each house. After finding the



AMATEUR ARCHAEOLOGISTS at work in Jerusalem's Old City. At left is trench Dick helped dig to uncover a neighborhood dating back to 100 B.C.

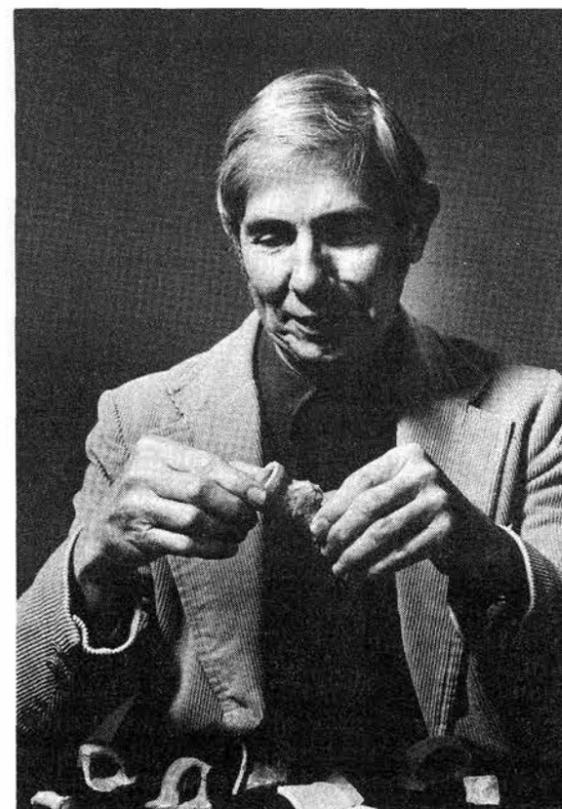
aqueduct—or any structure—pictures and measurements were taken before we continued on down to the lower layers.

"We'd be at the dig by 4:30 and work until 8 when we had a second—kosher—breakfast of tomatoes, cucumber, carrots and orange juice. We also had mashed garbanzos (chickpeas) with olive oil sprinkled with paprika on bread. After digging until 11, we'd move to an Anglican cemetery where, sitting on tombstones, we'd listen to a professor explain the significance of the day's finds. At 12 it was back to the convent for lunch. We had chicken or lamb, rarely beef, and never pork. We always had cucumber and tomatoes. The sisters also served pita bread which is something like a double tortilla."

The rest of the day was taken up with visits to other digs and classroom work until 7, when they had the evening meal at the convent. "We rarely went out because Israel's inflation rate is the highest in the world—140% a year—and everything's terribly expensive; a bottle of Coke, for instance, is \$1," says Dick. "There wasn't any digging on weekends—we went instead on field trips all over Israel. Once we hiked to a Greek Orthodox monastery. In the cliffs above were caves inhabited by hermits—some had been there for over 20 years. The monks knew they were alive because the hermits took the food that was set out for them."

Dick flew TWA to New York and Olympic from there to Athens and Israel for \$1200—"although it could be cheaper going through Dallas." Tuition at Hebrew University is \$25 a credit including textbooks (and use of a pick and shovel). Accommodations at the convent were \$14 a day including breakfast—lunch and supper were \$2 extra each.

Dick says it was hard work but exhilarating and fun. "And I plan to go back this summer," he assures us.



DICK JONES examines 2000-year-old pottery shards that he brought back from Jerusalem.

## Retiree Deaths

January-March 1981

Jose Mestas (88)	Jan. 18
John Dankworth (72)	Jan. 23
Jesse Williams (64)	Jan. 29
Thomas Carbin (64)	Jan. 30
William Bradford (68)	Feb. 2
George McClure (70)	Feb. 2
Eustaquio Ulibarri (86)	Feb. 8
Ray Hooper (58)	Feb. 12
Walter Tillman (82)	Feb. 13
Jim Hockett (54)	Feb. 22
Fred Harrison (59)	March 5
Harvey Harter (67)	March 12
Willis Jobe (80)	March 18
Stuart Ravenbyrne (64)	March 21
Clyde Millard (78)	March 28
Moises Padilla (82)	March 29

# Favorite Old Photo



THE OTTUMWA BELLE was built in 1895 by my great-grandfather Henry Parmelee in Canton, Missouri, for service on the Mississippi. She was referred to as a stern-wheel rafter and, in 1915, sailed with a lumber raft containing about two million board feet from Hudson, Wisconsin, to Keokuk, Iowa. This was the last such raft to make the voyage and, with its landing at Keokuk, lumbering on the upper Mississippi became a closed book. I've often thought that my great grandad had an interesting and adventuresome life—he was also a riverboat captain on the Mississippi. (Neil Davie—5524)

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2. One ad per issue per category.
3. Submit in writing. No phone-ins.
4. Use home telephone numbers.
5. For active and retired Sandians and DOE employees.
6. No commercial ads, please.
7. No more than two insertions of same ad.
8. Include name & organization.
9. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

### MISCELLANEOUS

**BOOK SALE, LAB NEWS** (next to Bldg. 814), also caps, \$5; T-shirts, \$6; windbreakers, \$15. S. Hwy. 14 Village Project.

**HAY:** 100 bales alfalfa, 120 bales grass alfalfa mix, all barn stored. Holton, 844-1935.

**REFRIGERATOR,** 20 cu. ft. Coldspot deluxe, avocado, self-defrost, ice maker, humid dwr., \$375 cash. Baldwin, 266-8430 after 1 p.m.

**TUBE-TYPE FM tuner,** pre-amp, amplifier, Lafayette PK-245 turntable, \$60; 4 '72 Olds wheel covers, \$25; ¼ HP elec. motor, \$7. Stuart, 299-9190.

**WINDSHIELD** for small motorcycle or moped, \$15; full-face motorcycle helmet, lg., \$15. Holmes, 292-0898.

**'74 FORD** car service manuals, \$20; bmc disappearing steps for Ford pickup, \$10 pair. Rayner, 821-5534.

**GOLF CLUBS:** 1, 3, 5, woods, Conquest brand, used 4 times, cost \$45, sell for \$30. Kaiser, 296-5215.

**13" COLOR TV,** \$150; elec. broom, \$15; partial golf set, \$15. Dodson, 281-2649.

**HARDWOOD** chopping block, hand crafted, never used, 24"x30", approx. 3' high on casters. Hesch, 881-9874.

**LUDWIG** drum set, complete w/ cymbals, \$1000; AKC tri collie female, 1½ yrs. old. Rhoden, 293-5301.

**HAM RADIO GEAR:** electronics test equip.; magazines & books (technical); furniture. Hamilton, 293-3825.

**SLIDING GLASS DOOR,** 72" x 81", \$50; 2 casement windows, 68" x 37½", \$25 ea. Mottern, 299-8817.

**SEARS Craftsman** 16-gal. wet/dry shopvac, 8 accessory pieces, almost new, \$75. Caffey, 296-3320.

**ELECTRIC** stove, apt. size, 21", 3 surface units, 1 deep-well, oven, timer, clock, light, Electro-Master, \$45. Bassett, 898-1840.

**GRAPHITE** fly rod, 8'-6 wt, custom, \$80; spinrod, Fenwick, 6½', \$29.50. Kindley, 296-7819.

**SIAMESE-MANX** cross, 1 yr. old, male, has shots & is neutered, doesn't get along with other animals. Weber, 243-7650.

**GOCART** engine, Chrysler-South Bend 130cc, 12 HP, w/mounting & drive hardware for gocart or powered hang glider. Vaughn, 298-5919.

**10' OVERHEAD** garage door w/hardware, 4 sections, one section windows, \$125. Dow, 281-5139 between 5 & 7 p.m.

**19" GE** port. color TV, 1975, \$150; wrought iron stand, \$15; 2 king size pillows, never used. McKenzie, 296-0620.

**MAYTAG,** top-loading portable dishwasher, white, \$150 or trade for firearms. Kupper, 298-7720.

**NAUTILUS** membership through Nov. '81, 1 month free. Rutledge, 294-5644 weekends.

**GOLF CLUBS,** Wilson X31 irons 3-PW, \$75; Hogan Medallion irons, 3-PW, \$100. Strassel, 298-3816.

**UNIV. ALB.** adult ed. seminar books. White, 293-2219.

**OLD ENGLISH** sheepdog, AKC, 2 yrs. old, lg. & playful, needs spacious home, \$100. Dossey, 294-1167.

**BEAR PAW** snowshoes, wood & leather bindings, \$50. Kraft, 821-6417.

**ALUM. WINDOW** w/screen, horizontal sliding, 3'x5', \$18. Navratil, 293-5527.

**GOLF CLUBS:** Ben Hogan woods 1-3-4, Legend 4, Producer Personal Model, \$100. Gonzales, 298-0931.

**TVs:** 25" Zenith console, color, remote control, \$195; 19" Admiral B&W pprt., \$70. Peterson, 298-1235.

**FRIGIDAIRE** elec. range, 40", 2 lg. storage dwrs., backlight, clock-timer w/auto. on-off; girl's 26" coaster brake bike, \$35 w/stand. Davis, 884-3353.

**CAMPER** shell for small pickup, \$250. Shortencarier, 292-3575.

**PING PONG** table w/equip., never used, \$55; car radio for GM x-body car, \$25; worms for fishing or gardening. Padilla, 836-2279.

**FREE TO GOOD HOME:** year old Beagle cross female, shots, license, spayed, loves children, everyone else, and room to run. Bell, 821-7148.

**TI-59** w/printer, 2 application packs, 5 books, ex. mag. cards, 3 battery packs, 3 rolls thermal paper, calculator, 6 mos. old, retail \$750, sell \$435. Bailey, 299-0184.

**STAR .22** auto. pistol w/2 clips & holster, \$85; trials M.C. tire, 3:00-21, \$5. Healer, 298-6967.

**STEREO COMPONENTS:** Scott turntable, UVS RS-5 receiver, 2 Acutex 3-way 10" speakers, practically new, \$450 or sell separately. Wilson, 881-2540.

**.22 CAL.** Crossman pellet pistol, pump model, \$35. Rex, 344-6552.

**WINCHESTER** model 70 .25/06, rings, mounts, 4X scope; Colt Government 9mm, auto. Haaker, 293-1077.

**EXERCYCLE** w/odometer & adjustable tension, \$40. Mead, 869-6124.

**TORO** Home Pro rotary mower, back bagger, \$149; 10-gal. aquarium w/stand & accessories, \$39; brass swag lamp, \$49; charcoal grill, elec. spit, \$25. Nuttall, 293-2250.

**SCHOBER** concert organ w/full pedal clavier, reverbatate & speaker, best offer or will trade for baby grand piano. Bateman, 298-9502.

**CARTOP CARRIER,** Traileze wind deflector; B&W TV; bed; 2 pet rats & cage; maternity clothes, size 10-12. Beegle, 296-5300.

**SWIMMING POOL PUMP,** 1 hp, built-in strainer, 110 or 200V, new, \$160 (retail \$261); new 1½ galvanized union & tee, ½ list price. Stevens, 299-6086.

**FLYING CLUB** membership, Cherokee 180, near zero time engine, \$9/hr. dry rate. Oliver, 299-5512.

**OAK BUFFET,** \$300; hanging designer lamp, \$50; old radio cabinet, as is, \$30; hanging lamp, \$20. Young, 292-2805.

**MAG WHEELS,** 5 ea., 5-hole 4½" pattern, for 50 or 60 series, knock-off nuts & fair tires, \$125. Johnson, 268-1043.

**9½" CAMPER,** Tiltin Hiltin, ref., 110, 12V, gas, sleeps 5, boot to truck. Davis, 294-0139.

**KITCHEN TABLE** w/leaf, butcher block veneer, \$30; 108" gold color couch, \$100. Schubeck, 294-5666.

**CAMPER SHELL** from Datsun longbed (92"), 33" high in front; 35" rear, insulated, screens, lights, \$250; IBM elec. typewriter, elite, \$150. Mead, 294-2298.

**BRASS** wood-basket, \$10; brass fp screen w/curtains, 39", \$20; brass andirons, \$15; wood exterior door & screen door, \$25. Jercinovic, 255-8027.

### TRANSPORTATION

**'73 BLAZER** Cheyenne hardtop 4x4, AT, AM-FM cassette, \$2500; '76 Vega GT wagon, AT, low mileage, \$2100. Lin, 296-1911.

**'76 HONDA** Accord, AT, AC, AM-FM, stereo 8-trak, Michelin tires, \$3950 or best offer. Chandler, 296-3323.

**'78 THUNDERBIRD,** 352 V8, PB, AT, PS, new SBR tires, AM-FM stereo cassette, low mileage, tan. Hamilton, 293-3825.

**'73 KAWASAKI** Z-1 900cc, many extras, \$1000. Puckett, 296-6440 after 5.

**'78 CUTLASS** Supreme 2-dr., PS, PB, AC, AM-FM stereo, 21,000 miles, \$4800. Damerow, 884-4039.

**'74 JEEP** Cherokee, PS, AC, AM-FM, carpeted, 18 mpg, \$250 below book at \$1650. Baxter, 344-7601.

**'75 CHEVROLET** Malibu, 2-dr., 6-cyl., std. trans., WS tires, air, radio, \$1725. Romero, 298-8586.

**'80 MAZDA** RX-7 6S blk., under 8000 miles, 5-spd., AC, sunroof, AM-FM,

alu. wheels, rear louver, front mask, \$9350 or best offer. Kupka, 292-4698.

**'76 FIAT** 131, AM-FM radio, 5-spd., 4-dr., \$2100. Lackey, 898-6638.

**'77 VOLKSWAGEN** 7-pass. bus, std. trans., AC, 66,000 miles, new clutch, \$4995. Roeske, 296-3946.

**'75 CHEVY** Malibu 350, V8, PS, PB, AC, new AT, \$1500 or best offer. Mech, 266-0339.

**'72 HONDA** 175cc, elec. start, windshield, fairing, crash bars, helmet, owners & service manual, low mileage, 75-80 mpg city, \$450. Huddle, 881-2971.

**'80 HONDA** 500 deluxe, driveshaft, 3000 miles, windshield, sissy bar, \$2000. Hultine, 881-2836.

**'80 CHEV.** Citation 4-dr. hatchback, AC, PS, PB, AT, red, best offer over wholesale. Liguori, 255-7551.

**'79 YAMAHA** XZ250F motocross bike, pro ported, new tires, \$1000. Navratil, 292-3897 or 293-5527.

**'73 HONDA** 550 cc motorcycle, twin street bike, 14,800 miles, prefer cash but will consider small bike in trade. Peterson, 877-6398 after 6.

**DUNE BUGGY,** 1600 dual ports, 2 seater, many extras. McKinley, 864-3691 after 6:30.

**'78 DODGE** Omni 4-dr., 4-spd., SBR tires, 30 mpg-city, 40-hwy., reg. gas, \$3750. Martin, 869-2049.

**'74 VEGA,** \$750; '74 Kawasaki 750 H2, new motor, \$1100. Simmons, 255-3297.

**BICYCLE,** 10-spd., Gitane, 25½" frame, Suntour components. Tyner, 294-5289.

**'66 MUSTANG,** V8, mechanically sound, needs body work, upholstery, has all chrome, \$1000. Bell, 821-7148.

**'68 FORD** pickup, 4-spd., ¾-ton, w/10½" Travel Queen camper. Hanna, 299-1126.

**'74 FIREBIRD,** PS, PB, AT, AC, new tires-battery, vinyl top, 8-cyl., \$2000. Moss, 265-4536.

**'74 KAWASAKI** KZ400, 11,000 miles, fairing, luggage box, \$700; puppies free to good home, avail. May 1. Martinez, 865-6983.

**'73 DATSUN** 240-Z, new paint, AC, AM-FM radio, Parelli radials, American mags, \$3800. Griego, 873-2677.

### REAL ESTATE

**3 ACRES,** cultivated, irrigated, near Rt. 47, 6 miles south of Valencia, terms, RC. Burton, 869-2541.

**3-BDR. HOUSE,** 3 yrs. old, all brick, 2 bath, 2-car garage, lg. corner lot, super insulated, sealed & expandable. Aragon, 294-4275.

**1½ FENCED LOT** w/'72 12'x60' mobile home, 2-bdr., 1½ bath, built-ins, near Elephant Butte Lake & river. Cordova, 881-2209.

**COUNTRY LIVING,** north valley, 3600 sq. ft. house, solar facilities, barns, storage buildings on 2½ acres, \$220,000. Lackey, 898-6638.

**'78 14x80** 3-bdr. New Moon mobile home on leased ½ acre near Los Lunas, walk-up bdr., dishwasher,

water softener, fp. Shannon, 865-6844.

**NEWLY** renovated 3-bdr. house, 1950 sq. ft., Pueblo style, Ridgecrest area, assumable 10-5/8% mortgage, low equity, 3½ miles from Sandia. Corradini, 266-4307.

**'71 TOWN & COUNTRY,** 14x70', 3-bdr., 2 bath, partially furnished, Terrace Park, Suni & Wyo., adults only. Walko, 292-3193.

### FOR RENT

**HOUSE,** 3-bdr., 1 car garage, fenced yard, near Base, \$335/mo., avail. May 1. Finley, 294-1051 after 5.

### WANTED

**BOOKCASE** for Encyclopedia Britannica II; dog house for large dog. Yaniv, 881-8085.

**LARGE** portable blacksmith's forge, anvil, hammers, etc.; 25 lb. trip hammer. Gunter, 898-4951.

**QUIET,** isolated, inexpensive house/cabin, low down, wooded mountain acreage, 20-40 min. commute to Sandia. Dodson, 281-2649.

**SMALL** Dille boat trailer w/4.80x8 tires. Baxter, 344-7601.

**BASEBALL** bubblegum trading cards, 1978 & older issues, buy or trade. Estes, 865-5525.

**OMEGA** D-2 enlarger & Mamiya PRO-67 or RB-67 camera. Gammon, 268-1032.

**SHOCK TRAINING** COLLAR for bird dog. Knight, 836-7149.

**ELECTRONICS ENGINEER** to modify television equipment for new Public Access TV channel (non-profit); call Quote . . . Unquote, Inc., 345-4900 or 345-5819.

**RV TO RENT:** wanted by responsible German scientist for 3 weeks in May/June. Breitung, 255-2566.

**POSTS:** new or used poles, posts or railroad ties, any size. Burton, 869-2541.

**'67-69 PLYMOUTH** Barracuda body & Buick V6 engine. Prevender, 299-5253.

**FOR F-100:** front tire carrier, sliding cab window, small aux. tank, over-load springs. Horner, 821-0099.

**BALLOON TIRE BICYCLE,** 25" range, up to \$25. Hansche, 281-5623.

**10-SPEED BIKE** in good condition. Fleenor, 883-1327.

**HOUSE LOT** in Valley, perhaps on a ditch. Smith, 242-9576.

### WORK WANTED

**ODD JOBS,** yard work, lawn service, trash hauling, vacation yard care or any type work. Brian Nelson, 881-0148.

**TWO STUDENTS** looking for yard work. Tom Edrington, Jr., 881-2395.

**TEENAGE BOY** will do yard work, ask for Paul Prew, 296-3815.

## Coronado Club Activities

# Casino Night Set April 25

**HAPPY HOUR** tonight foregoes the buffet in observance of Good Friday. Happy Hour prices (very reasonable) are in effect all evening. The Scotsmen play for dancing in the ballroom from 8 to midnight.

**CORONADO GRANDSQUARES** marks the graduation of its refresher class with a gala evening Monday, April 20, starting at 7:30. All square dancers are invited to join the festivities. John Lewin calls until 10 p.m.

**NEXT FRIDAY**, April 24, sees steamship round of beef topping the buffet spread, Scooter Ron entertaining in the lounge and a group called the Del Fives holding the bandstand in the ballroom. The buffet costs \$6 for adults, \$3 for kids. Use your calendar discount ticket and take \$2.50 off the top.

**CASINO NIGHT** is the big one this month and it happens Saturday, April 25, starting at 7:30. The Club is converted to Las Vegas on the Rio Grande with crap shooting, blackjack, poker, chuck-a-lucking and all that exciting stuff. Members exchange \$1 at the door for a bundle of play money and play all night. Drawings for prizes take place all evening. Elton Travis and the Westernaires play for dancing from 8 to midnight. Green chili stew sells for \$1.25 (real money). No reservations required.

**SWIM SEASON** starts early this year. The Club's twin pools open May 22 and operate through the Memorial Day holiday, then reopen on Friday, May 29, for



COMPUTING EDUCATION CENTER staff Betty Straba and Jean Wells of Division 2614 invite you to pick up one of the new catalogs now in baskets near Tech Area gates. The catalog lists 84 courses available for individual and group study at the Center, Bldg. 880, Rm. D-10. Many of the video tape courses use the Plato teaching system which is interactive—students with machine—and range from basic introduction to computer languages. The Center is open 24 hours daily.

the remainder of the summer. Season tickets (member families pay \$25) are on sale at the Club office now. Registration for swimming instruction begins May 9. The pool and patio is your ticket to a summer of fun in the sun.

**TRAVEL DIRECTOR** Frank Biggs (4231) reports that the April 25 bus trip to Chaco Canyon is full, but another is now scheduled May 16 at the same price—\$20 per person. A pre-trip meeting for the Chaco Canyon Group is scheduled Thursday, April 23, at 7 p.m. Speaker will be a member of UNM's Chaco Center staff.

### Colloquium Speaker

## Describes Gene Splicing Techniques

Gene splicing, characterized by *Time* as "the most powerful and awesome skill acquired by man since the beginning of the atom," was the subject of Arthur Riggs' talk at the April 1 colloquium. Riggs, who is with the City of Hope Research Institute in Duarte, Calif., described his institution's work in molecular cloning and recombinant DNA techniques for the construction of bacterial strains to make human insulin.

Riggs pointed out that an *E. coli* bacterial cell contains a chromosome strand of 4000 genes which he likened to magnetic tapes. These strands are much too complex to work with but, fortunately, the bacterium also has "rings" of genetic material that float freely outside the main genetic strand. These rings are known as plasmids, and they contain three or four genes linked in a small circle.

Genetic engineers snip off a section of the plasmid containing one gene. The "scissors" used are "restriction" enzymes which cut DNA precisely. With the aid of the same restriction enzyme, a gene is snipped from a segment of DNA from a completely different organism, in this case

Visitors are welcome.

Frank also reports that he needs three more people to make the Las Vegas/Hoover Dam charter bus trip go on May 24-27. You get transportation, snacks and other treats on the bus, a tour of Hoover Dam, three nights at the Maxim Hotel on the Las Vegas Strip and more for only \$132. You can also bring guests at the same price.

Other trips still open include Puerto Vallarta, Mazatlan and Cozumel. Possibles include China/New Zealand. See Frank in the Club lobby tonight between 6 and 7 for more info.

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