

From Jim Kennedy

A Letter to Sandians

Jim Kennedy is a physicist in Shock Wave Physics Division 5133. When asked to help with the current ECP campaign, he wrote the following letter:

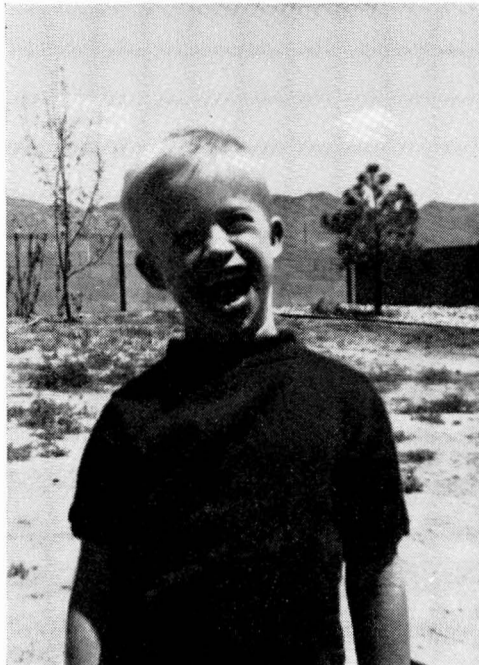
I am very pleased that you called me about the possibility of preparing a story on my retarded son as part of the ECP publicity campaign in the LAB NEWS. In addition to serving the need for ECP campaign publicity, I hoped that this would introduce some Sandians to the human side of retardation.

David is seven years old, is afflicted with Down's Syndrome (Mongolism), and now functions perhaps as a four-year-old. The cause of this abnormality, which resulted from development of a 47th chromosome in addition to the normal 46 during the first months of his life as a foetus, is unknown.

He has attended special education classes for two years at the Day Training Center of the Albuquerque Association for Retarded Children (AARC), which is substantially assisted by UCF funds, and has shown remarkable progress in his speech, comprehension, and social behavior as a result. Davey is an especially happy and loving child, as most Mongoloids are, and enjoys books, animals and games just as all children do. He enjoyed our visit to Disneyland during August.

In our family life, we try to treat Davey as we would a normal child wherever possible, including discipline. His progress is linked to stimulation, so we expose him to new experiences at every opportunity, and we let him know that we expect him to do his part in taking care of himself and in helping about the house.

His mother and I are active in the local AARC. We are particularly pleased that



David Kennedy

the Albuquerque Public School system has at last increased the number of classes for trainable retarded young children and teenagers as urged by AARC. AARC proposes to work with other agencies for handicapped children to convince the legislature of the need for fair treatment regarding educational opportunities for these youngsters. This will enable AARC to concentrate its resources on helping pre-school children and untrainables.

We have reason to hope that David will be able to hold some type of routine job when he is grown, and to support himself. Others like him are doing so and are contributing to the community rather than burdening it.

Thank you for this opportunity to help ECP. Although we paid a nominal fee for David's training, AARC could not exist without the Albuquerque Community Fund.

Sincerely

/s/ Jim Kennedy

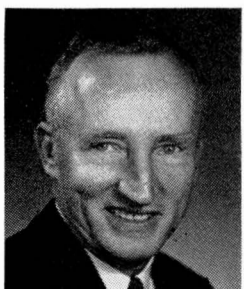
Explosive Ordnance Disposal Symposium to be Held At Sandia Laboratories

Second Symposium on Explosive Ordnance Disposal (EOD) will be held at Sandia Laboratories Oct. 6 to 8. Co-hosting the symposium are Field Command — DASA and the Weapons Application Directorate 1600 of Sandia. Ivan Moore (1610) and Gerry Hurley (1612) are coordinating AEC participation and agenda items.

Principal welcoming speakers are Major General Nye, Commander of Field Command, and Jack Howard, Vice President 1000.

Items on the three-day agenda focus chiefly on new developments since the last symposium in 1969. Speakers from the three services are scheduled as are representatives from Sandia and other AEC agencies.

Charles Bild Elected Fellow By ASM



The American Society for Metals has elected Charles Bild, Director of Environmental Sciences 7300, as a Fellow of the society.

According to ASM, "Fellow membership represents recognition of distinguished contributions in the field of metals and materials, and develops a broadly based forum for technical and professional leaders to serve as advisors to the Society."

The honor will be conferred upon Mr. Bild at an inaugural convocation of Fellows to be held at Metals Park, Ohio, on Oct. 18.

During the 19 years Mr. Bild has been at Sandia, he has been actively interested in component development and materials and processes. He is also a member of the Society for Nondestructive Testing.

LAB NEWS

VOL. 22, NO. 20

SEPTEMBER 25, 1970

SANDIA LABORATORIES · ALBUQUERQUE NEW MEXICO & LIVERMORE CALIFORNIA

Fast, Accurate

Optical Character Reader Eliminates Key Punched Cards

Computers have used key punched cards since way back when, which makes the cards probably the most antiquated feature in this dynamic field.

The usual procedure in preparing material for the computer is to commit to paper (80 columns wide) data or a series of instructions to the computer regarding what should be done with the data; next transfer the information from the columned paper to key punched cards; then verify the card by re-keying data, and feed the card into a card reader for data transfer to the computer.

Now, using a recently developed "optical character reader," you can type your program or data with a special typewriter and feed the results into the reader, which then converts the typed information and places it on magnetic tape. This tape can be read by any of Sandia's large-scale computers. The system is easier, faster, and more accurate — eliminates key punched cards.

Bob Vokes, a system analyst in Division 9414, is concerned with input for the optical reader. Call him at 4-4271 if you think the machine would be useful in your operation or if you would like advice on how existing or proposed forms could be adapted to this equipment.

"Industrial engineers have found that individuals write five times more efficient-

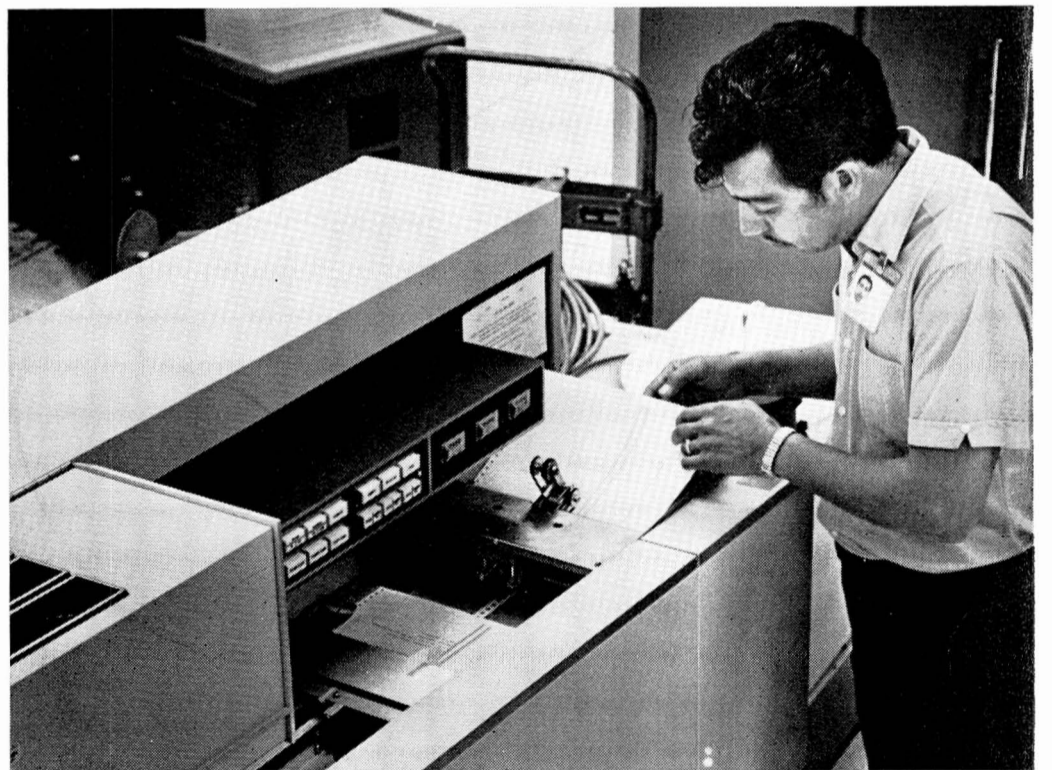
ly with a typewriter than with a pencil. Even unskilled typists can usually type faster than they can write by hand," Bob says.

Standards have been developed for use of typewriter and paper to facilitate system reliability and ease of operation. With a punched card, the user is limited to 80 characters per card; with optical reader techniques, the capacity is increased to 254 characters per record.

One distinct advantage is that the user — the person most familiar with the data — sees exactly what is placed on the magnetic tape. Corrections are easily made and, in fact, if the user makes an error that is not corrected, the optical reader will in some instances check the line containing the mistake and shunt the paper into a "reject" bin.

The optical reader is well suited to the job of recording information on pre-printed forms. Two such areas of application for the reader are engineering procurement lists and logs of material received by the Central Technical Files.

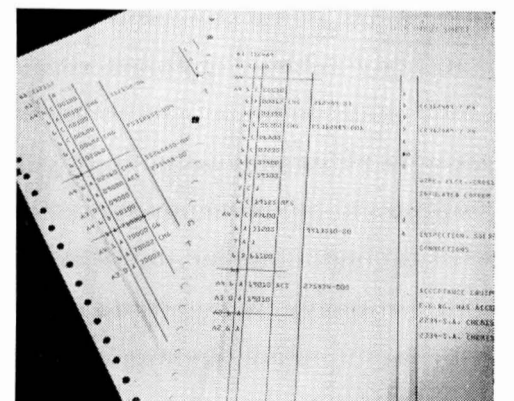
"We have the reader and we have the typewriters," Bob adds. "If your organization has a lot of cards key punched each month, we'd like to tell you about the advantages of using this optical reader."



TYPEWRITTEN SHEETS are fed into optical character reader by Audilio Tenorio (9411). System eliminates the key punched card step in many computer programs.



TYPEWRITER with special all-capital letter font is used by Blanche Ottinger (9415) for preparing material for an optical character reader which converts the typed information and places results on magnetic tape.



PROCUREMENT LIST of engineering material prepared by Design Information Process Department 7630 is example of data suitable for processing by optical character reader.

ECP
Drive
Starts
Oct. 7

See Articles
about ECP Agencies
on Pages 4 and 5

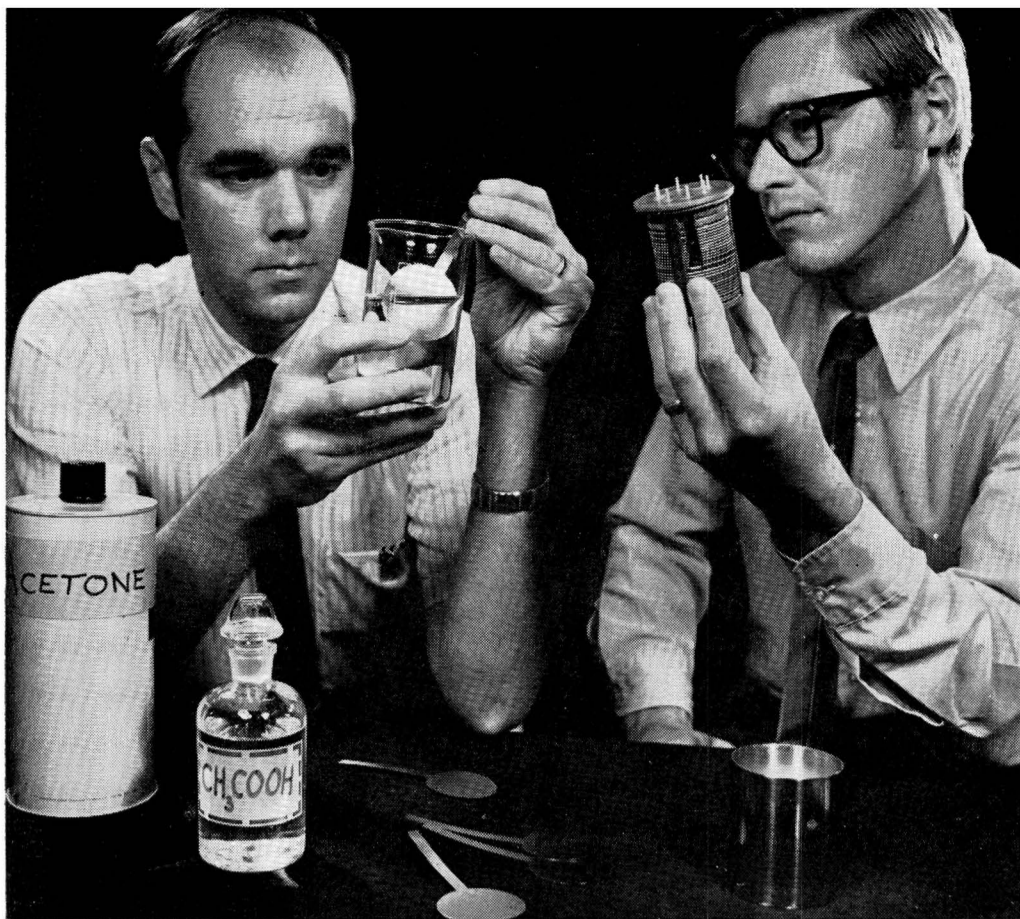
Savings Bonds Interest Rate Hiked Again

Sandians buying bonds through payroll deduction will be pleased to learn of a recently approved increase in the interest rate on Bonds. Treasury Secretary Kennedy has announced these improvements, effective June 1, 1970:

—an increase from 5% to 5½% for all Bonds purchased on and after June 1, 1970, and held to maturity. In the case of E Bonds, the extra one-half percent will be paid as a bonus at maturity. For H Bonds, interest checks during their last five years will be increased to bring the 10-year average rate to 5½%.

—an across-the-board improvement in the terms of all outstanding Bonds for their remaining period of maturity or next maturity.

If you should wish to increase your Bond allotment or to start taking Bonds through payroll deduction, use form SF-4811-A, which can be obtained from Payroll Division.



NEED A THERMAL BATTERY with maximum performance? Bob Clark (2345) recommends coating the calcium anode with acetic acid to prevent a calcium-lithium reaction which may cause electrical shorting. Ken Grothaus (2343), right, co-inventor of the method, holds the inside of a thermal battery.

Patent Issued

Thermal Battery Element Invented

Two Sandians have come up with a method to eliminate a fault which occurs in certain types of thermal batteries. Robert Clark (2345) and Kenneth Grothaus (2343) are co-inventors in a recently-issued patent which details how a calcium anode can be coated to prevent formation of an alloy which could cause intermittent electrical shorting.

Thermal batteries with calcium anodes and lithium chloride-potassium chloride electrolyte have unusually high power density capacities; however, their performance may be degraded by electrical noise. Thermal batteries are activated by raising their internal temperature to approximately 500°C. Under these conditions, the calcium anode reacts with the liquid lithium chloride electrolyte to form a low-melting metallic lithium-calcium alloy (melting point less than 200°C). This alloy can bridge between the positive and negative electrodes, thereby causing cell shorting and electrical noise.

The method developed by the Sandians consists of treating the surface of the calcium anode with acetic acid. This results in the formation of a surface layer of a calcium acetate-acetic acid compound. When the battery is in operation, the increased temperature causes the layer to decompose and form a thin layer of calci-

um carbonate on the surface of the calcium anode.

The resulting high concentration of calcium ions at the electrolyte-anode interface tends to retard the formation of the troublesome calcium lithium alloy.

In laboratory experiments comparing treated and untreated calcium anodes in single and four-cell thermal batteries, the alloy formation was eliminated and discharge capacities were increased in the treated-anode units. The major benefit from this procedure will be more reproducible performance of certain types of thermal batteries.

Thermal batteries are used at Sandia as a source of very high power for short periods of time.

Take Note

The October issue of ARIZONA HIGHWAYS will feature cattle, guns, and cowboys. A highpoint of the issue is what the editor describes as "a roundup of what we hope you will appreciate as an outstanding collection of Western art. Represented are the interpretations of the cowboy and the West, executed by some of the finest artists in America."

Gordon Snidow (3417-3), current president of the Cowboy Artists of America, is represented by a colored reproduction of his painting "Vin," and black and white reproduction of "Slicker Weather," "The Roper," and "The Weighing Gate," which is in the National Cowboy Hall of Fame Collection.

Watch for an exhibit of Gordon's paintings (including "Vin") in the lobby of Bldg. 802 in November.

* * *

The 9th Annual 4200 Golf Tournament will be held on Saturday, Oct. 10. All interested employees in 4200 may enter. For more information, contact Ben Gardiner on ext. 4-7944.

* * *

Jack Swearengen (5165) will present "Cyclic Deformation and Crack Nucleation in Copper Alloy Bicrystals" at the 5100 Staff Seminar Tuesday, Sept. 29, at 8:30 a.m. The seminar is held in Bldg. 806, Rm. 201.

* * *

Three Sandians won awards in the "professional" category at the 1970 New Mexico State Fair art show.

Jim Walston (3417) won first in the realistic, any medium, color or black and white class with his drawing "Twenty Jemez Indian Kids, or Is It Twenty-One?" This is one of Jim's drawings which was earlier on exhibit in Bldg. 802.

Joe Rivard (5222) won first for a non-realistic polymer acrylic painting.

Felix Padilla (4544) won third for a realistic polymer acrylic painting.

Sympathy

To Curtis McMurtrey (3524) for the death of his father in Albuquerque, Sept. 5.

To Ralph Davis (4362) for the death of his father in Albuquerque, Sept. 10.

The Mesa Gun Club will present its annual NRA-sponsored sighting-in day on Sunday, Sept. 27, from 10 a.m. to 3 p.m. at Sandia Base rifle range. Ten rounds of 308 or 30-06 ammunition will be provided free. Targets, spotting scopes, chronograph service, refreshments, and expert advice will be available. The range fee is \$1.25.

Events Calendar

Sept. 25-26—Classics Theater Company presents "Merchant of Venice." UNM Popejoy Hall.

Sept. 25-27—New Mexico State Fair.

Sept. 25—Harvest dance at Laguna Pueblo.

Sept. 25-27—Festival of Short Plays, Old Town Studio, 1208 Rio Grande N.W.

Sept. 27—San Juan Canyon in the Jemez foothills. N.M. Mountain Club, leader Bill Grohe, tel. 243-1051.

Sept. 29-30—San Geronimo Day dances and fiesta, Taos.

Sept. 29—Vikki Carr and orchestra with comedian Larry Wilde, for benefit of San Felipe Church. Civic Auditorium, 8 p.m. For information, 243-1049.

Oct. 3—Fourth of July Canyon in the Manzanos—best local area for fall colors. N.M. Mountain club, leader Hans Baerwald, tel. 298-1526.

Oct. 4—25th annual tour to Trinity Site. Escorted caravan will leave from 9:30 a.m. at the Alamogordo Chamber of Commerce or 10 a.m. from Stallion Range Center near San Antonio on U.S. 380.

Credit Union Statements

As part of its normal audit procedure, the Supervisory Committee of the Sandia Laboratory Credit Union recently mailed statements to members with account numbers from 4000 to 4999. If your account number is in this series and you have not received your statement, please notify Karl Waibel (4117), Committee Chairman.

Promotions

Theresa Baca (3256) to Steno Clerk
Nena Brannan (3411) to Editorial Assistant
Joseph Brown (4231) to Electronic Technician
Emery Chavez (7632) to Micro Equipment Operator
Adana Echer (8000) to Executive Secretary
George Edgerly (4221) to Physical Electronics Technician
David Fielder (8311) to Member of Technical Staff
Lorin Furrow (4514) to Laborer
Nettie Jones (7632) to Micro Equipment Operator
Gilbert Leyba (4231) to Electronic Technician
Raymundo Lopez (8256) to Shipping and Receiving Clerk
Juan Marquez (4518) to Auto Serviceman
Larry McCollum (4221) to Glass Technician
Vivian Messersmith (4331) to Senior Clerk
Hilario Montano (4514) to Janitor-Cleaner



SANDIA RETIREES renewed acquaintances last week at social hour and dinner at the Coronado Club. Over 400 attended. President Hornbeck, above, and Glenn Fowler, right, vice president (9000) were featured speakers. (Looks like Glenn is about to get countdown from Charley Bidwell in front row.)



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An Equal Opportunity Employer

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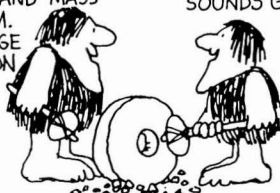
are Staff Writers in Livermore

Bill Laskar is Photographer

Norma Taylor/All The Rest

Anti
Matter

NOW THAT WE'VE INVENTED THE WHEEL, LET'S FORM OUR OWN COMPANY AND MASS PRODUCE THEM. I'LL BE IN CHARGE OF PRODUCTION AND YOU CAN HANDLE THE EMPLOYEE RELATIONS.



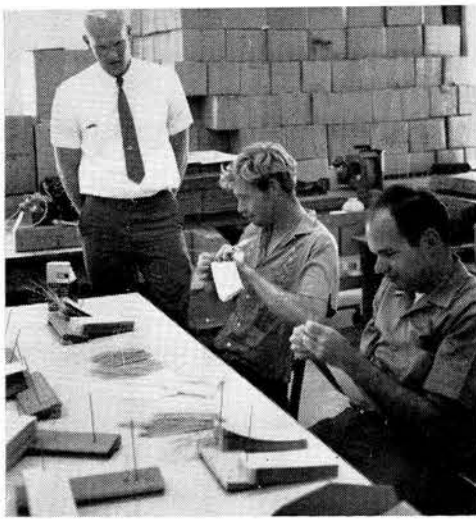
SOUNDS GREAT!

LET'S MEET AGAIN NEXT FRIDAY AND REALLY GET THINGS ROLLING!

GEE, I'D LOVE TO! BUT NEXT FRIDAY IS THE DAY I'M HAVING OUR FIRST COMPANY PICNIC.



DICK WILSON © 1971



CHARLEY CRAWFORD (8274-2) watches Walter Ravo and Donald Kirkpatrick (both of Cerebral Palsy Center) prepare inventory tags in the workshop of the Center. This is one of several projects being done for local companies.

LEAP Goal: 100 Percent Participation

On Thursday, Sept. 24, a campaign will get underway at Sandia Laboratories Livermore for employee contributions to four local, four national and 180 United Bay Area Crusade (UBAC) agencies. Employee meetings describing LEAP this year are scheduled for Sept. 28 and 29. Through the Livermore Employees' Assistance Plan (LEAP), nine percent of the contributions will be allocated to four local agencies, 10 percent to four national agencies, 80 percent to UBAC and one percent for reserve (to be distributed at year-end according to specific agency needs).

This year, the LEAP committee is introducing the "LEAP SHARE" contribution (one hour's pay per month for 12 months). Contributions can be made by payroll deduction, check or cash.



A HOUSEHOLD ITEM available at low cost in the Livermore-Amador Valley Emergency Fund Center is checked by Mary Witek (8325). Sign advises customers that only clothing and shoes can be included in the 75-cent charge for a bag of items.

Employees Visit Local LEAP Agencies

By visiting the Cerebral Palsy Center for the Bay Area in Oakland and the Livermore-Amador Valley Emergency Fund Center in Livermore, three Sandians learned firsthand how employees' LEAP contributions help people.

"It disturbed me," says Mary Witek (8325) "when I realized that people with cerebral palsy must live with it always. Some, perhaps, improve with physical, occupational or speech therapy. Others struggle just to maintain whatever ability they have to walk or talk. Seeing how the Center works with and cares for victims of cerebral palsy is reassuring."

Cerebral palsy is a disability resulting from damage to the brain before or during birth. It manifests itself in a person by severe muscular incoordination and speech disturbance. Intelligence is usually normal, although some victims suffer mental retardation as well. Today, there is no known cure.

"No parent of healthy kids could visit the Center," remarks Charley Crawford (8274-2), the father of four, "without being thankful that their kids are not handicapped like those we saw. At first I was uncomfortable talking to Walter Ravo about his workshop assignment. But soon we were communicating and he explained quite clearly how he inserted wire through the end of an inventory tag, twisted it securely and kept the preprinted numbers in order. To him it was quite an accomplishment—although he had done it for the last three years. These people can't attain a performance level qualifying them for rehabilitation in other community programs. Yet, at the Center's workshop, they can make 20 cents to \$1 an hour at work that is both meaningful and gainful."

Last year, 184 handicapped individuals received help through the Center's therapeutic, vocational, educational and social/recreational programs. Of the 700 known cases of cerebral palsy in Alameda County, the Center provides day care only for those with major brain damage and those who have nowhere else to turn. Ordinary schools can do nothing for them. As a Center spokesman related, "There's no other place available for them. If the Center didn't

exist, they would probably spend their days in front of a TV set."

"That doesn't happen at the Center," says Alec Willis (8251), this year's chairman of LEAP. "The Center provides a unique environment where cerebral palsy victims can enjoy a wholesome relationship both at work and play with others who are similarly afflicted. Their world is entirely different from the one in which we live our daily lives. Few of us could match the patience, the knowledge and the understanding of the workshop supervisor, Elaine Diamont, who is the mother of two teen-age, totally handicapped girls. Parents must find it rewarding to meet their responsibilities during the day assured that constant attention is paid to the needs of their handicapped child. More than likely, family funds were dissipated in earlier attempts to help the child."

One learning process at the Center appeared universal—the ability of the children to tell time. All were aware that a bus scheduled to take them to a carnival in Pleasanton was a few minutes late. Volunteers began the hour-long job of loading the excited children and their wheelchairs into the bus as we left the Center to return to Livermore.

"It's good to have a place where needy people can get food and clothing free or pay a small amount for them," notes Charley. He refers to the Livermore-Amador Valley Emergency Fund Center (EFC) in Livermore. The EFC provides clothing, household articles, furniture, and appliances to low income families at minimal cost through the operation of a thrift store.

"The attitudes of people today are sometimes impersonal towards filling a person's basic needs for food and clothing," remarks Alec. "I wonder what their reaction would be if someone actually knocked at their door begging for food or help? It used to happen. Some may remember a transient sitting on a chair on the back porch eating a 'tramp sandwich' (several slices of bread, two fried eggs, strips of bacon — Dagwood style). Livermore, at least, has a place for people to get help—the EFC."

Touring Northern California

Zoo Has Unusual Viewing Features

Sandians interested in a short trip this weekend might consider a trip to the Knowland Park Zoo in Oakland.

Most spectacular of all the units at the zoo is the gibbon tower. This 60-foot tall circular cage is distinguished by an unusual "wrap-around" ramp that permits visitors to walk almost to the top level of the cage, nearly within handshaking distance of the apes.

Down a winding path into a sloping-sided canyon are lions, tigers, bear, pythons, elephants, flamingos, chimps, and jungle birds. In the Australian grove of stately eucalyptus trees is a herd of wallaroos. On the sloping hills a short distance away are American buffalo and elk, European and Japanese deer, llamas, and mountain sheep. Up the side of another slope is the African Veldt setting with its towering palm trees, giraffes, zebras, gazelle, camels, ostriches, and a crocodile pool.

One of the biggest attractions, however, is the Baby Zoo. An integral section of the entire zoo, this is a place where children

and adults alike go to walk among pygmy goats, lambs, dwarf ponies, and baby llamas, all tame and friendly and fascinated by their human visitors. The collection of tiny denizens includes baby pigs, lion cubs, miniature monkeys no bigger than a hand, a sea lion, and dolphin. Two immense Galapagos tortoises are there for rides by adventuresome small fry.

The zoo also features other ideas—such as a skyway chair lift which gives passengers a breathtaking view of the Bay Area, and a colorful miniature train which circles a knoll high atop the ridge overlooking the Eastbay.

Congratulations

Mr. and Mrs. Mel Callabresi (8122) a son, Douglas Wayne, Aug. 25.

Mr. and Mrs. Tim Marino (8271) a son, Michael Douglas, Sept. 4.

Sandee Howard (8232) and Bill Hastings married in Hayward, Sept. 6.

LIVERMORE NEWS

VOL. 22, NO. 20

SANDIA LABORATORIES

SEPTEMBER 25, 1970

LEAP Squad Leaders and Solicitors

Squad Leaders:

W. R. Guntrum (8120-8180), R. Ng (8160-8170), T. F. Jones (8130-8150), G. B. Ross (8210-8230-8274), Mrs. G. J. Kimberling (8250-8260), C. T. Duffy (8270 less 8274), E. T. Bramwell (8310-8340-8350), K. D. Marx (8320-8330-9125-1-9132-1)

Solicitors:

Solicitors for supervision are: D. E. Gregson, R. E. Gaedder, R. H. Meinken, R. M. Hargreaves, A. F. Baker, J. D. Gilson, M. A. Pound, J. F. McManus, F. J. Maloney, J. H. Mafit, D. R. Adolphson, R. C. Wayne, E. A. Aas, K. G. Foster, J. J. Jost, E. B. Loop and for department secretaries, Mrs. M. J. York

8120: Miss M. L. Burnett (8121), R. W. Stammer (8121), L. B. Converse (8121), M. L. Callabresi (8122), J. J. Toorle (8124), W. R. Will (8124), D. L. Dannenberg (8125), H. Folkendt (8125)

8130: D. E. Warne (8131), C. W. Childers (8135-8139), R. O. Sundahl (8136), R. W. Gorman (8137)

8150: J. R. Wimbrough (8153), G. L. Clark (8155), C. M. Furnberg (8157)

8160: Mrs. G. A. Martin (8161), D. J. Knaple (8161), H. G. Birnbaum (8163), J. R. Perry (8164), L. M. Spivey (8168)

8170: J. A. Balaban (8172), G. L. Ludwig (8172), S. Gair (8171-8174), R. J. Kee (8175), J. K. Kryvoruka (8176)

8180: R. D. Feil (8181), M. V. Schell (8182), C. A. Lovelless (8183), S. G. Swisher (8183), J. W. Liebenberg (8184-8341)

8210: J. A. Wackerly (8213), Mrs. C. J. Kersey (8212-8217)
8230: P. W. Dean (8231), N. G. Wittmayer (8231), F. F. Halasz (8232), Mrs. D. J. Clark (8235), W. J. Henderson (8236)

8250: J. G. Harter (8251), R. E. Hachey (8254), H. F. Bacon (8256), G. D. Fisher (8257), B. J. Dunne (8257)

8260: J. A. Deveneau (8261), Mrs. J. Hall (8263), Mrs. P. R. Leigh (8264)

8270: R. L. Pastrone (8271), A. J. Bastion (8271), J. D. Seuser (8271), L. F. Graves (8272), C. F. Scholl (8273), S. A. Schwegel (8273), D. R. Mitchell (8274), J. F. Lienhard (8274), Mrs. N. I. Bettenhausen (8275), Mrs. M. O. Monser (8275), Mrs. A. Isham (8275)

8310: J. P. Darginis (8311), H. R. Johnson (8312)

8320: J. F. Lathrop (8321), Mrs. B. J. Kaya (8322), J. N. Barnhouse (8322), R. E. Isler (8322), R. G. Gummus (8322), O. R. Thomas (8323), Mrs. M. F. Witek (8324-8325)

8330: S. O. Keaton (8331), J. R. Smith (8332), E. F. Moore (8333)

8340: J. E. Hopwood (8342), C. H. Cofield (8343)

8350: R. N. Everett (8351), J. E. Grant (8352), J. C. Keilman (8353)

9100: J. I. Greenwell (9125), R. D. Cozzo (9132)

Take Note

Les Romp (8155) has been elected Director of the State Chapter of the American Society of Certified Engineering Technicians (ASCET) for 1970-71. Officers for the Livermore section of ASCET include Section Chairman Bob Miller (8182), Vice-Chairman Wil Vandermolten (8122), and Secretary-Treasurer Jim Hopwood (8342).

Erie Cofield (8137) has been elected Secretary of the Golden Gate Section of the American Society for Non-Destructive Testing for 1970-71.

Charles Mauck of Advanced Projects Division 8175 has been named a member of the Technical Committee of the Society of Aeronautical Weight Engineers (SAWE) for the year 1970-71. His responsibilities at the national level will be in the area of computer techniques. Charlie is also this year's president of the San Francisco Chapter of SAWE, and last year served as secretary of the chapter.

Monte Nichols of Materials Division 8311 and William R. Lasko have been awarded a patent on "Multiphase Non-Metallic Compositions of Matter" by the U.S. Patent Office (No. 3,505,218). The patent involves controlled solidification of inorganic eutectic systems to produce unique microstructures, work done while Monte was employed at United Aircraft Corporation, East Hartford, Conn.

Monte also spoke recently at the X-ray Diffraction and Spectroscopy Workshop held jointly by the Materials Department of San Jose State College and General Electric Company. He discussed the current state-of-the-art of the use of computers to identify phases in x-ray powder diffraction patterns.

Dick Ballard (8212) shot a low net score of 70 to win the first place trophy in the Sandia Employees Golf Club tournament, played at the Galbraith Golf Course in San Leandro, Aug. 15. Dick was also closest to the pin in the hole-in-one contest. Bill Ormond (8217) took second place in the tournament with a net score of 72.

Sympathy

To Wes Estill (8311) for the death of his father in Enid, Okla., Aug. 22.

To Hilt DeSelm (8200) for the death of his father in Fort Wayne, Ind., Aug. 11.

To Viola Banfield (8275) for the death of her brother in Oakland, Aug. 6.

To George Cosgrove (8332) for the death of his father in Corning, N. Y., Aug. 8.

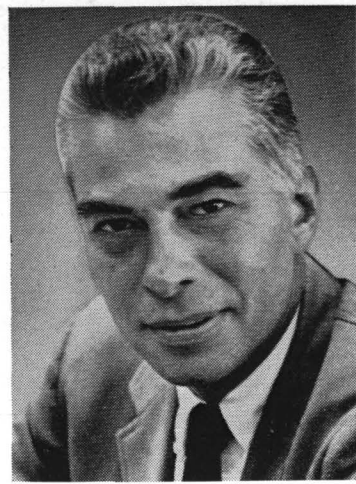
To Al Bastion (8271) for the death of his father in Hayward, Sept. 10.

LAB NEWS

PAGE THREE

SEPT. 25, 1970

Message From The President



Fellow Sandians:

In these times of rapid social change, when all the traditional institutions and values are being questioned and re-examined, it is perfectly natural that long-established and respected organizations like those comprising the Employee Contribution Plan and Livermore Employees' Assistance Plan should be undergoing close scrutiny by contributors.

I can tell you that I accepted the presidency of the Albuquerque United Community Fund this year with some reservations, knowing that fund-raising would be difficult and that UCF was being challenged on some of its activities. The reduction in force at Sandia and the national economic situation have added to the problems since then.

But I am convinced that the United Community Fund and the other agencies benefited by our ECP and LEAP are rendering vital services which are all the more urgently needed because of these economic factors. I sincerely hope that all Sandia employees share my conviction that we must strengthen and improve ECP and LEAP this year, rather than weaken them by withholding or reducing support.

I think we have made real progress in solving the problems that concerned employees last year about UCF. Recent newsletters from your ECP committee have discussed these developments. There will be other questions and problems, to be sure, but my close examination of the organization convinces me that although it is not perfect, UCF is the best available mechanism for handling many diverse community assistance problems which affect us all. Likewise, ECP and LEAP are doing more and doing it better than we could by giving to each agency individually. Let's all do our part this year and give our fair share. The need has never been greater.

Yours sincerely,
/s/ J. A. Hornbeck



SPECIAL EDUCATION CENTER, a UCF agency, offers direct help to adults and children with speech handicaps, emotional, physical and academic disabilities.



BOWLING PARTY, arranged by Multiple Sclerosis Society, is enjoyed by victims of the crippling disease. National society conducts medical research programs.



NEW MEXICO HEART ASSOCIATION is conducting a program to scan elementary school children for detectable heart problems. Many times early identification is the key to successful treatment.

"If You Care — Give Fair Share"

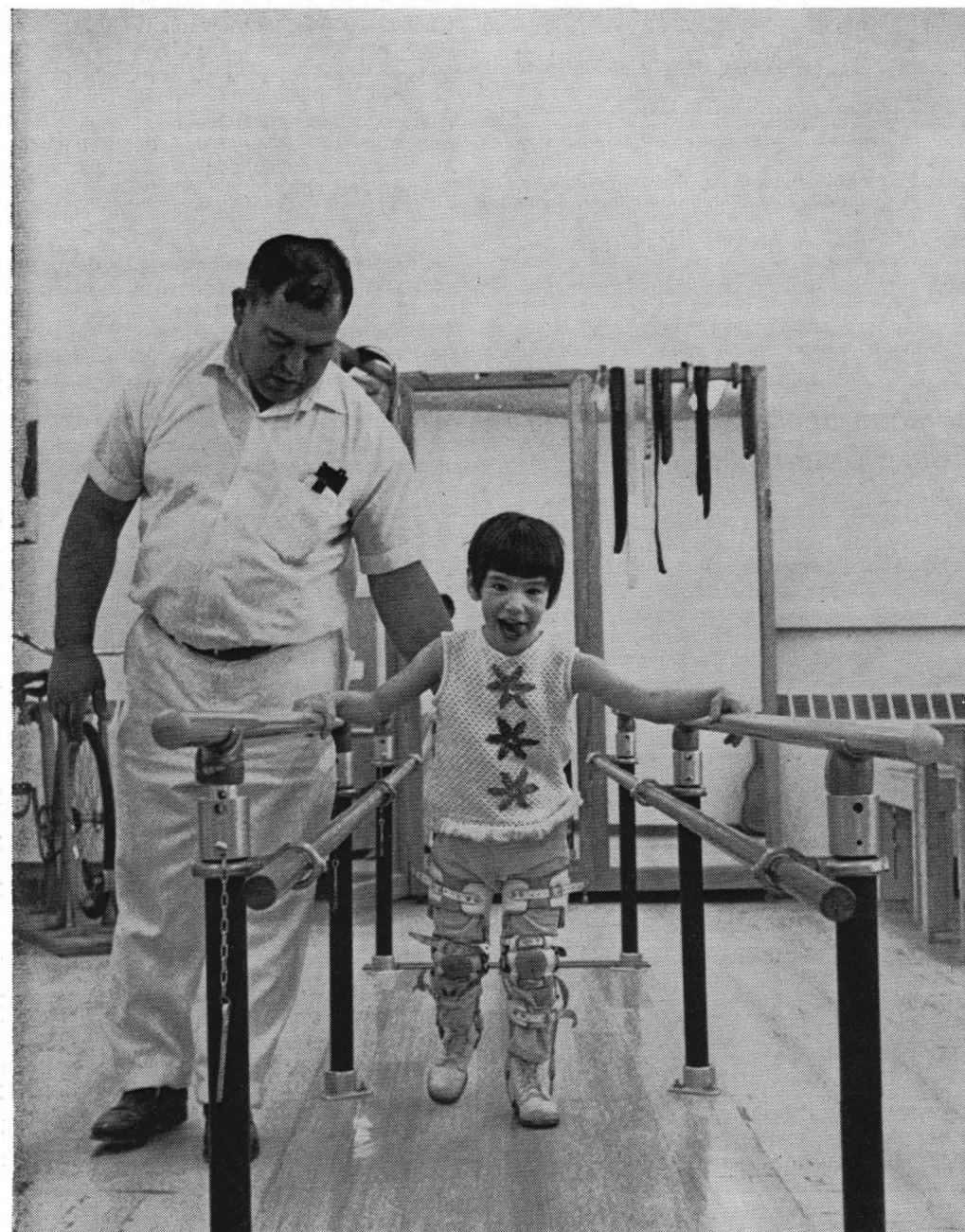
ECP Agencies Need Your Continuing Support



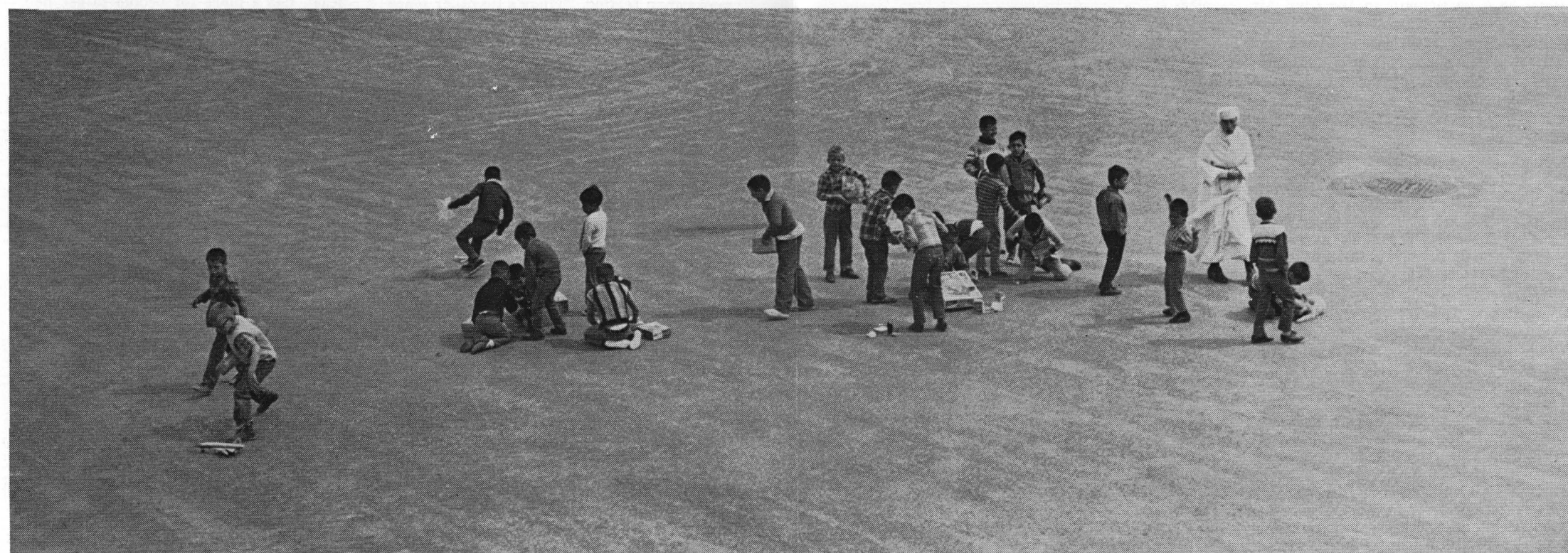
HEY—THAT'S A NOISE! The look, the joy of hearing, is reflected in this child's face at the Albuquerque Hearing and Speech Center.



ARCHERY CLASSES are just a small part of the program of the Martineztown House of Neighborly Service. Recreation, arts and crafts, and an athletic program for boys and girls are also offered. The House functions as a community center.

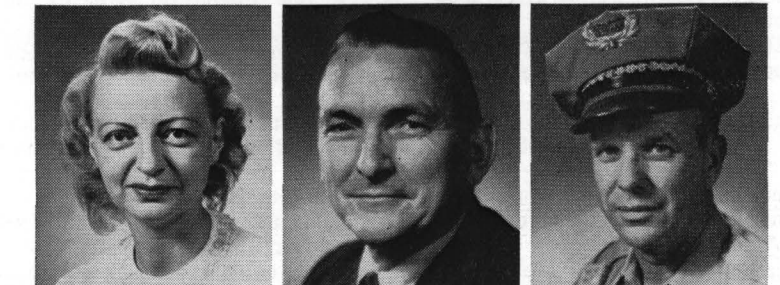


NOW THAT'S SATISFACTION—the pleasure of accomplishment over-rides the effort to get there. This little one reacts typically to the success of therapy methods used at the Rehabilitation Center.



PLAYGROUND at St. Anthony Boys Home, Inc., a UCF agency, is shown above. The agency cares for homeless, neglected and needy boys from infancy through

eight grade, also provides a home for girls through age five. Elementary education is taught by certified teachers at the Home.



Maxine Stephenson Jake Young Bob Byrd

MESSAGE FROM UNION PRESIDENTS

To All Employees:

The pride we take in our community and in Sandia Laboratories is reflected in great part by our participation in activities such as the Employees Contribution Plan.

The 32 local agencies of the Albuquerque United Community Fund run a coordinated program to take care of the people's problems in Albuquerque. It is a continuing effort that has gained much success and marked many milestones along the way. But the work is never finished. People continue to have problems. Some agencies provide services found no place else—one of these alone provides some form of therapy for 28 dependent children and four wives of Sandia Laboratories employees.

In addition to the many local community services, eight other National Health agencies supporting important medical research benefit from ECP funds.

These are difficult times for our community, and case loads of local services for our people are increasing. Just once a year the residents of Albuquerque are asked to help these agencies continue their work.

We urge that you seriously consider the need by supporting our Employees Contribution Plan. Our feelings are best expressed in the theme that has been chosen for this year's campaign: "If you care—give Fair Share."

- /s/ Maxine Stephenson
Acting President, Office
and Professional Employees
Union, Local 251, AFL-CIO
- /s/ Jacob E. Young, Jr.
President, Metal Trades
Council, AFL-CIO
- /s/ Robert L. Byrd
President, International
Guards Union of America
Local 27



WHICH ONE USES TRAINING WHEELS? These Sandia cyclists are part of the growing number who bike back and forth to work. Others leave bikes in Tech Area overnight, use it for local trans-

portation, exercise during lunch hour. Advantages—better physical shape, no pollution, cheap transportation.

Bicyclists High on Bikes, Down on Autos

Scratch a bicyclist—and nowadays there are a lot of them in the Tech Area—and you're likely to find underneath a fervent missionary of the cause of cycling. LAB NEWS recently decided to look into Sandia cyclists and, to this end, developed a short questionnaire for distribution within the area. Well, we had about 100 printed—but ran out of questionnaires before we ran out of bicycles. So the sport (if that's what it is) is growing.

Longest one-way distance between home and Sandia among those who replied to the questionnaire is 7½ miles and the respondent indicates, with some exactness, that the trip takes 37 minutes. Most covered less mileage—from three to five miles—in times of 20 to 30 minutes.

"I feel better and have no weight problem" sums up the principal reason for biking. Another states, "Bike riding gives me the minimum weekly points (30) on the Aerobic Plan to maintain a category IV physical fitness level." The rider is referring to the point values in the physical fitness regimens prescribed in the currently popular *Aerobics*, by Kenneth Cooper. An erstwhile jogger writes, "Have substituted bike riding for jogging lately because it's easier on the joints."

But then there is the reply from one respondent, who now restricts his riding to the Tech Area, "I rode between my house and the base about four times before I concluded that cycling out there is certain to have one undesirable side effect: namely death." And herein is the principal beef of the cyclists — traffic and inconsiderate motorists. In answer to the question "What's the worst thing about bike riding?" we got some pungent replies:

"Automobile drivers who when passing a cyclist feel that the miss distance of six inches is perfectly safe."

"The auto hogs who feel bicycles have no right to be there."

There are other problems too: "... walking outside and finding an east wind blowing and facing an uphill ride against the wind."

"Silicosis, dog bites, and rain-in-the-face . . ."

By and large, though, the cyclists seem to take these difficulties philosophically, and accept them the way a baseball player accepts bruised fingers—they're part of the game.

A few incidental benefits derive from cycling. "No pollution" was mentioned many times, and considering the pall that occasionally envelops our city, this one facet of cycling that deserves emphasis. Others mention the fun aspect of bike riding and, of course, the economy of getting to work this way—a bike is cheap transportation.

A recurrent message in many of the replies is really a proposal. It is that Albuquerque could reduce smog and traffic substantially by designating a few streets as "bikeways," where automobile traffic would be restricted to vehicles of persons actually living on the bikeway street. Automobiles could also cross these bikeways, but the bikes would have the right of way.

One rider makes an interesting point: "Lots of my friends tell me they'd bike to work too if it weren't for the traffic hassle. Just a few north-south and east-west bikeways through residential areas are all that's needed. Traffic and smog problems would be significantly reduced."

Speakers

C. E. Barnes (5112), "Absorption Measurements in Neutron Irradiated Silicon," Radiation Effects in Semiconductors Conference, Aug. 24-26, Albany, N.Y.

L. R. Hill (9111), "Computer Techniques Used in Shock Physics," Computer Workshop in Vibration, Shock, and Finite Element Analysis, Aug. 10-14, Schenectady, N.Y.

W. P. Schimmel (1222), J. L. Novotny and F. A. Olsofka (both University of Notre Dame), "Interferometric Study of Radiation-Conduction Interaction," Fourth International Heat Transfer Conference, Aug. 31-Sept. 4, Paris, France. (Mr. Novotny made the presentation.)

H. D. Sivinski (1740) and Larry Hall, NASA planetary quarantine officer, "Laminar Air Flow and Planetary Quarantine," 10th International Congress for Microbiology, Aug. 9-15, Mexico City.

O. L. Wright (4610), "History of Sandia Base," Heights Lions Club, Aug. 6, and Old Town Optimist Club, Aug. 12, Albuquerque.

Albert Goodman (1224), "Some Things that the Future May Bring," Aug. 11; A. D. Swain (1644), "Human Factors Engineering," Aug. 13; N. O. Pollard (2442), "Microelectronics," Aug. 18, all at Technical-Vocational Institute, Albuquerque.

W. G. Corgan (4100), "Top Management Views on the Data Processing Role in Management," Albuquerque Data Processing Management Assn., Sept. 15.

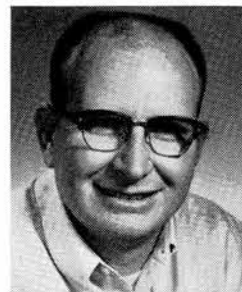
M. J. Davis (5530), "Solid Phase Welding," American Welding Society, Sept. 3, Albuquerque.

T. A. Duffey (1544), "A Viscoplastic Solution for the High Energy Forming of Rings," Third International Conference on High Energy Forming, July 12-16, Vail, Colo.; with J. N. Johnson (5133), "Dynamic Elastic-Plastic Response of a Submerged Spherical Shell Subject to an Internal Pressure Pulse," International Symposium on Shell Subject to an Internal Pressure Pulse, Aug. 29-Sept. 3.

Ditty Bags In Need Of Ditty

Remember when you fought in the great war those handy little denim bags for shaving gear, nail clippers, soap and such? Well, the ditty bag is alive and well, and Barbara MacDonald in Employee Services has several hundred that need filling before Oct. 1 so that they can be sent to servicemen in Viet Nam by Christmas. If you're interested go see Barbara in Bldg. 832, room 30, to get one (or more) of the empty bags. Each bag contains a list of suggested items whose total cost comes to about five dollars. Since the deadline for returning the filled bags is next Wednesday afternoon, the 30th, maybe you should pick up the empty ones ASAP—why not this afternoon?

Supervisory Appointment



GARRY OGLE to supervisor of Instrumentation Fielding Division IV, 9126, effective Sept. 16. Garry has been with Sandia 12 years, first at Salton Sea Test Base, then for three years at Livermore in an environmental test group. Since 1964 he has been assigned to field test groups in Albuquerque.

He received his BS degree in electrical engineering from Kansas State University. Garry, his wife Sylvia, and their three children live at 1617 Haines Pl. NE.

Authors

C. E. Barnes (5112), "Effects of Co⁶⁰ Gamma Irradiation on Epitaxial GaAs Laser Diodes," June 15 issue, PHYSICAL REVIEW B.

M. J. Clauser (5114), "Comment on High Resolution Mossbauer Spectrum of Fe₂N," May 15 issue, SOLID STATE COMMUNICATIONS.

R. T. Johnson (4132), "Cadmium Sulfide Neutron Detectors: Annealing of Radiation Damage," August issue IEEE TRANSACTIONS ON NUCLEAR SCIENCE.

G. L. McVay (5154), "Diffusion and Internal Friction in Single-Alkali Glasses," No. 53, No. 5, JOURNAL OF THE AMERICAN CERAMIC SOCIETY.

R. W. Rohde (5133), "Temperature Dependence of the Shock Induced Reversal of Martensite to Austenite in an Iron-Nickel-Carbon Alloy," August issue, ACTA METALLURGICA.

E. P. EerNisse and R. J. Chaffin (both 5112), "Carrier Trapping and Recombination in Avalanche Diodes," July issue, IEEE TRANSACTIONS ON ELECTRON DEVICES.

J. M. Worrell and H. H. Wicke (both 1721), "Extension of a Result of Dieudonné," Vol. 25, pages 634-7, PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY.

D. D. McBride (9328), "A Simplified Method for Determining Stagnation-Point Heat Transfer to an Elliptical Model," Vol. 7, No. 8, JOURNAL OF SPACECRAFT AND ROCKETS.

A. A. Trujillo (9322), "Subsonic-Hypersonic Aerodynamic Characteristics of Several Bodies of Revolution," Vol. 7, No. 8, JOURNAL OF SPACECRAFT AND ROCKETS.

A. W. Johnson (5243), "Measured Lifetimes of Rotational and Vibrational Levels of Electronic States of N₂," Vol. 53, No. 1, JOURNAL OF CHEMICAL PHYSICS.

R. D. Nasby (5321), "Hall Effect in Lithium-Ammonia Solutions," Vol. 53, No. 1, JOURNAL OF CHEMICAL PHYSICS.



THIS DUDE missed the group picture but we caught him heading over to Medical. Used to bicycle but claims tricycle has made him more stable personality. Guard Bob Boyles gives him once over.

Draftsman Doubles as CAP Officer On Cadet Exchange with Portugal

It's quite a jump from being a Sandia draftsman to spending three weeks in Portugal as a participant in the Civil Air Patrol's International Air Cadet Exchange.

Russ Parmley (7651/7652) returned last month after being one of 200 outstanding cadets from the U.S. participating in the exchange with 22 other countries. Russ is a lieutenant colonel in the Thunderbird Cadet Squadron IV.

Russ has been a member of the CAP for seven years. Promotions are based upon completion of formal programs (in his case it was aerospace education), military education, physical training, and moral leadership. Selection of participants in the exchange program is made by a reviewing board.

"I was in the dark for four months before I knew where I was going," Russ says. He was in a group of seven Americans, two Germans, and two Austrians, accompanied by a senior escort from the U.S. and two from Portugal.

After an overnight stop in Washington, they were flown to Frankfurt, Germany, in a C-141, then transferred to a Portuguese Air Force plane. The cadets spent a week and a half in Lisbon "seeing the sights," then north to Porto for a two-day visit at a local flying club. Another week was spent in Albufeira to the south, which is noted for its beaches. Their return flight was on a Spanish Air Force plane as far as Frankfurt.

Russ will be resigning from the CAP in October—he'll be overage on his 21st birthday.



FLIGHT IN A GLIDER as guest of a flying club in Porto, Portugal, was on the schedule for Russ Parmley (right), a Sandia draftsman (7651/7652) who was a participant in the Civil Air Patrol's International Air Cadet Exchange.

Service Awards

20 Years



John Anaya
4231



Everett Ard
7425



Myron Barnes
4136



Robert Fleming
4233



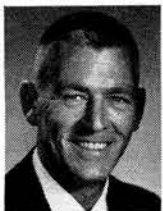
Jefferson Gammon
4337



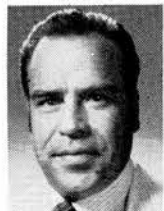
Luis Garcia
4513



Ember Gunderson
4612



Lee Hollingsworth
7200



Ben Jaramillo
4337



Robert Lemm
4230



Milton Lesicka
3522



Samuel Lopez
4622



Robert Lozano
7531



Mark Martegane
3520



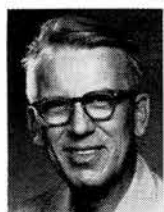
Arlin Pempueller
3420



Julian Sanchez
3111



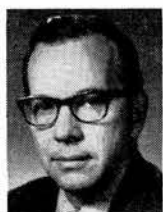
Walter Scott
9133



T. C. Siegrist
4252



John Smelser
9227



Bob Stromberg
1212



David Wilkinson
4541

15 Years



Rupert McHarney
3417



Henry Mullin
1752



Lawrence Verzi
9242

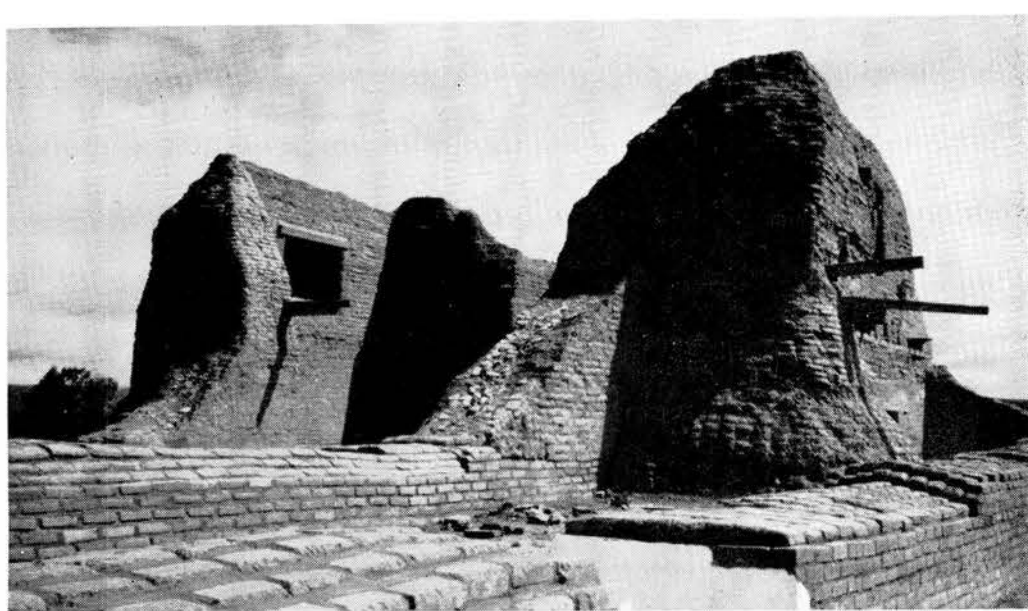
10 Years

Barbara Walstrom 3256, Laurie Krebs 3430, Herman Wink 8257, William Countryman 2346, and Margaret Lloyd 7654.

LAB NEWS

PAGE SEVEN

SEPT. 25, 1970



RED ADOBE WALLS of the mission church at Pecos National Monument are still impressive despite damage from the elements. In the foreground can be seen stabilization carried out by the National Park Service to preserve the existing outlines, walks, and walls.

Minitouring With CB

Pecos National Monument Example of Massive Adobe Use

When your roof leaks or a chunk of plaster falls off the wall, a speedy repair job is usually in order. When a mud-plastered adobe structure is exposed to the elements for a couple hundred years, it's a wonder that anything is left!

But, as the cliché goes, "they just don't build houses the way they used to." If the Mission of Nuestra Señora, La Reina de los Angeles de Porciuncula had been an ordinary structure, it never would have survived, but massive walls have enabled it to endure years of moisture, freezing and thawing.

This mission church and ruins of an extensive Indian village form the Pecos National Monument, administered by the National Park Service. The site is a short distance north of Interstate 25 and just south of the village of Pecos.

Towa-speaking Indians founded the pueblo about 600 years ago, but the years of prosperity alternated with colonization efforts by the Spanish conquistadores, raids by Apaches and Comanches, a smallpox epidemic, and fatalities from "mountain fever." Finally, in 1883, the 17 survivors of the once 2000-strong tribe moved to Jemez Pueblo.

The mission was established in 1617 and construction of the deep red adobe church probably spanned a great number of years. Since the site has become a national monument, Park Service employees have done considerable work to stabilize the existing ruins. Albert Schroeder, interpretive specialist at the Regional Park Service office in Santa Fe, explains that an intentional effort is made to allow visitors to differentiate between the original structure and the recent repairs. Colored cement is often used to cap adobe walls, to fill cracks, or as mortar between rock walls. Maintenance of standing ruins is the job of area work



DOUBLE ARCHES within the Pecos mission church illustrate the intricate brick work of the original structure. The stone floor has been re-mortared since the site became a national monument.

crews; major jobs, such as preserving leaning or cracked walls, are handled by a special crew working out of Globe, Ariz.

"Except for historical sites, where there are plans and photographs of earlier structures, the Park Service does not attempt to reconstruct pueblos, kivas and the like. Our job is to stabilize or preserve the ruins upon which the archeological classification was based," Mr. Schroeder explains.

This national monument can be reached via Santa Fe or via Moriarty-Galisteo. —Cherry Burns

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CLASSIFIED ADVERTISING
Deadline: Friday noon prior to week of publication unless changed by holiday.
A maximum of 125 ads will be accepted for each issue.

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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

CHINESE PUG puppies, AKC papers, champions in the line, available now. Stevens, 299-6086.

SEARS HiStandard 20 gauge pump shotgun, 26" barrel, adjustable choke, will trade on 20 gauge double barrel, \$60. Shock, 877-3728.

SKI BOOTS, women's 4-buckle Henke, size 7 1/2, Nevada heel and toe plates, \$12.50. Garst, 299-5870.

FIVE 7-00x14 tires for '68 VW bus, carcass excellent for retread. King, 282-3186.

THOROUGHbred Dachshund pups (not registered), black and tan, eight weeks, \$30. Gray, 299-9208.

CLARINET, LeBlanc brand, originally \$455, with case and stand, best offer. Bencoe, 299-4673.

SELMER trumpet with radial valves, used nine months, \$325. Schmierer, 299-2352.

PUPPIES: mother pedigreed German shepherd, father pedigreed doberman pinscher, whelped Aug. 3, \$10. Farnum, 282-3416.

FREE KITTENS, approx. 11 weeks old, house trained. Wilkinson, 516 Hillview Ct., 299-8327.

FOUR 14" x 6" American mag wheels for 1968 and newer Volkswagen sedans. Campbell, 268-8445.

SMALL Murray chain drive tricycle, \$5. Carll, 255-1186.

HOUSEHOLD GOODS: twin bed/headboard; large bar on casters w/4 bar stools; gas drier; garden tools; lots more. Parsont, 299-1621.

MOTORCYCLE, 1968 Yamaha 100cc twin street bike, \$225. Duvall, 299-8744.

BABY STROLLER, 3-position footrest, sunshade, \$7; baby Cosco convertible jumpseat, \$5. Parks, 296-2261.

8mm CAMERA and projector with sound fabricated by Fairchild, \$150. Miller, 298-2659.

BABY CRIB, full size, double drop side, toe release, 27x52" mattress, bumper pads, fitted sheets, \$20. Love, 299-0956.

GARAGE DOOR, metal, 8 wide, 7 high, very light, with hardware and lock. Hostetter, 256-3803.

B-FLAT CLARINET, Evette, \$80. Knutson, 299-6183.

AIR CONDITIONER, refrigerated, window type, 12,000 BTU; Duncan Phyfe drop leaf table, solid mahogany. Aronson, 268-7109.

.357 Ruger Blackhawk revolver, RCBS dies, \$79; Springfield '03-A3 with sling, \$45. Oliver, 299-5512.

WATER SYSTEM, Meyers shallow well jet pump, tank, \$95; reel type push lawn mower, \$10. Butler, 898-2025.

CLEVELAND trombone, case and music stand, \$75. Prekker, 299-6468.

'59 FORD shop manual, \$2; used double action fuel pump for 1959 Ford 292-V-8, vacuum booster needs diaphragm, \$1. Leeman, 299-9149.

LARGE RECLINER, needs upholstery, \$25; black metal 3-bulb pole lamp, \$2.50. Nelson, 345-0440 evenings.

BEIGE PATTERNED carpet, 21 x 12 ft., \$35; walnut cabinet for tuner-amplifier, new, best offer. Touryan, 265-2284.

RECEIVER, National plug-in coil, 190kc-30mc, w/rack cabinet, \$25; Lambda supply 125-325v, 800 ma, \$15. Hutchison, 298-2077.

TAPE RECORDER, small, \$20; Rosignol Strato skis, 210cm w/bindings, \$100; Rosemount boots, size 10-11. Otero, 265-2549.

TOY POODLES, black, male, female, AKC registered. Johnson, 298-7356.

SKI PANTS, men's 33R, one year old, \$10; 210cm wooden skis, \$10; Chilton's motor repair guide for Suzuki motorcycles, \$3. Kelsey, 842-8263.

6.45x15 BW tires, 4 with 3500 miles, one new with 4-lug wheel, available Oct. 15, \$50 for all. Leisher, 282-5258.

ITALIAN silk wedding gown, size 7-8, paid \$150 will sell for \$60; maid of honor dress to match gown; 5000 BTU air conditioner, \$85. Teague, 298-8056.

TWO Goodyear Hi-Miler 3-T 9-00x15 12-ply tires mounted on 8-lug bolt wheels, \$100. Bronson, 855-9966.

'69 TRIUMPH Trophy 250, \$550. Cox, 299-5855.

CONTEMPORARY dining room chandelier, with glass shades, brass and walnut, \$35. Abbott, 298-2039.

HOTPOINT ironer, \$30; collies, make offer. Laskar, 299-1024.

SKIS, Head 360, 210cm, \$60; Dynamic VR-7, 207cm, \$50; electric hair curlers, Clairol Kindness 20, \$9; ski boots, women's size 7, \$20. Syroid, 242-0349.

GOKART, \$50 or best offer or will trade. Patterson, 877-6037.

VIOLIN, full size with case, bow and music stand, \$55, or trade for rifle. Adams, 268-5943.

BUNNY B-flat clarinet, case and stand, \$75. Somermeyer, 299-9271 after 5.

MAN'S medium weight wool suit, size 37 long, \$25. Miller, 255-6838.

TWIN SIZE rollaway w/innerspring mattress, \$25; Stauffer exercise couch, \$25; student's viola, \$75; 2" x 36" well point, \$18; four 5-ft. lengths 2" galv. pipe, \$10. Zimmerman, 898-1622.

WESTINGHOUSE washing machine, aqua deluxe, \$50. DeBaca, 344-8330.

15' LARSON w/18 gal. tank, 70hp Merc, tilt trailer, skis, belts, cushions, \$950. Johnson, 255-8242.

TRUMPET, Conn, \$95; 3-speed bike, \$17. Hubbard, 299-7818.

SIX YEAR baby crib w/mattress, \$20; deluxe car seat, \$7. Rogers, 299-7365.

CHILDREN'S kitchen set; commercial hair dryer; blender; baby-Tenda; fireplace set. Bentz, 299-3448.

GOLF CLUBS (left hand) Spalding w/bag; baby crib w/mattress; oriental coffee table. Browning, 299-6384.

BSA 441cc street bike, 2300 miles, \$550. Keeling, 255-2943.

WURLITZER portable organ, ideal for rock group, best offer; Craftsman reel power mower, \$15; car-top rack, \$5. Spatz, 299-0410.

DELCO air shock absorbers, fit all Chev. cars 1958-64 or Chev. trucks 1958-60. Buckner, 898-4390.

PUREBRED but unregistered mini-toy poodle puppies, black, male, \$35; shotgun, model 12 Winchester, full choke, 12 gauge, \$135. Wladika, 255-9166 evenings.

REVOLVER High Standard Sentinel, 4" barrel, 9 shot, new, \$42. Svensson, 344-7700.

TV SET, blond, 16", \$50. Hedman, 299-2077.

TIRES, used, four 9.15x15 and four 8.25x15, asking \$5 each. Millard, 299-2039.

BUCKET SEATS w/new white naugahyde upholstery, perfect for dunebuggy, roadster, etc., \$30 pair; Petersen baby stroller, \$10. Scheer, 265-1983.

UTILITY trailer, approx. 4 1/2' wide, 7' long, 3' high w/cover, lights, spare, etc., \$125. Carlson, 898-0133.

WINCHESTER Model 70, still in factory box, never fired. Dean, 299-3281.

HEATHKIT AM-FM tuners; 0-gauge track, switches, transformer, cars; Judo ghi, size 3; '65 Ford-Mercury shop manual. Sasser, 298-1439.

1970 HONDA minitrail 70cc, under 300 miles, cost new \$365, will sell for \$315. Stone, 256-0905.

2 GENERAL snow-mud tires, 4-ply nylon 8.45x15, some tread, carcass suitable for retread, \$5 each; matching tubes, \$2 each. Bassett, 898-1840.

HAND CARVED upholstered chairs, \$25 each, two for \$45. Marsh, 243-2767.

1970 EDITION of Britannica Jr. Encyclopedia with book rack, never used, half price. Peterson, 299-4714.

23" B&W operating Motorola charcoal table model TV w/matching stand, looks like console, \$25. Young, 299-1627 evenings.

CARS & TRUCKS

'65 DATSUN 1600 sports car, 75,000 miles, 4 Michelin radials, \$1165. Church, 2957 Wisconsin St. NE, 299-7038.

'51 FORD pickup, \$200 (negotiable), R&H, flat 6 3-speed on the column. Porter, 877-5225.

'68 DODGE Custom Sportsman 318 V-8, AT, AC, seats 8, long wheelbase, \$300 below NADA, \$2545. Lusk, 296-5145.

'61 ENGLISH Ford, 4-cyl., 4-speed, new brakes, \$195. Brinkley, 344-5334.

'69 FORD Torino GT, auto., PS, 2-dr., HT, black vinyl roof, dark green, 20,000 left on warranty, \$2400. Tye, 296-2757.

TRIUMPH Spitfire II, 1965, \$665 (NADA \$865). Roherty, 296-2618.

'64 FAIRLANE sport coupe, V-8, AC, \$150 below retail. Easterling, 299-7828.

'55 FORD, \$150. Hendrix, 299-8872.

'69 FORD 3/4-ton camper special, 360 ci, V-8, AT, PS, five 7.50x16 8-ply tires, limited slip diff., insulated Eagle shell. Kilmartin, 299-9237 after 5:30.

'41 CHEV. 2-dr. sedan, \$200. Butler, 898-2025.

'63 DODGE station wagon, AC, AT, PS, PB, R&H, roof rack, no-spin diff., \$600 or best offer. Collier, 299-0182.

'65 DODGE Dart convert., AT, PS, R&H, 43,000 miles, blue book price \$995. Bradley, 296-3305.

'63 FORD Fairlane 4-dr., 6-cyl., std. trans., R&H, \$500. Caskey, 296-6372.

'59 VW sedan, Wilkinson, 516 Hillview Ct., 299-8327.

RETIRED camper truck, 1965 Ford F-250, 352 V-8, 4-speed trans., three gas tanks. Fisher, 264-6044 or Bosque Farms 636-2864.

'56 CHEV. 4-dr. sedan, V-8, would like \$200, make me an offer. Emerson, 268-9727.

WANTED

TWO PAIR Head 360 skis, 175cm and 195 cm in good condition. Hillman, 299-8438.

CHEV. or Ford, older model, in good condition with reasonable low mileage. Will pay cash. Smitha, 299-1096.

STEREO speaker system, will discuss. Baker, 299-3403.

BEDROOM furniture and hide-a-bed couch, used. Sherwood, 299-2169.

SHARE RIDE with someone, vicinity of Copper and Charleston NE or Charleston NE and Central. Holcomb, 255-1850.

SERVICE MANUAL for '63 Jeep Wagoneer, J series, OHC engine. Boyes, 299-2569.

FOR RENT

HOLIDAY PARK, 3-bdr., 1 1/2 bath, 1 year lease, \$200 month. Available Oct. 15. Parsont, 299-1621.

3-BDR., den, 1 1/2 bath, separate large garage and storage area, \$175 month. Johnson, 247-8634.

LOST AND FOUND

LOST—large silver loop earring; 4 lp Andy Williams records (from Base Cafeteria). LOST AND FOUND, 264-2757, Bldg. 832.

FOUND—Rx glasses w/black frames; blue plaid short shirt; Tupperware carton and spoon; silver pin w/small opal stones; SL Credit Union key case w/6 keys; reflective numbers (#2); pocket knife; chain link bracelet. LOST AND FOUND, 264-2757, Bldg. 832.

coronado club

**S
O
U
L
Session**

**tomorrow night
8:30 to 12:30
happy hour prices**

Nedine Ortiz
13523

Coronado Club Activities

Soul Session Set Tomorrow Night

Soul sessions swing at the Coronado Club. Tomorrow night Rod King will be up on the bandstand playing it big, playing it modern, playing it rock. The troops will bugaloo, frug, sagebrush shuffle, and generally move pretty good while the mini skirts are everything else. Happy hour prices will be in effect from 8:30 until 12:30. Admission is free to members, 50 cents for guests.

Social Hours

Four kinds (and all kinds) of people enjoy social hours at the Club. There's the north end group in the main lounge that rushes over right after work because it's been a rough week and they can't wait to relax. They tell mama that they will make it home around six but it's usually seven and she knew it all the time.

Then there's the kind where mama has had a rough week and she tells pops to meet her at the Club right after work. They relax awhile, enjoy the buffet, dance some, and then hurry home to relieve the babysitter.

The family kind bring the kids with them and everybody enjoys the buffet.

There's the kind that hurries home right after work, gets everybody organized, and rushes back to the Club in time for the buffet, some dancing, and then move to the main lounge for some serious sing-along with pianist Yolanda Adent and assorted guitar players and drummers. Only it's not serious, it's very frivolous, great fun and all that, and only a few singers are really serious. They're usually very good singers.

So there's something for everyone. Tonight, for instance, a joker named Bob Banks will be on the bandstand making happy music on a crazy Yamaha electronic organ accompanied by a wild drummer and a mad bassman. The Club's famous seafood buffet will be spread and smilin' Jim Noonan, the Club manager, will dine there.

On Friday, Oct. 2, Frank Chewiwie will break things up on the bandstand while the kitchen staff wheels out the big hearty

chuckwagon roast beef buffet. This one costs \$1.75 for adults, \$1.50 for kids.

Sol Chavez and the mighty Duke City Brass will play for the Oct. 9 social hour while manager Noonan concocts his special Italian buffet. Price of this one is \$1.25 for adults, \$1 for kids.

Speaking of Kids

Kids like to fish. So, believe it or not, the Club is going to fill the south pool on Saturday, Oct. 10, with three thousand trout and mount a Kid's Fishing Derby. (No chlorine in the pool.) The thing will be organized, all tackle furnished, fishing space marked, 40 kids at a time will have an opportunity to catch up to six fish. Twenty of those will be tagged and the kid who catches one will win a buck. Other special prizes will be announced. Pop or mama are encouraged to help junior fish. All kids 12 and under may participate.

The affair will start at 10:30 a.m. and last as long as the fish do. As the kids catch the fish, the Club's kitchen staff will clean and cook them on the spot. A fish fry buffet starts at 11 a.m. and will be in opera-

tion all day. The buffet will cost \$1 for adults, 75 cents for the kids. Adult supervision and life guards will be on duty. Member parents must show Club cards for admission.

Coronado Aquatic Club

After finishing a tremendous summer of taking top awards all over the state, the Coronado Aquatic Club will start its winter swimming program Oct. 5. The Aquatic Club, open to boys and girls age six through 17, offers organized programs in competitive swimming, water polo, diving and synchronized swimming. Anyone interested in registering their youngsters are invited to contact Juian Lovato (7615), tel. 298-1375.

Bridge

Coronado ladies bridge meets Thursday, Oct. 1, at 1:15 p.m. The group will hold an all-day bridge session on Thursday, Oct. 15, meeting from 9 to 3:30 p.m.

Duplicate bridge meets on Tuesday evenings at 7 p.m. New members are welcome. Anyone interested is urged to call Virg Bailey (2493), tel. 295-5460.

One Bus to El Paso Full; Deadline to Register Is Oct. 2

One bus to El Paso is completely filled and the second is filling rapidly, according to Chet Fornero (4337), Coronado Club travel director. The three-day trip is scheduled Oct. 30-Nov. 1 to take in the Lobo-El Paso Miner football game, Sunland Park and the dog track in Juarez. Deadline for making the \$42.50 payment for the trip is Oct. 2.

"This is going to be a great trip," Chet says. "The bus trips going and coming will be a party with free refreshments. We'll stay at the downtown Holiday Inn and our buses will handle local transportation and the trip to Juarez. There will be time to go shopping and visit the dog track. We have very good seats reserved for the football game on Saturday night."

The buses will leave the Coronado Club at 12:45 p.m. on Friday, Oct. 30. The \$42.50 fee is based on double room occupancy. A single room differential raises the cost to \$54.50. Payments should be made at the Club office before the deadline of Oct. 2.

Bahamas Trip Sold; Be First on Waiting List

One hundred and forty Coronado Club members have signed up for the six-day package tour to Grand Bahamas Island Dec. 9-15 meeting the minimum required for the trip, reports Chet Fornero, Club travel director.

"We could still practically guarantee the next few people who register a seat," Chet says. "On a deal like this, we will probably have a few cancellations. The first to make the waiting list will probably get to go."

A \$25 deposit is required right away with the remainder of the \$299 fee due Oct. 15. The trip includes six nights at the Kings Inn, a luxury resort on the island, breakfast and dinner there each day, unlimited golf and swimming and top entertainment plus a casino.

Labs Fall Tennis Tournament Announced

The Sandia Labs Fall Tennis Tournament will be held on two weekends in October. Singles will be played on Oct. 10 and 11, while doubles will follow on the succeeding weekend, Oct. 17 and 18.

Tex Windham (7251), tournament chairman, states that players do not have to be on the Sandia tennis ladder to participate and all employees of Sandia and AEC are eligible. "This is strictly a fun tournament and you don't have to be a hot shot player to enter," Tex indicates. "We're chiefly interested in a big turn out so that lots of people can get lots of play."

Entries should be in by Sept. 29. Send your name, organization and phone number to Tex and indicate singles, doubles or both. If you are playing doubles include the name of your partner. After the drawings are made you will be informed of your match schedule.

Congratulations

Mr. and Mrs. Andy Kyzar (7363), a daughter, Kim Marie, Sept. 3.

Mr. and Mrs. Walt Schimmel (1222), a son, Stephen Paul, Aug. 30.

Mr. and Mrs. Archie Lackey (7225), a daughter, Deanna Lynn, Sept. 8.

Mr. and Mrs. Stanley Nykanen (2625), a son, Eric Stanley, Sept. 14.

John Allen Wins Nat'l Model Airplane Contest; Will Compete for World Title

Winning the Wakefield model airplane contest is like winning the Indianapolis 500. You are the best there is.

John Allen (9124) won the national championship in the rubber motor category of the Wakefield contest in the finals of competition held in Albuquerque during the Labor Day weekend. He will head the U.S. team of three modelers in this category who will compete for the world championship in Gothenburg, Sweden, in July 1971. Other categories are gliders and combustion engine.

A rubber motor is a long strand of rubber, 1 x 6 mm in cross section which, according to the very strict requirements of the contest, can weigh no more than 1 1/4 oz. This is looped, stretched as much as 30 feet out in front of the airplane and slowly wound. As it is wound, the motor compresses and the spinner and propeller are positioned to the nose of the airplane. The modeler can turn it as many times as he dares — too much, and it will break up the plane — too little, and he is not competitive.

Object of the contest is flight endurance up to three minutes. To win the national competition, John flew his plane 14 times and only twice during these flights did he fail to achieve three minutes. He missed by just a few seconds.

The rubber motor turns the prop for about 30 seconds. During this time the plane must gain as much altitude as possible and then glide to achieve the three minute flight. Other factors then are important — lift area of the wing, total weight of the aircraft, aerodynamic streamlining. Weight and lift area of the aircraft are strictly specified by the con-

test rules. Design and construction of the model then become the prime factors for winning the contest.

John has built a number of Wakefield contest planes and flew two of them during the contest, each carefully designed for specific weather conditions — one is for high winds and the other for "neutral" air. Some of his design features are unique.

The part of the fuselage that houses the rubber motor is a thin skinned aluminum tube. He is a pioneer in this kind of construction. He uses an on-board timer and a system of spring controls to adjust the rudder and stabilizer — one trim for the plane under power, another for the free flight glide. This is an original development. The timer also provides for the stabilizer to flip up after three minutes and force the plane to the ground. Otherwise, it's a long chase to recover the plane.

John plans to design and build two more planes to compete in Sweden. He figures that it takes about five weeks to build one using every spare minute of evenings and weekends. The design challenge is the compromise between maximum lift and aerodynamic drag. The construction challenge is strength versus weight.

Until the moment of truth in Sweden, his design and construction are the best.

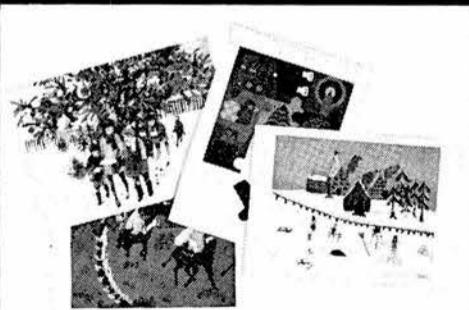
LAB NEWS

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SEPT. 25, 1970

Our kids have everything.

Leprosy, Trachoma, Malaria, Yaws, and Empty Stomachs.



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JOHN ALLEN displays rubber motor powered model airplane which won first place in the U.S. Wakefield contest, thus enabling him to compete in Sweden next July for the World championship. Design and construction of the airplane are key factors in winning.