

BROOKHAVEN BULLETIN

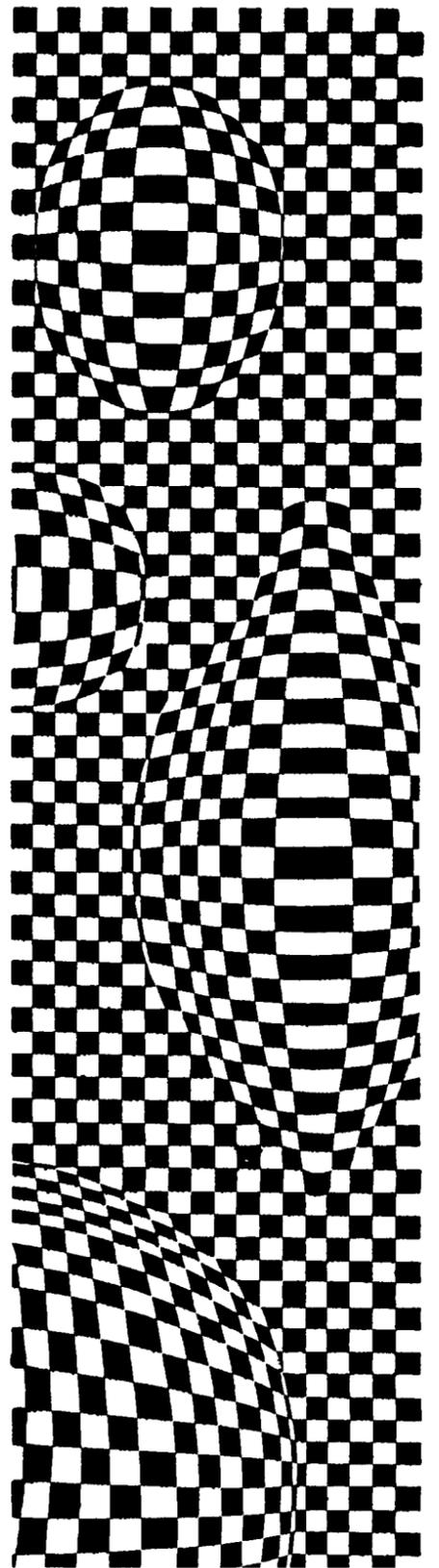
Volume 30 - Number 48 / December 17, 1976
BROOKHAVEN NATIONAL LABORATORY



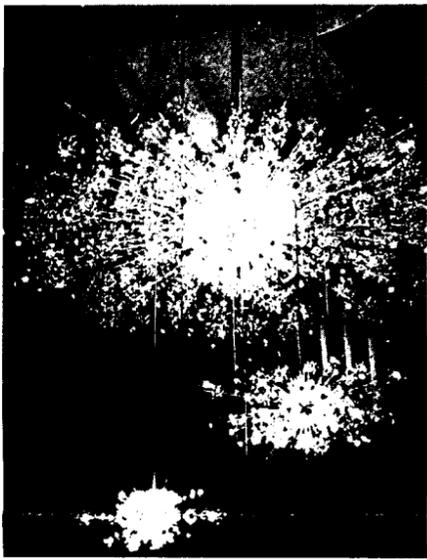
— Dahl



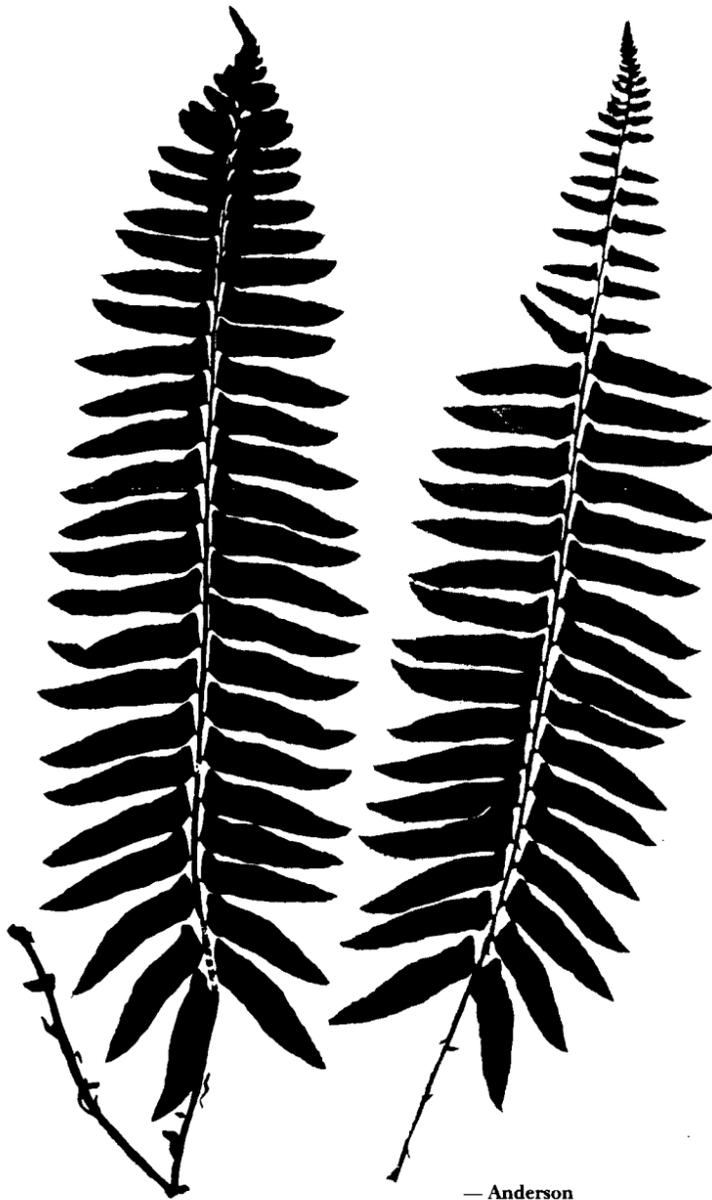
— Kuehner



— Anderson



— Ledbetter



— Anderson



— Bull

恭 SEASON'S GREETINGS
賀 MEILLEURS VOEUX
新 FELICES FIESTAS
禧 С НОВЫМ ГОДОМ



— Harson



— Campbell

'Tis The Season

The greeting card designs on the front page are the work of some Laboratory employees who make their own cards to express their individual creativity, or who do it as a family project.

R.C. Anderson, Assistant Director, has been designing his own cards since 1938 and each year his new creation is eagerly awaited by those on his Christmas card list. His current card is a Christmas fern (*P. acrostichoides*) in shades of green and gold. The other card shown here is a grid distortion. Although he first worked with wood engravings, he has been silk screening for a good many years.

Marshall Bull, Assistant Photography Supervisor, began making cards about 15 years ago after his wife took a basic silk screen course. Off and on, since then, they have worked together on the design and production of their cards. This particular one is a rendition of a chapel house which

they restored as a home and lived in for a number of years until the family outgrew it.

Myron Ledbetter, a Senior Biologist, took a photograph of the chandeliers at the Metropolitan Opera House, decided they looked like snow flakes and that year made it his Christmas card. He started making his own cards about ten years ago and every two or three years produces another one. He considers it fun and feels it adds a personal touch.

Per Dahl, a Physicist, who was born in Norway, likes to make cards of scenes that impress him. He feels this scene of Taos, New Mexico, is uniquely American. The making of Christmas cards is just one facet of his interest in art and he started working with linoleum block cuts ten years ago.

Alan Kuehner, a Health Physics Associate, makes the production of Christmas cards an annual family project. He and his wife work out the design and the children cut and paste or run the production machine. Kuehner uses a hectograph which he calls "a poor man's ditto." This card is

special to them because it also announced the birth of their youngest child. The Kuehners continue to make their own cards because they can express what they feel and "we're do-it-yourselfers."

Lou Harson is the Principal Architect of the Laboratory and has been creating his own cards for about 15 years. His medium is India ink done in negative and then reproduced on an ozalid machine. He always makes them the same size, to fit into business envelopes. The family doesn't enter into the project, he says, except to "stuff the envelopes." This peace dove design he produced during the Vietnam war years.

Pat Campbell is the wife of Graham Campbell, a Computer Scientist. She is an artist and says she has never sent out a commercial Christmas card. This particular print was made from a linoleum block and depicts all the symbols of the old rhyme, "Christmas is coming, the geese are getting fat . . ." Campbell has also designed several covers for invitations by the Director to Laboratory parties.

A Chorus of Angels

On Wednesday, December 22, the BERA Christmas carolers will be singing during lunch hour in Berkner Hall. Under the direction of John Weeks, DAS, a group of approximately 35 employees have been practicing carols for four weeks during their lunch hour.

The music will be a selection of old favorites. After singing at Berkner Hall, the carolers will troop over to the Medical Research Center to sing for the patients, and from there walk to the Director's Office for a final chorus.

A Bonus For Inventors

A new patent policy went into effect October 1, 1976. Subject to ERDA approval BNL inventors will receive a \$200 bonus when a patent is issued. They will also receive \$100 when an application for a patent is filed by ERDA. Previously the honorarium was \$50.

The first inventors at BNL to benefit from the new policy are Bernard Manowitz, Meyer Steinberg, Thomas V. Sheehan, Warren E. Winsche and Chad Raseman (formerly of DAS). They will each receive a \$200 bonus award for Patent #3,963,598, issued June 15, 1976, for "Flash Hydrogenation of Coal," a process comprising the contacting of powdered coal with hydrogen in a rotating fluidized bed reactor.

Service Awards December 1976

Thirty Years

Frederic W. Van Dervoort Physics
Olga C. Vario Fiscal

Twenty-Five Years

Martin Sautter Reactor
Nicholas Sowiak Plant Engrg.

Twenty Years

Ethel B. Cox Medical
Warner P. Hayes Physics
Jonathan B. Hughes Applied Science
Franklin T. Langdon Physics
Herbert J. Lutz Accelerator
Frank J. Rizzo Instrumentation
Francis J. Salzano Applied Science
Kathy M. Stafford Physics
William G. Walker Accelerator
Edward A. Zeidler Instrumentation

Ten Years

Frank L. Candiano Plant Engrg.
Chester Dolinski Central Shops
Bernard P. Doran Safety & Environ. Prot.
Russell S. Dunn Safety & Environ. Prot.
Nancy B. Mayeski Plant Engrg.
Niels F. Schumberg Applied Math.
Douglas W. Smith Plant Engrg.

Nominating Committee

The BERA Board has appointed a Nominating Committee to select the slate of candidates for the 1977 BERA election. Those appointed were:

Carol Beckner - Technical Information, 3483
April Donegain - Physics, 3816
Anne Flood - Accelerator, 4779
Lewis Jacobson - Plant Engineering, 2462
Debaprasad Majumdar - Applied Sci., 2633
Michael Losquardo - Applied Math, 4114
Irma Montanez - Medical, 3553
Lawrence Musso - Purchasing, 3153
Daniel Stelmaschuk - Plant Engrg., 3386

The committee is now considering possible candidates and will meet on Wednesday, January 5, to present the selections. Any employee wishing to make suggestions for candidates may do so by contacting one of the committee members.

Arrivals & Departures

Arrivals

Etsuko Fujita App. Science
Ichiro Fujita App. Science
Mary J. Gardaya Staff Services
Joseph R. Jahelka Accelerator
Dennis Kirson Safety & Environ. Prot.
Paul Piccione Plant Engrg.
Joseph D. Schank Jr. App. Science

Departures

Nancy E. Bernius Biology
Kenneth J. Dixon Plant Engrg.
Lillian Farrington Adm. Sys. & Data Proc.
Camille A. Saville Medical

Greeting Cards

A new feature at the BERA Sales and Services Office in the Cafeteria is the sale of Panda Creations all occasion greeting cards.

You'll be pleasantly surprised when you see the selection and quality of the cards now on display in the Sales Office.



Some of the 7-foot Bubble Chamber crew present in the control room when the number of pictures taken in one run reached 204,000.

Bubble Chamber Breaks Record

The 7-foot Bubble Chamber completed a run of 204,000 pictures in the north area neutrino beam at the AGS on December 2. This happy event ended the hiatus in chamber running since last January when cracks were discovered in the chamber supports.

Since that time a tremendous amount of analytical work has been done by engineers and physicists to try and determine the source of the stresses which caused the cracking and to specify and design a new support system. The cracks were metallurgically examined and found to be caused by pure fatigue failure, with no sign of problems from fabrication procedures.

A calculation on coupled harmonic motions of all massive chamber components, including pressure waves in the chamber filling fluid, carried out on the BNL 7600 computer, revealed chamber support forces much higher than those imposed by the expansion system alone. Indeed, for a chamber filling of 89% neon, which was used in an engineering run in December, 1975, these support forces produced stresses in the vicinity of the cracks which exceeded the fatigue limit.

To translate the support forces obtained in the dynamic calculations into detailed stress distributions in the rather complicated supports, a three-dimensional stress program was employed. This involved dividing a typical support into a three-dimensional grid of several hundred "blocks" (on paper), with each different set of input parameters, solving a set of about 3000 simultaneous equations, representing the relationships between the blocks. This procedure would not have been practical to attempt on any computer smaller than the 7600.

The same procedures were used in developing the design for the new supports. Central Shops put on a mammoth effort to build and install them rapidly without moving the chamber more than one inch from its normal position at any step along the way. With hydrogen in the chamber the system received its first test in an engineering run in September. Strain gauges mounted on the supports showed remarkable agreement with the predictions of all

the calculations, giving considerable confidence that the method, however complicated is valid.

In October, the chamber was cooled down to continue the high energy physics run which earlier discovered the first clear charmed particle event (PRL 34, 1125, 1975; and CERN COURIER, April, 1975). Leaks through the main magnet dewar seal stopped the run before any pictures were taken. A quick "improvement" to the seal resulted in even worse results in the second attempt in October. A second improvement of a different kind was successful, and on November 23, with only a little over a week left on the schedule, the chamber began the physics run filled with deuterium.

The previous record number of pictures taken during a single cooldown was 139,000, and all runs had been ended by some problem associated with the chamber or beam. Perhaps spurred on by the promise of Mark Barton, Accelerator Department Chairman, to throw a party to celebrate the first run of over 200,000 pictures, the chamber and the pulsed neutrino focussing horn ran on without a hitch until the end of the available schedule time at 1600 on December 2. At 1346 that day, the magic number was passed.

The chamber will now be shut down until its next scheduled run in March or April to make a more substantial improvement in the magnet dewar seal. That run will be in hydrogen or deuterium. Further refinements in the calculations are being made to determine the maximum safe fraction of neon in a neon-hydrogen mixture which would then form the chamber filling in a late summer run.

Bulletin On Vacation

Because of the Christmas holidays and, as many people are taking vacation the last week of December, the *Bulletin* will not be published until January 7.

Retiring

Dec. 31



Augustine O. Allen



William Eberspacher



Alice Perez



Herbert Davis



Mildred Pavelec

Augustine O. Allen, a Senior Chemist in the Chemistry Department, was appointed to the scientific staff of the Laboratory September 27, 1948. His principal research interest is radiation chemistry, and for the last ten years, he has concentration particularly on the behavior of electrons in liquids. Allen has received a Humboldt Award and will spend a year at the Hahn-Meitner Institute in Berlin following his retirement.

William F. Eberspacher came to Brookhaven September 26, 1955, and is a Laboratory Custodian. He plans to stay in the area and has a part-time job.

Herbert G. Davis, a Technician in Photography & Graphic Arts, joined the Laboratory December 8, 1958. He now plans to spruce up his house and yard in East Moriches.

Mildred Pavelec has been on the staff of the Medical Department since June 6, 1955, and is retiring as a Medical Associate. She intends to go to Florida and if it is to her liking, will relocate there.

Alice M. Perez, an Editor in the Technical Information Division, came to Brookhaven July 9, 1956. She does not plan to take it easy but will keep on working elsewhere.

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Published weekly
for the employees of
BROOKHAVEN NATIONAL LABORATORY

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Sculpture Exhibit Opens



At a striking exhibit in Berkner Hall, Peter Nicholson is showing three aspects of his sculpture which he calls *Space Games*, *Columns* and *Reflectives*. At right, the artist and his wife Kalena, before one of his chrome-plated brass columns. Above, Michael and Carolyn Marx, two new members of the Art Committee, inspect one of Nicholson's *Space Games* at the opening December 13. The exhibit will be on view until December 24.



In Memoriam

Nathaniel Godbolt, a Technician at the Accelerator Department, died suddenly at his home in Springfield Gardens, Queens, on December 13, 1976. He was 55 years old and had been with the Laboratory since February 5, 1968.

J. Raymond Klein Dies After Long Illness

J. Raymond Klein, a Senior Biochemist who retired from the Laboratory in 1973, died at his home in East Patchogue on December 9, 1976. He was 68 years old and had been ill for several years.

Klein received his Ph.D. from Duke University in 1939 and continued there as an Instructor until 1942. He was an Assistant Professor at the University of Illinois College of Medicine for six years before joining the Biology Department at Brookhaven in 1948.

He is survived by his wife, the former Lenetta Garrett, and two children, Benjamin and Catherine.

The family asks that in lieu of flowers, contributions be sent to the Bellport Memorial Library, 29 Bellport Lane, Bellport.

Opera Buffs

Will the employee who bought 2 tickets at the BERA Sales Office for the opera on Saturday, January 15, please call the Recreation Office, extension 2873, as soon as possible.

New Banking Hours

Effective Monday, December 20, the on-site branch of the Banker's Trust Company will be open from 9 a.m. to 3 p.m., Monday through Friday. Formerly, banking hours were from 10 a.m. to 3 p.m., Monday through Thursday, and 10 a.m. to 4 p.m. on Fridays.

Holiday Food Service

The Vended Food Service in Building 912 will be open at all times, and will be serviced regularly throughout the Christmas and New Year's Holidays.

The Center Club Snack and Beverage Bar will be closed on Thursday and Friday, December 23 and 24, reopening at 5:00 p.m. on Sunday, December 26. The Center Club will also be closed on Friday, December 31, reopening at 5:00 p.m. on Sunday, January 2, 1977.

The Cafeteria will close at 2:00 p.m. on Thursday, December 23. On Friday, December 24 and Friday, December 31, Snack Bar Service will be available from 9:00 a.m. until 2:00 p.m. The Cafeteria will be closed on Saturday, December 25 and Saturday, January 1.

Coffee Truck Service

The Coffee Truck will not make its rounds on Thursday, December 23rd, due to the half holiday.

Energy Updates Here

Three current awareness journals announcing research, development and administration information have been published within the last six months by ERDA's Technical Information Center. All three are abstract journals containing corporate author, personal author, subject and report number indexes.

Solar Energy Update provides a discrete announcement of references to solar information found in reports, journal articles, conference proceedings, patents, theses and monographs. A bibliography entitled *Solar Energy*, TID-3351R, contains references to information entered into the TIC computerized information base prior to 1976. *Solar Energy Update* is intended to be an ongoing supplement to this bibliography.

Fossil Energy Update includes abstracts on the subjects of coal, petroleum, natural gas, oil shale, hydrogen production, hydrocarbon and alcohol fuels, electric power engineering and magnetohydrodynamic generators. References to older information are found in such bibliographies as *Coal Processing Gasification, Liquefaction, and Desulfurization* (TID-3349); *Magnetohydrodynamics-Power Generation and Theory* (TID-3356); *Hydrogen Fuels* (TID-3358); and *Coal Processing, Production, and Properties* (TID-3349-S1).

Geothermal Energy Update, a quarterly publication, includes information on the exploration and development of geothermal resources. It will be an ongoing supplement to the bibliography *Geothermal Resources*, TID-3354-R1 which contained references through July 1976.

All references published in the above journals and bibliographies have been entered into ERDA's computerized energy information base at the Technical Information Center at Oak Ridge. Access to this base is possible through a terminal located in the Research Library and operated by Madeline Windsor of the Library's Reference Section. Issues of *Solar Energy Update*, *Fossil Energy Update* and *Geothermal Energy Update* are available without charge to members of Brookhaven's scientific staff. Requests for the receipt of these titles should be forwarded to Bronnie Orłowski, Technical Information Division, 477B.

Adult Ed Opportunity

There is a possibility that two courses will be offered on-site in February by the Middle Island School Adult Education Program.

One will be a course entitled "English as a Second Language." The program is designed for adults who wish instruction in speaking, reading or writing the English language. Persons who are entirely unfamiliar with English, as well as those who wish to improve their skills in a particular area, can be accommodated.

The second would be a Suffolk County Community College course in mathematics for technology students. The course includes use of the slide rule, solutions of equations, determinants, trigonometry of triangles, quadratic equations, and exponents. All topics will include applications to technology.

Call Dot Marelli, extension 2113, to express interest in either of these courses to determine if there is enough interest to hold the classes.

Holiday Pool Schedule

December 20-22
Normal weekday schedule
11:30 am - 1:30 pm employees only
5:00 am - 9:30 pm employees/families/guests

December 23
11:30 am - 1:30 pm employees only
after 1:30 pm closed

December 24-26
Closed

December 27-30
Normal weekday schedule
December 31 - January 2
Closed
January 3
Resume normal schedule

Tickets for the January through April 1977 season will go on sale at the pool, during open hours, starting on Monday, December 27.

Ticket prices: Single \$10
Family \$20

Cafeteria Menu Week Ending Dec. 24, 1976

Monday, December 20

Tomato Bouillon
Franks & Baked Beans 1.05
Barbecued Fresh Ham & 1 veg. 1.30

Tuesday, December 21

Cream of Chicken Soup
Chopped Steak & 1 veg. 1.10
Chinese Pepper Steak on rice 1.25

Wednesday, December 22

Christmas Special

Small Juice or Cup of Vegetable Beef Soup
Standing Steamship Round or
¼ Roast Long Island Duck w/ Stuffing
Baked Potato w/ Sour Treat &
String Beans Almondine or
Buttered Noodles & Glazed Carrots
Small Beverage - Plain Jello or Ice Cream
\$2.00 plus tax

Thursday, December 23

Puree of Mongol
Spanish Omelet & fr. fr. 1.10
Meatballs, Brown Gravy & Noodles 1.10

Friday, December 24

Snack Bar Service 9 a.m. - 2 p.m.

What And Where Is It?



Can you identify this structure? Clue - it is a remnant of World War I.
The answer will be given in the next issue of the *Bulletin*.

Last Call For United Way

While our campaign has featured many people at the Lab who support the United Way with their time, many of us don't have the hours to spare. But we can give our financial support. We are \$9,000 short of our goal of \$100,000, so put the United Way on your Christmas list:

What Your Contribution Buys

- 50 cents a week buys a Braille watch
- \$1.00 a week provides 26 lunches for a senior citizen
- \$1.50 a week pays for 10 visiting nurse calls

If you have not yet done so, please mail your pledge card to Olga Vario, Payroll, Bldg. 134 J. Although BNL's campaign officially ends in a few days, United Way contributions will be accepted at any time.

Sports News

Volleyball

Employees' League

The 1976-1977 Employees' League Volleyball season got under way on Wednesday, December 1. The change from "Men's League" to "Employees' League" reflects the fact that women are eligible to play, with the understanding that spiking and blocking are part of the game. Jean Burt is the first woman to join, and the Road Runners welcome her hustle and accurate setting.

Three new teams have joined the League, replacing two dropouts, and the championship seems up for grabs. Standings at the end of two weeks of play are:

	Won	Lost	Pct.
Road Runners	3	0	1.000
Phoenix	4	2	.667
Spikers	4	2	.667
Cool Tools	3	3	.500
Chemistry	2	4	.333
Circuits	1	2	.333
Atom Spikers	1	5	.167

Bowling

Week of 11/29/76

Red League

A real good night for the Anachems, knocking down 3136 pins, a league high this year. T. Prach led the team with a 223/202/608 scratch, earning his Club Award. His gross series of 716 is high for the season. L. Newman had two nice games 250/197, but threw away the third and missed his Club Awards. R. Wilson also chipped in with a 204.

The Designers also had great team bowling with 3080 pins. A. Pinelli had a 210 and 685 gross, earning his Club Award. F. Hohmann helped the cause with a 212 and E. Sperry chipped in with a 203.

For the Old Timers J. Roesler had a 225, F. Stahman bowled a 222 for the Freon Loaders, and for the Sandbaggers K. Riker had a 224 and Bob Jones a 212.

Green League

The Sparks kept their lead as they took 6 points from the Pinball Wizards. For the losers, R. Eggert had a 210 game.

The Pick-Ups took 11 from the Blue Jays to move within 4 points of first place. For the Blue Jays, N. Combattie had a 201 game.

The Got-A-Hit-Ums got 7 from the Sandbaggers. N. Parrinello had a nifty 235 games. The Trouble Shooters managed 7 points from the Old Timers. For the Trouble Shooters, J. Fortungno had a 212, and A. White 202/228/610 scratch series. Nice bowling.

Pink League

The Pinsplitters are still in first, with the Personnelities and Fiscal Assets tied for 2nd, with the Gutter Getters 1 point behind them. High games for the night: M. Stoeckel 168/186/152/506, F. Scesney 156, M. Brenner 173, B. Jellet 161, S. Vander-Koik 158/158, L. Boyd 155/175, L. Netusel 162, D. Marelli 169, and K. Hunt 169.

Black and Blue League

Fred Hohmann just missed his 678 Club Award with a 675. High games: F. Hohmann 211/585, E. Sperry 206, C. Holland 175, D. Antonio 175, P. Oster 173, D. Pollock 169, P. Lebitski 168, E. Kristiansen 165. High gross pots were won by Fred Hohmann 241 and Colleen Hollans 238.

Purple and White League

The Plutoniums took all 7 points and now lead the league, closely followed by the Good Guys and the Flounders. For the men, high games were bowled by Gene Hassell 225, B. Belligan 201, and A. Lipman 200. Substitute Jon Scott bowled a 250. High bowler for the women was Nancy Mayeski with a 190/423. Nice games also by Jeanne Penoyar 168/424, Betty Roche 163/449, and Peg Taylor 162/446.

Week of 11/22/76

Red League

Great team bowling this week by the 76'ers and the Designers. These two teams have really come alive and are making a final surge towards first place. R. Larsen had a 245 game/609 scratch to lead the 76'ers to a pinfall of 3105. J. Scesny bowled 211, J. Connelly 207, and J. Petro chipped in with a 206.

The Designers knocked down 3048 pins, led by E. Sperry (202) who grossed 668 and just missed a Club Award. F. Hohmann helped the cause with a 214, and M. Bull 202. For the Bubble Boys J. Pukit had a

213 game and W. Kollmer 203. For the Sandbaggers, "steady Bob" Meier had a 208 game.

Black & Blue League

Congratulations to Dick Skelton on his 600 and 678 Club Awards; Dick made Earl Anthony look like a bundle of nerves in comparison as he easily rolled a 651 scratch and 750 gross series.

High games: Dick Skelton 245/215, Bill Kristiansen 227, Ed Sperry 209, Fred Hohmann 208, Debbie Antonio 201/183, Jean Sells 171. High gross pots won by Debbie Antonio 238 and Barney Brehm 238.

Classified Advertisements

Placement Notices

Each week the Personnel Office lists personnel placement requisitions, currently being processed. The purpose of these listings is, first, to give notice of all non-scientific staff positions being filled and, second, to give employees an opportunity to request consideration for themselves through the Personnel Office. In filling vacancies, the Laboratory's objective is to give first consideration to present employees, as follows: employees within the immediate group having the vacancy, employees within the department or division, employees within the Laboratory as a whole.

For further information regarding a placement notice, or to request consideration for an available position, contact Supervisor, Personnel Placement & Development, extension 2874 or 2882.

278. PATROL OFFICER - Safety & Environmental Protection Division.

279. CHEMISTRY ASSOCIATE - BS or MS degree or equivalent in chemistry to perform chemical preparatory and recovery work and participate in various other phases of a radioactive molecular beam project. Experience with wet radiochemistry techniques and use of laboratory electronic and electrical apparatus is very desirable. Chemistry Department.

280. ASSISTANT LIBRARIAN - Part-time position to set up, maintain and manage technical library. Accelerator Department.

281. DESIGN ENGINEER - Nine-month position. BS degree or equivalent with knowledge of materials, machine design, vacuum technology, piping systems and shop fabrication methods. Physics Department.

282. CHEMISTRY TECHNICIAN - AAS degree or equivalent with experience in solution chemistry and standard and automated analytical instrumentation. Chemistry Department.

Autos & Auto Supplies

65 MERCURY CALENTE - 2 dr, body good, eng excel, 6 cyl, auto. \$400. Jim, Ext. 4040, 289-0876.

73 CHEVY VEGA GT - W/w radial tires, custom int, just tuned. Steve, Ext. 3822, 929-6527.

68 PLYMOUTH - Road runner, 383 V8, 4 spd, air shocks, new point job, new tires & battery, mag wheels, many more extras. Ext. 4308.

48 PLYMOUTH - 4 dr sedan, clean & on the road, \$1200. 475-2656 after 6.

69 CADILLAC - \$940. Ext. 3267.

2 NEW SNOW TIRES - G78-14 Sears, b/w. \$50/pr. Ext. 2321.

67 OLDSMOBILE - Running cond. \$350. 567-1700.

2 RIMS - Mercedes Benz, 14". \$35/pr. Ext. 4522.

71 VW BEETLE - Good cond. \$900. 744-6668.

72 CHEVY NOVA - 6 cyl, standard, low mi. Asking \$1400. Ext. 3525.

70 REBEL - 6 cyl, auto, ac, good mech & tires, fair looks. \$475. A. Campbell, Ext. 3354, 727-7115.

14" RIMS - Ford 5-hole. \$8/pr. Ext. 4846, 363-6940.

STEEL RADIAL TIRE - W/w GR78-15, Goodrich Life-saver, good cond. \$10. Ext. 2492, 475-8658 after 6.

71 YAMAHA - 350 cc, clean. \$375. Ext. 3688.

70 FIAT - 124 sport coupe, standard, good cond. \$750. Chris, 475-5266.

72 BUICK SKYLARK - Yellow convertible, new brakes, tires & battery, ps/pb. Chris, 475-5266.

72 CHEVY SPORTSVAN - 3 spd, 307 V8, radial tires, less than 1 yr old, new battery, camper equip, windowed van. 928-4481 after 6.

2 TIRES - 6.50x13 Atlas, 1/2 rubber, on comet rims. \$15 ea. Joe, Ext. 4640/4212.

75 HONDA CB - 750 blue, slightly damaged, 9200 mi, 2 Bell helmets, crashbars, luggage rack, best reasonable offer. Jack, Ext. 2253.

TIRES - 15" H-78 on Olds rim, \$5; Mag wheel w/ snow tire, H78-14 for Olds, \$8. Glenn, 281-7873.

SNOW TIRE - 775x15 Goodyear, 4-ply tube type w/ tube. \$8. Ext. 4003.

69 COUGAR - Ps/pb/ac, automatic trans. Asking \$1200. 727-1216 after 6.

73 MGB - Maroon, clean in & out, excel cond. \$2750. 289-6530 after 9.

76 FORD TORINO WAGON - 13,000 mi, ps/pdb, auto trailer tow pkg, hitch, CB radio, tinted glass, w/w, excel cond. \$4875. 698-4808.

71 AUDI - 100LS, auto, orig owner, moving, needs body work. Best offer. Ext. 3835/3035.

2 TIRES - H78-15 Goodrich Silvertone w/belted tires, excel cond, very low mi. \$35/pair. Bob, Ext. 4551.

72 SUZUKI - TS-185, Enduro, knobbies, very good cond. \$425. 473-2608.

72 FIAT - 850 Spyder, Michelin radials, red, excel shape, 35,000 mi. \$1375. 928-0043.

69 FORD GALAXY - 500, 351 V8, ps/pb/ac, auto, good trans. \$800. James, 475-4903.

74 AUDI - 100 SL, 4 dr sedan, tan w/brown leather, am/fm stereo, standard shift, great gas mi, excel cond in & out, extra set of brand new snow tires. \$3750. Ext. 2879, 473-9121 after 6.

Boats & Marine Supplies

SUN FISH - Mint cond w/trailer. \$600. John Evans, Ext. 4321, 286-2247 after 6.

MOORING BUOY - Stainless beer keg, ready to hook up. \$10. Jack, Ext. 4087.

15' GARVEY - 71, wood fiberglassed, recently rebuilt 35 hp Evinrude, extras, trailer. \$800. Ext. 2345, or 472-1735 after 6.

Miscellaneous

DOLL HOUSE - Swedish w/furniture, \$25; English doll's carriage, \$15, excel cond. Ext. 3765, 744-5079.

SCHWINN STING RAY - Red, light use, very good cond. 473-2608.

SKI BOOTS - Hearing, size 11, flo-foam, used twice. Asking \$100. Ext. 3753, 286-2093.

END TABLE - White w/walnut inlay top, \$40; velvet tuxedo couch, \$175; double dresser, mahogany w/ mirror, \$50. Steve, Ext. 3469, 281-4371.

HURRICANE LAMP - Hand painted, \$40; mahogany night table, \$10; green satin drapes for 13' wall w/ traverse, \$150. Steve, Ext. 3469, 281-4371.

DIRT BIKE - Hodaka 100 cc, \$225; 70 cc Honda mini trail. Tony, Ext. 4087, 288-3535.

CHRISTMAS TREES - Spruce, blue-green, cut or dug & balled, priced according to size. Jim, Ext. 4040, 289-0876.

BICYCLE - 10 spd Gran Eurosport, \$75, 1 yr old. Linda, 246-4490 after 6.

COMPLETE PHOTO DARK RM - Enlarger, pans, dryer, film, developer, etc. \$60. 246-4490 after 6.

FUJIKA CAMERA - 35 mm, model ST 701 w/200 mm Vivitar lens, camera & lens case & camera bag incl. \$180. Linda, 246-4490 after 6.

TRIPLE SOFA - Gold; dining rm table & 4 chairs. 234-2679.

GREAT DANES - Puppies, 7 weeks, pure bread w/ papers, 3 black females, 1 grey female. 924-4789 after 4.

POCKET WATCH - West End 17 J; Omega pocket watch 7 J. 924-4789 after 5.

JEWELRY - Jade, coral, ivory, pendants, bracelets, rings, earrings at low prices. Ext. 3566, 744-6767.

CHEST OF DRAWERS - Men's or women's & 1 men's. 727-4515.

WINCHESTER - Mod 70, 7 mm mag, mint cond. \$140 + dies, brass, 2 loaded boxes. 473-5404 anytime before 11 pm.

SIBERIAN HUSKY PUPS - Will hold 'til Christmas. 744-8787.

DINETTE TABLE - 40" round, formica top, \$50, 4 dinette chairs, \$25. Padwa, 698-3856.

TOY POODLE - AKC, 6 months, female, all shots, apricot. \$100. 475-2656 after 6.

PHOTO EQUIP - 4x5 Federal enlarger, trays, lights, misc equip. \$50. R. Ince, 286-0682.

SLIDE PROJECTOR - Aireiquip w/circ tray, needs projection bulb. \$25. R. Ince, 286-0682.

IBM ELEC TYPEWRITER - Executive model, needs adjustment. \$35. R. Ince, 286-0682.

BICYCLE - Raleigh 10 spd, 20 tools & odometer incl, excel cond. \$75. 744-5871.

LENS - 400 mm, T-mount thread for single lens reflex, \$35; Hasselblad polarizer. Ext. 4172.

SKIS - Head 240's w/Saloman 540 quick release bindings, poles incl; Nordica boots 8-8 1/2, excel cond. \$125. 286-9037 eves.

CHRISTMAS TREE - Artificial, 4' tall. \$5. 928-1075.

LINEAR AMP - Base, new palamar 100/200 watt dual power w/bilateral receiver preamp 10-80 meters. \$180. Ext. 3354.

FIREPLACE - 34" conical, flat black, never installed. \$125. Rick, 286-2108.

FULL SIZE BED - & 2 end tables, Heyward Wakefield, maple, excel cond. \$200. 363-2177.

STEREO CONSOLE - Magnavox, fm stereo/am/phono, recently reconditioned. \$65. R. Hildenbrand, Ext. 3273.

3 CB SETS - Used in good cond; 1 surf board. Billy, 281-5066.

GARRARD TURNTABLE - Good cond. \$17. Ext. 3688.

DINING RM SET - Old heavy pieces, high back chairs, best offer. Ext. 3688.

PAINT - Sears best exterior acrylic latex, 5 gals haze blue, 1 gal white. \$30. Pete, Ext. 3350.

SKI BOOTS - Self-fit, used one season, yellow, size 12. \$25. Paul, Ext. 4309, 475-4394.

J-66 POLAROID - W/colorpak & flash attachment in leather carry case. \$45. O. Medeck, 363-7324.

SINGER SEWING MACHINE - Portable, no zig-zag, old, but A-1 cond. \$25. 585-7094 after 6.

3 GUITARS - 2 folk, 1 elec, good cond; 2 excel cond snow tires, F78-14, on rims, \$30 or best offer. 286-1510.

ICE SKATES - Boys black figure size 1, \$3; ski boots, molded rubber, laced, combi, size 1, \$4, both in good cond. 286-3679.

GHI (JUDO) UNIFORM - Brand new. \$20 firm. 399-1005.

GUITAR - Beginners & stand. \$20. 475-8658 after 6.

DESIGNER'S COAT - Woman's, Jean Louis, dark blue, size 10, worn twice. \$25. 475-8658 after 6.

CAMERA - Cannon TL/QL, 50 mm, lens, filter & case. \$95. Ron, Ext. 4082.

ACCORDION - Professional model, list price \$1900, excel cond. \$700. Jim, 724-4930.

ORIENTAL RUG - 9x12, at least 75 yrs old. \$150, or best offer. 399-1005.

BINOCULARS - 7x35 w/case. \$15. Walt, Ext. 4627.

HOT WATER HEATER - Oil fired, 30 gal, brand new, never used, complete. \$300. Rick, 727-7304.

FREE PUPPY - Half golden retriever, half Labrador, avail Christmas. 751-7984.

ROSS BICYCLE - 16" boy/girl, very good cond. \$20. 472-1875 after 6.

SKI BOOTS - Size 8 N, fits boy's size 6, red "Stefan." \$25. Annamarie, Ext. 2449.

MINI SNOWMOBILE - 4 hp, Tecumseh eng, 25 mpg, kit less eng. \$75. Hank, Ext. 3848, 472-0553.

DRAPERIES - 4 pairs Shantung fully lined, 80" long, 69" wide, 1 single 82" long, 69" wide, avacado green, used 3 months. \$75. 286-8945.

73 CHATEAU TRAILER - 18', fully self-contained, sleeps 6, screened-in rm, 10-12, excel cond. \$2500 firm. 698-4808.

UNIVOX AMP - Bass or guitar, 200 watts, 4-12" speakers in 2 columns, mint cond. \$250. 289-0886.

FIREWOOD - Seasoned oak, split, delivered, stacked. \$60/cord, \$35/1/2, \$20/1/4. Hanford, 878-1958.

STEREO AMP - 40 watt, tube type w/extra tubes. \$35. Ext. 3593.

7' SCOTCH PINE - Christmas tree, \$10; men's hockey skates, size 11, never used. \$15; boy's size 5, \$5. 727-7515.

CLOTHES WASHER - Portable Hoover, like new, \$80. Grace, Ext. 4464, 286-8374 after 5:30.

SKI BOOTS - Koflach, men's buckle size 8 M, \$10; ski pants, girl's size 10, \$5. T. Morris, 744-5096.

B&W PORTABLE 19" TV - Panasonic, in carton. \$90. 325-1961.

END TABLE - W/walnut inlay, \$40; velvet tuxedo couch, \$175; mahogany double dresser w/mirror, \$50; night table, \$10. Steve, Ext. 3469, 281-4371.

3 SPORTS JACKETS - 38, \$6, \$5, \$1; artists canvases, new, 6x8 & 7x9. 50¢ for 3. Ext. 3609.

BOY'S BIKE - Sears 20", hand brakes, good cond, asking \$25; record player, 3 spd w/2 speakers, \$10; 2 gerbil cages, \$5; girl's double runner ice skates, size 13, \$3. 924-6463 after 5.

WOMEN'S CLOTHING - Coat, size 14, green check, \$8; brown jeans, 32/30, \$5; coat size 12, melon, \$8; blue blazer, size 12, \$4; rabbit fur coat, \$30, size 14 or larger. Ext. 3609.

MISC - Light fixture, \$3; plant holders, \$2, \$3. 744-5871.

DOG COAT - 100% wool coat to fit collie, etc, \$3; muzzle; men's 9 M shoes, \$12. Ext. 3609.

BICYCLE - Raleigh 10 spd, 20 tools & odometer incl, excel cond. \$75. 744-5871.

LENS - 400 mm, T-mount thread for single lens reflex camera, \$35; Hasselblad polarizer. Ext. 4172.

CASEMENT WINDOW - Metal, 8'5"x4 1/2", 24 panes. \$25. John, Ext. 3675, 924-3528.

STEREO TV CONSOLE - B&W, TV sound needs adj, otherwise works. John, Ext. 3675, 924-3528.

MINI SNOW MOBILE - 4 hp tec eng, almost new. \$175, less engine \$75. Ext. 3848, 472-0553.

BABY CARRIAGE - 3 in 1, \$15; playpen, \$5. 744-8240.

KITCHEN FOR SALE - 30' of wood cabinets, base cabinets w/formica counter tops; one-shelf & 2-shelf wall cabinets, \$8/linear foot; Hotpoint refrigerator, self defrost, excel running cond, \$75; caloric gas range, avacado, 1 1/2 yrs young, \$120; stainless steel sink, 16"x21" plus single arm faucet, \$30. Ext. 4599, 473-6859.

DRESSER - Chest of drawers, box spring & mattress, double, on frame & wheels, \$45. 727-1617.

CHINA CLOSET - Queen Anne style, about 50 yrs old, \$45; bottle capper & box caps, \$5; women's ice skates, size 8, \$5. 727-1617.

COFFEE TABLE - Kidney-shaped & step end table, beige, formica, heavy. 2 for \$30. 727-1617.

CRAFTSMAN - 18" belt driven jig saw w/stand, 1/2 hp, new \$105, asking \$75; steel frame work bench, 2'x5', \$30. 473-7460.

COMMERCIAL FREEZER - Upright, United, 23 cu ft, w/touch-a-matic defrost. \$350. Ext. 3169, 473-7460.

AKC SAMOYED PUPPIES - Beautiful Christmas presents. \$125. 928-2657.

CAMERA - Minolta pocket auto pak 250 w/flash and case, practically new, \$50. Rau, Ext. 3830.

MOBILE TRANSMITTER - Excel cond, 10-80 meters, am, 100 watts, ac power supply, best offer. Stan, Ext. 3558.

ELEC CAN OPENER - Elec carving knife, both never used. \$5 each. Rich, Ext. 3381,

