BROOKHAVEN BULLETIN
Vol. 35 - No. 12 March 27, 1981
BROOKHAVEN NATIONAL LABORATORY

This cross section of the braid used in the ISABELLE magnets illustrates how some of the braid's superconducting strands have been electrically isolated from each other by controlled cracking at the solder-strand interface (75× metallography by Andrew Cendrowski).

A Productive Collaboration

Quite often, a difficult problem can be solved by taking a fresh approach. Recently, this was exemplified by a collaboration between physicists at ISABELLE and metallurgists Masaki Suenaga and Tom Luhman of DEE's Metallurgy and Materials Sciences Division.

During the past year and a half, the superconducting magnets used in ISABELLE have evolved from essentially hand-crafted prototypes to production units assembled in-house in large numbers. Routine testing of these latter magnets, however, showed unexpectedly large eddy currents during times when current in the magnets was increased. Eddy currents can be thought of as circulating currents, jumping from one wire to another in the braid so as to make a closed loop. They are set up by the changing magnetic field when the loop resistance is too low. These large eddy currents distort the magnetic field in an undesirable manner. The staff at ISABELLE, thinking this problem might be related to the materials used to wind the magnets, sought the assistance of the Metallurgy Division.

Suenaga and Luhman are experts in the materials properties of superconductors. Their study of the metallurgical aspects of the superconducting braid used in the magnets suggested the problem was caused by the silver-tin solder filler used to impart mechanical stiffness to the braid. They hypothesized that the continuous solder filler was providing a path for the undesirable increased eddy currents.

"To eliminate these paths," Luhman said, "we first devised a technique to manufacture a braid in which the solder contained a random array of cracks." Subsequent tests on production magnets showed that this new process satisfactorily reduced the magnet's ac losses.

Although Luhman called the cracked braid a success in terms of the electrical isolation achieved, this random cracking also caused the braid to lose much of its former stiffness. Since this made the braid a less suitable construction material, it became necessary to devise a method to maintain both the decreased ac losses and the braid's stiffness.

By characterizing metallurgically the interaction of the solder with the superconducting wires of the braid, a new technique was developed. When the braid is heated to a controlled temperature and then flexed, cracks are induced locally only at the interface between the solder and the superconducting wires. The bulk of the matrix solder is thus left intact. The resulting braid, Luhman said, "is electrically isolated yet mechanically locked together in such a way that it retains most of its former mechanical rigidity."

Luhman and the ISABELLE assembly team are now working towards incorporating this new process into the braid manufacturing procedures. One challenging aspect of this effort, Luhman finds, is that solutions to problems like this must be carefully considered in terms of their adaptability to an existing manufacturing procedure. Luhman added, "We are very encouraged by the success of this interdisciplinary approach."

So is Ronald Rau, head of the ISABELLE Magnet Division, who appreciates Suenaga's and Luhman's efforts and who sees this as "an excellent example of how, even inside a big laboratory like Brookhaven, we can get a very productive collaboration going."

The Founding Of AUI

The naming of BNL by the Executive Committee of AUI on September 9, 1946 was only one of several landmark events that took place during that busy year. These events are described in two interesting documents: *The Founding of Brookhaven National Laboratory* by Associated Universities, Inc. (a final report of work by Columbia University under government contracts, January 15, 1948) and *Early History of Associated Universities and Brookhaven National Laboratory* by Norman F. Ramsey (BNL Lecture No. 55, March 10, 1966).

The AUI report explains why a laboratory was needed."At the end of the war it became apparent that the teamwork of government and scientific institutions, which had been so effective in wartime work, must somehow be perpetuated in order to insure the continued progress of nuclear science in peace time." While war needs had already activated nuclear science research centers in Berkeley, Los Alamos, Oak Ridge and Chicago, none had been developed in the northeastern section of the country. Since, the report says, "so much

(Continued on page 2)

FY 82 Budget Impact Assessed

An expected reduction in funds for Laboratory programs in FY 1982 will require a reduction of around 500 jobs, said Lab Director George Vineyard in a memo to all employees on Thursday.

Dr. Vineyard stated that "our earlier anticipation of difficulties, as announced on March 6, has been confirmed." As a result of the DOE FY 1982 budget (Oct. 1, 1981 - Sept. 30, 1982) now before Congress, funds for BNL are expected to be about $15 million less than this year's budget.

Brookhaven's budget for the current fiscal year (1980-81) is $197.7 million, including operating funds for the Laboratory, and construction funds for the National Synchrotron Light Source and the ISABELLE accelerator, but omitting capital equipment funds. The budget for FY 1982 will be approximately $182 million.

In addition, there are the problems of inflation and major escalations of operating costs. For instance, the costs of social security and fringe benefits are expected to go up next year, and the cost of fuel oil and electric power will increase by at least $8 million.

Within the total reduction, decreases in funding for the broad category of General Science and Research will be felt in a reduction of about 200 Laboratory jobs. This category includes high energy physics, ISABELLE R&D and construction, nuclear physics and life sciences research. Energy Supply Research and Development, which encompasses basic energy sciences (including NSLS construction), environmental R&D, fusion and breeder reactor, and electric energy systems, will lose nearly 150 jobs. Applied programs which include solar, conservation, fossil, geothermal, nuclear materials, nuclear waste, etc., face a reduction of approximately 120 jobs.

Current estimates of reduced funding from other agencies, such as the NRC and EPA, is expected to result in the loss of another 50 positions.

It should be noted that these figures reflect not only reductions in the scientific departments, but consequent reductions in Laboratory support personnel as well. It is expected that every department or division will be affected to some degree.

Department chairmen and division heads are now in the process of evaluating in more detail the impact of the reduced funds on their individual programs and activities. In his memo, Dr. Vineyard stated that "as much of the reduction as is practical will be accomplished by not filling open requisitions, by attrition and by non-renewal of term appointments. The remainder must be by lay-off." Severance pay and termination notice will be in accord with Lab policy, and as many as possible of the affected employes will be notified by the end of April. The Personnel Office will do everything possible to help the employees involved in the reduction find other employment.

No Student Tours

Due to impending budget cuts at the Laboratory, the high school tour program has been cancelled.

For the past five years, during the spring and fall months, high school science classes have been coming on site for guided tours. This spring, tours were scheduled to start on April 2 and run through May. Schools with reservations for this season will be notified of the cancellation by mail or by telephone.

No decision has been made yet on continuing the public weekend tours of the Lab this summer.

Visitor From CERN

Doug Humphrey

When Bryan Southworth, Editor of the CERN Courier, visited BNL recently, the National Synchrotron Light Source was one of the stops on his tour. Inspecting the Booster Ring at the NSLS are (from left) Martin Blume, Associate Director; Neil Baggett, liaison physicist for High Energy Physics; Southworth; and Arie van Steenbergen, Project Head, NSLS.

From Five To One

At the time of day when most people are clearing off their desks before going home, Dick Fuka is just beginning to sort out the work on his. Fuka is one of the few BNL employees who works regularly at night. Other Lab personnel like police and fire-fighters work rotating shifts around the clock, but Fuka is on the job Monday through Friday from a quarter of five in the afternoon to a quarter of one in the morning.

A Senior Specialist in the Photography and Graphic Arts Division, Fuka switched over to nighttime work about ten years ago. Before that, he had been working ordinary daylight hours since coming to the Lab as a nineteen-year-old in 1949.

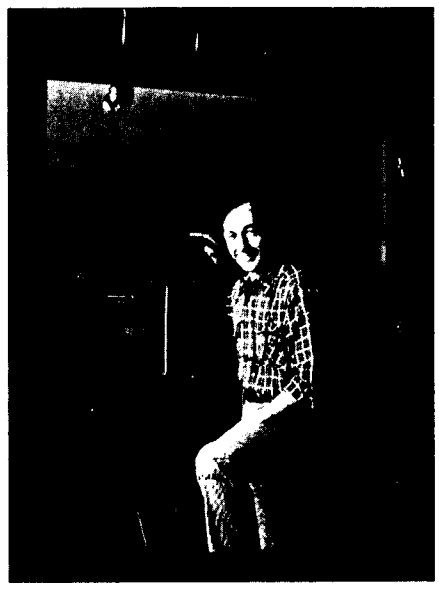
"I'm a night person," says Fuka. "When this position opened up, I was the only one in the division who wanted it. After 9 p.m., I do my best work."

All alone at night in Building 118, Fuka is constantly moving from one job to another. He prints pictures, processes film, and makes negatives, transparencies, slides and diapositives. Often, he takes care of rush jobs. "The night goes faster if I have a nice big pile of work," he says.

Sometimes, his work takes him to another building. Over the years, Fuka has heard most of the BNL Lectures from the lofty heights of the projection booth at Berkner Hall. As the lecturer intones "next slide, please," it's usually Fuka who obliges. The only time he might be seen at these nighttime BNL functions is before and after an event, when he picks up or returns slides and other visual aids.

Although his work is pretty much anonymous and solitary, Fuka says he never feels lonely. In Building 118, he works with the radio on. "I love rock and roll music, and even though I can't carry a tune, I carry on anyway," he says. "One time a patrol officer came by making rounds of the place and found me singing and dancing in place as I worked on a machine."

As a safety precaution, police check the building regularly. Fuka also calls into Police Headquarters twice each night. "I'm never spooked



Mort Rosen

Dick Fuka, Photography and Graphic Arts Division, stands next to a copy camera that he uses to make negatives of printed circuits, plans, drawings and other original art work.

though. That's probably because I don't mind the dark and I'm very well in tune to the building noises," says Fuka. Occasionally, the day-people work at night and are bothered by all the creaks, groans and knockings that they never notice during the bustle of the day. Fuka has all the sounds identified.

Since he has been working night shift for ten years, he has a regular routine. "I eat dinner before I come, then I work straight through with just a snack in the middle," he says. "By the time I get home at 1:00 in the morning, I'm starved. So I raid the refrigerator and settle down to eat in front of the TV. I love old movies -the ones with movie stars like James Cagney, Betty Grable and Humphrey Bogart. To me, they are classics. Most movies nowadays have great photography but terrible plots."

After polishing off his late night meal and washing it down with a late, late movie, Fuka is usually in bed by 2:30. But although he's a night owl, he doesn't lounge around during the day. He's usually up by 9:30 in the morning and busy with a project. Says Fuka, "You know the old complaint about how there aren't enough hours in the day and isn't it too bad we have to eat? Well, in my view, it's too bad we have to sleep."

AUI Founding (continued)

of the nation's scientific talent and industrial activities are concentrated in the northeastern states, it was proposed that a new laboratory be established near New York City."

The Institutions Unite

From January 16 on, the proposed laboratory generated considerable correspondence between George B. Pegram, Dean of the Graduate School of Columbia University, and Leslie R. Groves, Commanding General of the Manhattan District of the Corps of Engineers (the predecessor of the Atomic Energy Commission). It was also the subject of several meetings of representatives of northeastern institutions. Originally 21 groups from between Philadelphia and New Haven met to establish a laboratory, but along the way, some institutions withdrew while the others were joined by the "opposition" —scientists from the Cambridge, Massachusetts area who had wanted the laboratory near them. When Groves said there could be only one laboratory, the opposing groups agreed to work together. Their agreement was formalized on March 23 with the unanimous approval of this resolution:

That Columbia University, Cornell University, Harvard University, Johns Hopkins University, Massachusetts Institute of Technology, University of Pennsylvania, Princeton University, University of Rochester and Yale University, being interested in promoting and establishing in the northeast region of the country a Government research laboratory for nuclear science and in cooperating with other institutions of this region in the operation of such a laboratory, do now join for the furtherance of these interests in an association through representatives duly authorized by the heads of these universities, to be known as the Initiatory University Group.

From IUG to AUI

As Ramsey pointed out, "The Initiatory University Group was often called by the letters IUG for short —fortunately it was not pronounced *ugh*."

Ideas are inexpensive, but implementing them costs money. For example, it fell to Ramsey to hire IUG's first employee. This was Mariette Kuper and, says Ramsey, "The first assignment I gave Mrs. Kuper...was to figure out how she could possibly be paid." She must have completed this task successfully because Mrs. Kuper was with BNL until her retirement in 1974.

Actually, IUG was operating under an interim arrangement where Columbia University charged some IUG expenses to its existing contract with the Manhattan District. By April 3, a formal supplement was made to that contract for IUG expenses.

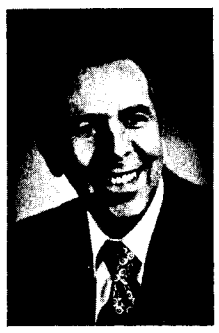
When the nine universities agreed to form a corporation, they sought a permanent name to replace their "initiatory" title, IUG. As explained in the AUI report:

The name for the corporation has considerable history. Dean Pegram used "Universities, Inc." in drafting a possible scheme of organization in March. The legal counsel submitted a list of possibilities, including "University Institute of Research," "AUI," "Atlantic University Research," "University of Advanced Research." Dean Pegram recorded a number of experimental abbreviations including "Univas, Inc.," "Nures Corp." (*Nu*clear *Res*earch), and "Pyjohmitch Corp." and "Phytch Corp." formed from the initials of the nine universities. The final decision was made at a meeting of the Committee on Incorporation on June 6, 1946, where "Associated Universities, Inc." was adopted.

— Anita Cohen

The history of AUI and BNL will be explored further in subsequent* Bulletin *articles.

Retiring



Joseph P. Disparti

Howard Jewett

Michael Czepak

—photos by Rosen

Michael Czepak retires today from his position as Electrician in Plant Engineering. He came to the Lab in 1957. Czepak and his wife "expect to stay on Long Island for the time being." In addition to a little traveling, he plans to "do some fishing and other things I couldn't do before."

Joseph P. Disparti, an Electrician, Group Leader in Plant Engineering, retires today after more than 25 years at the Lab. His immediate plans are to stay on Long Island and "work on an extra large garden this year, because I have plenty of time!" Other than that, Disparti expects to "take it one day at a time."

Howard Jewett retires March 31 from his position as Construction Inspector in Plant Engineering. He came to the Lab in 1957. Now, Jewett said, "My wife and I expect to do a lot of traveling." When they're not heading south, Jewett will be involved with his hobbies and with working around the house.

Serious Monkey Business

Tiny monkeys—those familiar hat-tipping partners of street corner organ grinders—may soon be cast in a much more serious role as aides for the nation's hundreds of thousands of severely paralyzed persons.

Early results of a pilot program have shown that capuchin monkeys, which normally romp through the jungles of South and Central America, have the manual dexterity, intelligence and loyalty to be what a seeing eye dog is to a sightless person—and much more.

Supported by the National Science Foundation and the Paralyzed Veterans of America, a program at the Tufts-New England Medical Center Hosptial in Boston has been started to see if it is feasible to train capuchins. The program is directed by Dr. Mary Joan Willard. Her long range efforts are aimed primarily at providing simian helpers for persons who are confined to wheelchairs with limited or no use of their arms and legs.

Capuchins mature at three-and-a-half years of age, are about 18 inches tall, weigh between four to 12 pounds and have been the favorites of travelers and monarchs through the ages. Their lifespan in captivity is 30 years, giving them a working career potentially three times that of a guide dog.

Although six capuchins are now in training in Willard's laboratory, only one, a three-year-old female named Hellion, is now placed in a home environment with a quadriplegic. Females are used because they are less aggressive. Her owner, Robert, is a 24-year-old quadriplegic, paralyzed from the shoulders down. The quadriplegic communicates his needs to Hellion by aiming a small laser pointer to the object he wants her to manipulate. The laser beam and a verbal command indicates what she is to do with the object.

Hellion has been taught many skills and performs her assigned tasks with at least 90 percent reliability, Dr. Willard says. Hellion can open a refrigerator door, take out a plastic bowl, carry it to Robert's feeding tray, insert it in the slot in the tray and remove the lid. She then removes a spoon from the tray and feeds Robert. A clicking sound made with the mouth signals Hellion when Robert wants another spoonful. Hellion also can place a cassette into a tape recorder, open doors for the wheelchair, turn lights on and off, and move objects from place to place following laser commands. She activates a battery operated mini-vacuum cleaner and pushes it wherever the laser indicates and gets a dust rag and dusts where indicated.

In Memoriam

J. Georges Peter, one of the principal architects of the BNL site, died on March 21 in Gloucester, Mass., at the age of 79. He was born in Geneva, Switzerland, came to the United States to enter Harvard and obtained a BS and MS degree in Engineering. He taught at Harvard in the 30's and worked at the MIT Radiation Laboratory during World War II before going to Brookhaven in January 1947 as head of the Department of Architectural Planning and Plant Maintenance. He contributed greatly to the transformation of the Lab site from a collection of army barracks to an outstanding research facility. Peter retired in 1966 as director of Architectural Planning.

Volunteers Wanted

A limited number of healthy volunteers, both men and women, are wanted to participate in a clinical study to determine the biological distribution of radioactively-labeled and heated red blood cells over a 24-hour period. The study will require two one-night stays in the Hospital of the Medical Research Center. For further information, call Ext. 3672.

Lecture Reminder

Francine Berger, president of Speechworks, will give a lecture on "Assertive Communication" at Berkner Hall on Wednesday, April 1. The lecture will begin at 7 p.m. and is open to all employees and their guests.

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Published weekly
for the employees of
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B Is For Books

Parents of younger children should plan to stop by at the Book Fair next week Tuesday through Thursday, March 31 to April 2, from 11 a.m. to 1 p.m. in the Recreation Building. Sponsored by the Upton Nursery School, the fair will feature a variety of books specially selected by the staff to please children from pre-school age to early teens. In addition, there will be books on parenting, cooking, crafts, hiking and travel.

A special attraction at the fair will be demonstrations of the Japanese art of origami, or paper folding, with instructional books and origami paper for sale.

This event marks the beginning of the school's enrollment drive for September. Interested parents may take this opportunity to visit the school and meet the teachers. Classes are offered for three and four-year-olds, two and three mornings a week.

Vendor Seminar

"Applications of Computerized Spectrophotometry" will be the subject of a seminar to be presented by the Varian-Cary Company on Tuesday, March 31 at 1 p.m. in Room D, Berkner Hall.

Fundamental concepts of computerization of UV/VIS spectrophotometry for automatic data reduction and processing and computer control of the instrument will be discussed. Examples of user related applications such as computerized multicomponent analysis, computerized enzyme kinetics measurements, and computerized survey of data from scans will be presented. Basic benefits and precautions in the approach will also be treated.

Volleyball

Standings as of 3/23/81

A Division	
No Names	6-0
Las Bolas	5-1
Mixed Ups	4-2
High Society	2-4
Nuts & Bolts	1-5
Kings Court	0-6
B Division	
Oh Nos	5-1
TNT	5-1
Lemufs	4-2
Leftovers	2-4
Puff & Stuff	1-5
Semi-Tough	1-5

High Society over Nuts & Bolts, 15-3, 15-8, 12-15. Las Bolas over Mixed Ups, 15-2, 9-15, 15-2. No Names over Kings Court, 15-5, 15-2, 15-5.

Oh Nos over Puff & Stuff, 15-10, 15-7, 15-8. Lemufs over Semi Tough, 15-3, 15-7, 15-9. TNT over Leftovers, 15-11, 15-12, 15-10.

Degree Days

March

16	17	18	19	20	21	22
24.5	37.0	39.5	38.0	39.7	36.2	29.5

Mountain Club

There will be a Mountain Club meeting on Tuesday, April 7 at 5:15 p.m. in the north room of the Brookhaven Center. White water canoeing, summer hiking and other club activities will be discussed.

Cafeteria Menu

Week Ending April 3, 1981

Monday, March 30		
French onion soup	(cup)	.50
	(bowl)	.60
Corned beef & cabbage		1.60
Turkey Brazil & rice		1.55
Hot Deli - Pastrami	(on bread)	1.65
	(on roll)	1.75
Tuesday, March 31		
Cream of cauliflower soup	(cup)	.55
	(bowl)	.65
Roast top round of beef & 1 veg.		1.60
Seafood creole w/rice		1.60
Hot Deli - Grilled Reuben		1.60
Wednesday, April 1		
Chicken vegetable soup	(cup)	.55
	(bowl)	.65
Baked lasagna & 1 veg.		1.50
Beef hash & 1 veg.		1.55
Hot Deli - Roasted fresh ham w/barbeque sauce	(on bread)	1.65
	(on roll)	1.75
Thursday, April 2		
Navy bean soup	(cup)	.55
	(bowl)	.65
Southern fried chicken & 1 veg.		1.55
Spicy chili w/rice		1.55
Hot Deli - Diced beef w/peppers & onions	(on bread)	1.65
	(on roll)	1.75
Friday, April 3		
Seafood chowder	(cup)	.60
	(bowl)	.70
Yankee pot roast & 1 veg.		1.60
Broiled fillet of fish & 1 veg.		1.55
Hot Deli - Roasted turkey breast	(on bread)	1.65
	(on roll)	1.75

Arrivals & Departures

Arrivals

James M. Johnson ..... Safety and E.P.
Sharol Owens ..... Safety & E.P.
Kathleen M. Walker..... Safety & E.P.

Departures

Charles Boampong ..... Energy & Env.

Fruit Yields

What are realistic yields for various fruit plants? For **small fruits,** the Cooperative Extension Association of Suffolk County, in conjunction with Cornell University, says that the following can generally be expected:

grapes — 15 pounds/vine
strawberries — 4-6 quarts/bush
currants, gooseberries — 5-8 quarts/bush
elderberries — 10-12 pounds/plant

Most **fruit trees,** the Association says, begin bearing fruit from 3 to 4 years. This chart indicates average yields at 6 and 10 years.

Tree	At 6 yrs.	At 10 yrs.
Standard Peach, Dwarf Apple	1-3 bus.	3-5 bus.
Semi-dwarf & Spur-Type Apples	1-3 bus.	4-10 bus.
Standard Plum	1-2 bus.	3-5 bus.
Dwarf Cherry (North Star, Meteor, Suda Hardy)	1-2 pks.	2-3 pks.
Standard Montmorency Cherry	2-4 pks.	8-10 pks.

Phone Facts

One advantage of the new telephone system is that it will be much easier to place off-site calls. As of April 6, the only decision you will have to make will be whether to use outside access code 8 (FTS) or 9 (other).

As a general rule, dial 8 for FTS if the call will be long distance (off Long Island and outside the Metropolitan area) and if it is expected to last longer than three minutes. For all other off-site calls, use access code 9.

To see how much this simplifies things, look at the center of BNL's phone directory. The present combination of eight possible calling areas and four different access codes makes it a major decision to place an outside call the most economical way. In contrast, the new system uses only two access codes to achieve the same result.

Bowling

Green League

The Light Source extended their lead to 14 as they took 9½ from the Trouble Shooters. The Old Timers II lost 11 to the 76'ers. The Blue Jays took 7 from the Pinball Wizards with N. Parrinello rolling a 206 and D. Stelmaschuk 201. For the losers, R. Eggert had a 208. The Sparks took 11 from the Old Timers with J. Carroll bowling a 214. The Phoubars split 5-6 with the Strangers with B. Sells bowling a 208.

Pink League

Good series bowling by Marge Stoeckel 194/488, Mary-Grace Meier 193/484 and Helen Keeley 182/480. Good single games by Deb Johnson 200, Ellie Kristiansen 191, Renie Rosati 173, Audrey Blake 163, Ellie Adams 163, Karen Alberico 159, Dottie Marelli 155. The Pinsplitters are in first by 5.

Red League

The Designers shut out Isa Team 11-0 with M. Iarocci rolling a 222/637 and E. Sperry 617 gross. The 76'ers took the Old Timers II 11-0 with R. Larsen bowling a 215/604 gross. The Sandbaggers won 11-0 over the Freon Loaders and the Strangers split 6-5 with Phoubars. W. Vanzwienen grossed 607. The Old Timers lost 11 to the Sparks.

Purple & White League

The Unpredictables and the Razor's Edge each won 7 reducing the Flounders lead to 2 points. Jim Petro rolled high series 608 with games of 184/210/214. Kay Conklin had high game with a 215. Mary Scheidet converted the 3/7/10 and Jeanne Penoyar the 3/9/10. Other good games were bowled by Bob Jones 211, Ed Meier 211, Ted Erickson 210, Walt Milian 207/203, Ken Riker 206, John Connelly 202, Lenny Kalmar 203, Ed MacDougall 202, Sharon Smith 193, Fran Brown 186, Mickey Haller 184, Ginny Walker 187/181, Pat Manzella 182, Gail Schuman 180.

Bowling in the L.I. Industrial Tournament, the BNL team moved from 13th to 7th position. Good games were bowled by R. Adams 198, K. Riker 199, R. Larson 207, E. Meier 210.

Opening Tonight

The BERA Theater Group will present "Feiffer's People" by Jules Feiffer, and "GOD" by Woody Allen, two one-act adult comedies, on March 27, 28 and April 3 and 4 at 8:30 p.m. in Berkner Hall. Pictured is the cast of "Feiffer's People," (from left) Neil Baggett, George Reiter, Ken Cyzscinski, Richard Mould, Linda Gregory, Linda Warren, Penny Baggett, Connie Fuchel, Joyce Ricciardelli, and (center) Lizzie Soenarjati. In this play, a collection of vignettes, Jules Feiffer touches each of us by taking a satirical look at what motivates people. Simply said, Feiffer's people are mirrors of ourselves. Tickets are $3.00 for adults and $2.00 for senior citizens and students under 18. For further information call Liz Russell, Ext. 3940.

Classified Advertisements

Autos & Auto Supplies

73 VOLVO WAGON - 4 cyl, 25 MPG, fuel injection, a/c, am/fm, runs well, good body. $2,000. Ext. 4407.

73 DODGE DART - Swinger, excel cond, 15 MPG, many new parts, 2 snows. $1,300. Ruth, 924-4097.

WHEELS - (2) Cadillac El Dorado $10. ea. 732-6266 after 5 p.m.

SHOP MANUALS - and Service Specifications, 1956, 1957, 1965, 1969 Ford Mercury, 1965 Plymouth. Artie Rosenka, Ext. 2957.

77 FORD LTD II - Sta. Wgn, V8, a/t, p/s, a/c, 28,000 mi, good cond. $3,500. 289-5770 after 6 p.m.

SPARK PLUG WIRES - 4,6, and 8 cyl. $5. Bill S . Ext. 4434.

79 TOYOTA COROLLA - 2 dr. sedan, 4 spd, am/fm 8 trk, rear defroster, excel MPG, clean in & out. $3,900. Paul, 286-2517 day or night.

76 CHEVY CAMARO - LT, a/t, light blue velour int., spoke wheels, radials, very clean in & out. $4,200. Ext. 7187.

66 FORD - Pick up, '69-390 engine, long bed, new clutch, good cond. 281-3988 after 6 p.m.

76 VOLARE - 4 spd trans., fold-down rear seat. $2,250. 286-1214.

70 DUSTER - a/t, best price. Ext. 4128 or 286-9471.

TIRES - A78-13, w/w one new, two almost new, all mounted on (4) hole wheels. $45. 281-8612.

CHEVY C-10 PICK UP - 31,000 mi, 250 6 cyl, p/s, p/b, a/t, am/fm 8 trk, radial tires, damage 1/fender. $3,800. neg. Ken, Ext. 2350 or 758-9334.

72 PLYMOUTH DUSTER - good MPG, very reliable, bright blue/black. Asking $800. Ext. 2905 or 473-0836.

75 HONDA CB500T - windshield, luggage rack, crash bar, many more extras, garaged, 1400 mi., mint cond. $1,500. 289-4270.

73 FORD TORINO - 2 dr, a/c, p/b, radials, 70,000 mi, mechanically sound, new battery. $800. 654-8865.

78 DODGE ASPEN - 6 cyl, a/t, a/c, landau roof, white, like new. 732-8241 after 5 p.m.

76 MG MIDGET - 36,000 mi, minor body damage, good cond. Asking $1,900. 669-4479.

79 CHEVY PICKUP - excel, 4WD, H.D. susp., power angle plow, stereo, extras. $8,000. Marcie, Ext. 2514.

WHITE ROLL BARS - for mini pickup, excel cond. $100. 698-3030 after 7 p.m.

77 FORD LTD - 54,000 mi, excel cond, fully powered, a/c, am/fm stereo, fabric seats. $2,800. Ext. 2901 or 736-1673 after 5:30 p.m.

SHOP MANUAL - and body manual for 1975 Olds, $10. Both. Ext. 4769.

TIRES - (2) 10 ply 950x16.5 rated tubeless, used 4,000 mi, paid $149. Asking $95. ea. 399-4534.

RIMS - 14", fit Chevy & other GM cars, w/tires, $3. ea. or 3 for $10. Ext. 4022.

67 DODGE DART - 6 cyl, new tires, battery, muffler, alternator, runs good, 21 MPG, needs carburetor, best offer. Ext. 7517 or 246-9210 eves.

71 FORD TORINO - 2 dr, 6 cyl, a/t, high mileage, but very nice cond. mechanically. Body is exceptionally solid & clean, int. is very good. $550. H. Sauter, Ext. 3783.

74 "412" VW - 59,000 orig. mi, am/fm stereo cassette, good gas mi. Leroy James, Ext. 4582 or 286-1615.

65 MUSTANG - recently painted, good cond, Classic. 929-4752 after 5 p.m.

67 IMPERIAL - immaculate inside/outside, leather, Michelin, needs brakes, best offer over $500. Medaris, Ext. 7676.

80 HONDA TWINSTAR - motorcycle, brand new, many extras. Ext. 2482.

75 HONDA CIVIC - CC 25 MPG, very good cond, 73,000 mi. Joe, Ext. 2898 or 744-4086.

74 INTERNATIONAL TRAVEL-ALL - 4 wheel drive. $1700. 286-1829.

72 CHRYSLER - Sta. Wgn., good cond., new brakes, master cylinder, 6 good tires. Frank, Ext. 3509.

66 DODGE - 2 door, 6 cyl., 48,000 org. mi., runs excel, good gas mi. 727-0216.

77 FORD LTD II - Wagon, V-8, a/t, p/s, a/c, 28,000 mi., good cond. $3,500. Ext. 4045 or 289-5770 after 6 p.m.

69 BUICK - Le Sabre - 4 dr Sedan, a/t, p/s, p/b, a/c, excel throughout. $800. Ext. 4647 or 273-5574 after 6 p.m. or wknds.

74 FORD - Maverick, red, 2 dr, 6 cyl, a/t, p/s, good cond. $1600. Ext. 2377 or 283-5865.

68 MUSTANG - Convertible, a/t, 289 ci, $500; 69 Ford van, 6 cyl, manual, needs battery, $500. Ext. 4278.

70 FORD VAN - good cond, 1 ton, vented sky light, am/fm cassette deck, roof racks, pass window, panelled & rugged interior, trailer hitch. $1150. Mike, Ext. 4987.

Boats & Marine Supplies

15' SAILBOAT - comet class, hull fiberglass, alum. mast, S.S. rigging, sails, needs finishing. $300. Dan, Ext. 4403.

14' 50 HP CREST LINER - nice small family boat, fiberglass, must see. Asking $2,250. 588-0424.

SUNFISH SAILBOAT - w/trailer, good cond, extras. 929-6421 after 5 p.m. wkdays.

1978 30' CATALINA - wheel Dodget VHF R. depth finder, holding tank, mint cond. Dinos, Ext. 4666.

318 CU. CHRYSLER MARINE ENGINE - fresh water cooled, heat exchanger included, runs very well. $500. Don M. Ext. 2022 or 878-2215 after 6 p.m.

TIRE & RIM - size 4.80x12" for boat trailer, new, never used. $40. John, Ext. 4312.

SAILBOAT - 14' phantom w/jam cleat, dolly, roof racks. $750. Jerry, Ext. 7611, or 467-1390.

Miscellaneous

BEDROOM SET - queen sz. bed, w/mattress, 2 bureaus, night tables, excel cond. 744-4838.

GOLF CLUBS - complete set, old & well used; golf cart - good cond, decrepit bag, best offer. 589-3608.

WHITE PORCELIN KNOBS - and assorted cabinet hardware, various sizes. Walt, Ext. 7154.

BABY ITEMS - crib; Cosco infant seat; walker, etc. 924-0030.

SEARS - automatic garage door opener, receiver or transmitter inoperative, all else good. $40. Ext. 3992 or 298-4172.

TURNTABLE - Dual model #1019 w/new Shure cartridge (78,45,33-1/3 RPM) Sell as is. $50. Alyce. Ext. 2902.

BEDROOM SET - twin bed w/mattress & box spring, 2 dressers, vanity nitestand. Needs some refinishing. Ext. 2051.

EASTER CHOCOLATE - milk or white lamb's, bunnies, cross, personalized eggs, lollipops, Big Bird, Cookie Monster. Jackie, 567-5947.

DINING CHAIRS - 4 new leather & teakwood chairs. Orig. $100. ea. Asking $280. Ext. 2072.

PERSIAN RUG - fine wool Kashan, 4'6"x7' Medallion, red ground w/blue. 744-6874.

TV - B&W 21", $25. Gail, Ext. 3338.

SMALL PLAY PEN - $10; (2) black living rm chairs, green slip covers, $150. 289-1754.

CB BASE STATION - and antenna, hardly ever used. Diane, 744-3995.

BICYCLE - girl's 20" Cactus Flower by Huffy, $30. or best offer. 698-3724 eves.

BICYCLE - 21" Motorbecane, vitus D/B frame, excel components, in brand new cond. Ext. 2495.

POOL - 18' round & accessories. $120. Dick, Ext. 7635 or 689-8605.

DOLOMITE SKI BOOTS - women's size 8, shoe size approx. 7, brown, worn once, excel cond. $60. or best offer. Ext. 7203 or 286-0745 eves.

MINK CAPE - light brown, skins in excel cond. $300. 473-1748.

BICYCLE - girl's 20", 3 spd w/child carrier. $45. Al, Ext. 7588.

DOORS - exterior, new 2'8" x 6'8" x 1-¾", 3 windows L&R, pre hung, $110. ea. 924-6582.

FIREPLACE - Hydro Hearth grate, $50. Frank Rumph, Ext. 4581 or 588-3565.

INDIAN HEAD PENNIES - most dates, 1880-1889. Greg, Ext. 7960.

BICYCLE - 10 spd, 26" wheel, Iverstone. Almost new. $65. Ext. 3106.

RUGS - 11'8" x 13'2", w/pad, green, $20; braided oval, 5'8 "x 43" green, $5. Nancy, Ext. 2497 or 281-2767 eves.

REFRIG - GE 19 cu. ft. side by side, Avocado, 4 yrs. old, perfect cond. Best offer. Ann, Ext. 4959.

ELECTRIC DRYER - apt. size, 115V, 2 drying cycles plus fluff, like new appearance and operation. Ext. 4945.

KEROSENE HEATERS - Radiant King & Noble, make offer. 581-0468 anytime.

MAGNAVOX - Odyssey 2 Video Game, hooks up to TV, complete w/49 character alphabet & number keyboard, (2) eight position hand controls, 12 game cartridges w/17 games, all different. Kevin, 475-4394.

COUNTER TOP STOVE - $75; wall oven, $75. Ext. 7785.

POODLE PUPPIES - standard size, snow shite, males - $50. E. Edwards, Ext. 4027 or 286-1121.

PIPE - 6 lengths used galvanized 2" I.D. pipe in 21' sections, $10. per section. 588-5172 after 6 p.m.

KART CONVERSION - hardly used, purchased in 1980. Ext. 2496.

REINDEER SKIN - approx. 3' x 5', best offer. Dennis, Ext. 4259 or 736-2534 after 6 p.m.

LIVING ROOM - sold separately or as a unit, 3 tables; 3 chairs; 3 table lamps, 7' sofa, 2 commodes, mint cond. Best offer. Ext. 2065 or 981-1327.

FRENCH PROVINCIAL - dining room set, 66" x 42" w/18" leaf, 2 arm chairs, 4 regular chairs. Like new. $500. 732-0819.

POOL - 18 x 48 filter w/pool, accessories incl. for $300. Gloria, 281-1795 eves.

FIR & SPRUCE TREES - 20" to 40" U-dig, 2 for $7; 2 old table lamps w/glass shades. $150. ea. 727-1617.

CHARM HOLDER - 14K heart shaped, orig. $45. sell for $30; (2) earring pierced diamond chips. $8. Ext. 7187.

OPERA TICKETS - (2) Sunday April 19th, NYC Opera "La Boheme", $25. ea. Ext. 7785.

DOG CRATE - excel cond, wooden, for shipping lg. dog. Adrienne, Ext. 4393 or 669-4216 after 5 p.m.

MACRAME - beautiful hand made, good gift ideas. Try Easter baskets, reasonable prices. Sonia, 231-5131.

BICYCLE - 3 spd. Columbia, male & female, both in excel cond. 878-2484.

LIVING ROOM CHAIR - rose colored, good cond; Sewing machine in oak cabinet, good cond. Trade name is FREE - Westinghouse. Mary, 727-0552 after 6 p.m.

AIR TIGHT STOVE - Gibralter II, large cooking surface, brick lined firebox, sacrifice. 475-6938.

TV - 19" color Admiral deluxe solid state, excel color, $145. 924-7025.

CONTEMPORARY SOFA - good cond, $100; modern lounge chair & ottoman, new covers. $50. 567-2714.

BICYCLE - girl's 20" pink, excel cond. $30. 289-0753.

STRAWBERRY PLANTS - Ready now for planting, healthy, best 2 varieties, 10 plant min. - $2. Chris, 878-0621.

GAS WALL OVEN - Tappan, coppertone, working cond, $50; dual 1215 turntable w/cart, $25. 473-3604.

PHILHARMONIC TICKETS - Saturday, April 18, excel seats, excel program, discount price. Joe, 286-9260 eves.

TAPE DECK - Tandberg 900x reel to reel, $350; Scotch 203 tapes, $5 ea. Augie, Ext. 4220.

BALLET TICKETS - Swan Lake, Act II Coppelia Apprentic Co. of Frank Ohman, March 28, 8 p.m., Center Moriches. Ext. 2829 or 878-9418.

FIREPLACE ITEMS - glass doors, $25; brass screen (36" x 27" opening), $10; air cond, old but works, $35; push-type lawnmower, $15. John. Ext. 3292.

BIKE - Vista 12 spd, 23" men's frame, $160; rabbit hutch, $10; aluminum pool ladder, $15; 265-7089.

SKI BINDINGS - Salomon 202, used one season, $15; carpet, 12' x 14', orange, w/pads, $65. 929-4886 after 5 p.m.

BLACK LABRADOR PUPS - AKC reg. m/f. Horn, 281-0173 after 5 p.m.

DRESSER - 6' triple Mediterranean w/matching framed mirror, excel cond, will deliver. $295. 744-8680.

ROLLER SKATES - Shoe type, detachable. $10. 744-8680.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed or national origin of the applicant.

For Sale

WESTHAMPTON AREA - mobile home 12'x60', 2 bdrms, eik, stove, refrig, washer/dryer, laundry rm, 2 tool sheds, porch, patio, wooded landscaped plot. $10,500. 698-2501 after 5 p.m.

N. SHOREHAM - assume $20,000 6% mortgage; owner will hold 2nd mortgage on 4 bdrm Colonial, eik, fp, 3/4 acre, beach rights. 928-4068 after 5 p.m.

PORT JEFFERSON STATION - split level house w/garage, 8½% assumable mortgage. $31,500. 928-7926 after 12 noon.

For Rent

MASTIC BEACH - studio apt., priv. entr. w/util. $225/mo. One month security. 281-8144.

E. PATCHOGUE — 3 bdrms, 2 baths, eik, l/r, d/r, garage, $450/mo. + util. immediate occupancy. 286-8281 after 5 p.m.

BERKSHIRES CHALET - 3 hrs. from NYC; 3 bdrms, 2 baths, fully equipped kitchen, elec. heat, deck w/spectacular view, near lake, hiking trails, near ski areas, cross-country skiing on property, ½ hr. from Tanglewood Theater (summer stock). 929-6946 after 6 p.m.

BELLPORT VILLAGE - large furnished room in quiet neighborhood, some privileges. 15 minutes from Lab. 286-8356.

SHOREHAM - 3 bdrms, 1½ bath, beach rights, starting May or June, for one year or more. 744-3481 eves.

YAPHANK - Townhouse, 5 min. from Lab, l/r, kit, dinette, 3 bdrms, 1½ baths, bsmt, garage, all appliances. Recreational facilities. 765-2102.

SHOREHAM - for month of July. Simple walk down path to beach, excel for visiting scientist and family. $400. includes util. and furnishings. 744-2295.

REMSENBURG - 3 bdrm, very secluded on priv. road, fp, will consider summer or year round rental. Ext. 3698.

RIDGE - 10 min. from BNL, fully furnished & carpeted, 1 bdrm apt. $275/mo. incl. all util. Female only. Ext. 7996 or 929-6034.

Wanted

WITNESS TO ACCIDENT - on Upton Road near Brookhaven House, March 23 at 5 p.m., between blue car and brown truck. Ext. 7772.

COMPLETE PINTO - wanted for parts, 1971 to 1973, reasonable. John W. Ext. 4539.

FLOOR MODEL BELT SANDER - drafting table w/stand. Walt, Ext. 7154.

APARTMENT - 2 bdrm, Miller Place/Sound Beach/Mt. Sinai/ Rocky Pt. areas. For 2 school teachers. Reliable. 331-2022.

PORT-A-CRIB - Ext. 2957.

POWER LAWN MOWER - call Don. Ext. 3493.

TRAINS - Lionel, any "O" gauge or "027" gauge cars, track, and equip. Frank, Ext. 3120.

HOUSE - 3 to 4 bdrm, rent for 1 yr. beginning Sept., visiting scientist and family. Ext. 3786.

TABLE SAW - commercial quality, 10 or 12" complete. 878-8967 after 5 p.m.

LUGGAGE CARRIER - moulded plastic for auto roof, reasonable. Dennis, Ext. 4259 or 736-2534 after 6 p.m.

WHEEL CHAIR - reasonable please. Nora, Ext. 2926.

TOPSOIL - one truck load for my front lawn, delivered. Dick, Ext. 2911

HOME - for delightful springer spaniel, great w/children, 10 yrs. old. Spayed, will pay all Vet expenses. Ext. 3698.

VIOLINIST - and/or Violist to play piano trios w/exp. pianist and cellist. Mary, 345-3018.

DOUBLE BABY STROLLER - good cond. Loni, 928-6332.

GOLD CUP - reasonable, Ext. 4058.

CEMENT BLOCKS - approx. 40, reasonable; also bluestone chips for driveway. John, Ext. 3292.

GE REFRIG/FREEZER - 14 or 17 cu. ft., white, good cond. Louise, Ext. 4207 or 286-2251.

Car Pools

LAKE GROVE - wish to join car pool as paying rider. Walter, Ext. 3956.

EAST ISLIP - one driver to join existing car pool. Pete, Ext. 3292 or 581-1773.

MASSAPEQUA/SOUTH FARMINGDALE - vicinity. Plotkin. Ext. 4717.

MATTITUCK - car/driver to join 4/5 person car pool. Bill Stars, Ext. 4278 or 298-9648 eves.

Lost & Found

FOUND - gold watch on top of trailer. Has been lost a long time. Ed. Bihn, Ext. 3840.

Services

Services are listed as a courtesy to BNL employees. They are neither screened nor recommended by the Bulletin.

ROTOTILLING - garden, new lawns, ground leveling, up to 1,000 sq ft. Only $18. Tom, 325-1033 or Ext. 2011.

BABYSITTER - and odd jobs for 17 yr old, after 1:00 p.m. wkdays or wkends, Wading River area. Loretta, 929-8287.

WEDDING PHOTOGRAPHER - experienced, complete coverage of day. Reasonable. Rick, Ext. 2012 or 467-1090.

ROTOTILLING - new or existing gardens, lawns. $15/hr. Free soil test. Dave, Ext. 7517 or 288-3011 eves.

PROFESSIONAL TYPING - 727-5475.

HOME IMPROVEMENTS - free estimates, bathrooms, finished bsmts, kitchen cabinets, dormers, extensions. 582-9489 after 6 p.m.

1980 INCOME TAXES - prepared by experienced tax accountant, low fee. p.m., wkends. Bob, 475-3981.

ASPHALT - paving and sealing. Bob, 475-4382.

TAXES - prepared by tax consultant, your home or mine. Reasonable. John, 732-2472.

MOTORCYCLE ACCESSORIES - for street and dirt, best prices, lab discounts. Ext. 2311.

BALLOON BOUQUETS - for Easter/Mothers Day/ Birthday/Anniversary/Get Well, also unusual personalized favors. 473-1591.

LOG SPLITTING - by machine, no job too big or small. Very reasonable. HR2-1875 after 5:30.

CARPETS INSTALLED - quick dependable service, repaired, free estimates. Jim, 821-0187 after 5 p.m.

PROFESSIONAL INCOME TAX - service by experienced preparer. Jack, Ext. 7942 or 864-2236.

CHILD CARE - for pre schoolers in Bluepoint-/Bayport area, my home. Diane, 363-5517.

SIGHT SEEING FLIGHTS - aerial photogr Long Island, Conn, New York, modern all weather aircraft. Ron, Ext. 2491.

LAWN MOWING - yard cleanup, etc. Good rates. Suffolk area. Ask for Terry, 957-6513.

MOTHER WILL BABYSIT - in own home. Mon-Fri. 8:30 - 5:00. Reasonable rates. 399-5525.

PAINTING - interior, exterior, wall paper, guaranteen job, Dutch Boy and more paints, fully insured, free estimates. Nick, 928-8911.

SANDBLASTING - trailers, chassis, any kind equipment, w/wo primer coat. Reasonable rates. 744-3968 after 4 p.m.

FIRESIDE CHIMNEY SWEEPS - fireplaces, wood, coal and oil flues, dustless removal, insured, lab discount. Bill, 584-6425.

EXPERIENCED BABYSITTER - lots of TLC, Lake Panamoka area. Reasonable rates. 929-8809.

TILE WORK - cement, terrazzo, title. Reasonable rates. Don, 281-8848 or John, Ext. 3292.

BRIDAL SHOWER RENTALS - umbrella, wishing-well, bridal seat. All for $15. 475-0037.

HANDCANE - and fiber rush. Quality work at reasonable prices. Jim, Ext. 3307 or 821-1704 after 6.

Classified Ad Policy

Deadline is 4:30 p.m. Friday for publication Friday of the following week.

1. The Brookhaven Bulletin's classified section may be used only by active and retired Laboratory employees.
2. All items for sale or rent must be the advertiser's property.
3. Ads for material acquired for resale in association with a full or part-time business cannot be accepted.
4. Ads for the sale or trade of firearms will not be accepted.
5. Ads not carried because of space restrictions will be held for publication in the next issue.
6. Ads are run only once and must be resubmitted if they are to be repeated. One ad per person per week.
7. **Property for sale or rent cannot be accepted on this form. Special Real Estate Ad Forms are available at the office of the Brookhaven Bulletin, Building 134.**

☐ For Sale: Autos & Auto Supplies ☐ For Sale: Boats & Marine Supplies ☐ For Sale: Miscellaneous ☐ Car Pools ☐ Lost & Found ☐ Services ☐ Wanted

Please print your ad below in 15 words or less using one word per block. Include name and phone number to call.

Note: The following must be completed for your ad to appear.

NAME (Please Print) .....

Employee's Signature ..... Life No. ..... Ext. .....

Send to: Brookhaven Bulletin, Building 134 (Ext. 2345).

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