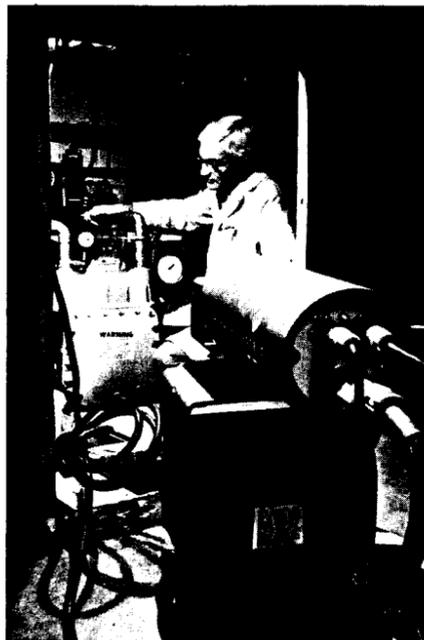




At the control panel for flash hydrolysis, in the foreground are: (from left) Gerry Farber and Meyer Steinberg, at rear, Pete Fallon and George Woodson.



Bob Doering checks out hydrogen flow meter which is being monitored by a closed circuit TV camera in foreground.

Putting Coal In Your Tank

As everyone knows, oil reserves are rapidly becoming depleted and imports more and more expensive; natural gas supplies are expected to be zero in about ten years. Where then is the fuel to come from for your car, your stove, your oil burner?

A tiny "refinery" is now in operation at Brookhaven converting particles of coal to gasoline and natural gas. The process being developed by the Process Technology Division in DAS, is called flash hydrolysis, and the research is supported by ERDA's Fossil Energy Division.

Coal is fossilized plant and animal material, which has been embedded in the earth and subject to heat and pressure over millions of years. It has long been a source of fuel for man but, in this century, was largely abandoned in favor of oil which burned more efficiently, was cleaner and easily transportable. Now, the idea is to convert the awkward lumps of coal into the easily used liquids and gases.

Simply put, the Brookhaven process is to add hydrogen to coal. In chemical terms, coal is $CH_{0.8}$ and oil is CH and CH_2 . To make oil, the idea is to add hydrogen to bring the coal up to as high as two instead of 0.8. How is this done?

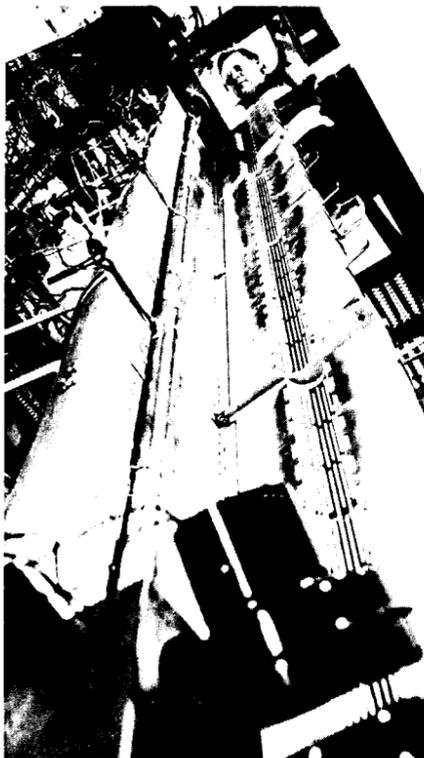
As Meyer Steinberg, head of the Process

Technology Division, explains it: "What we do is to heat hydrogen under pressure and mix it with 50 to 150 micron coal particles under pressure and heat, hold it there for a short time, say, 10-20 seconds, and then rapidly cool it down. The heat is between 700 and 800 degrees centigrade, and the pressure about 1500 pounds per square inch. The mixing and reacting is done in a tubular reactor. From the reactor, the char is separated, the gases then go to water and refrigerant coolers and the liquids are condensed out. The liquids formed are mainly benzene, toluene, xylene and light oils. The gases are methane and ethane."

So far, the Process Technology Group has been able to convert 25% of the carbon to liquids (15% benzene, 10% oils); 35% to light hydrocarbon gases (31% methane, 4% propane) and 40% char and unreacted carbon.

Their "refinery" is a \$300,000 one-pound per hour bench scale plant which is 40 feet high. Lignite, a non-caking coal from North Dakota, is the type of coal used. Steinberg says the process is now semicontinuous (the plant is in operation for three hours at a time), but he would like to make it continuous. He also feels the next step is for some-

(Continued on page 3)



Jim Smith peers down at the 20-foot reactor tube and its open clam shell heater assembly. — photo by Rosen

Quest/76 Judged Best In N.E. Competition

For the second year in a row Brookhaven National Laboratory has taken first place honors for Audiovisual Slide presentations in a competition sponsored by the International Association of Business Communicators.

Quest/76 achieved a remarkably high rating of 93 points out of a possible 100 in the judging criteria. More than 400 entries were received in all categories of the award program, and included companies from the northeastern United States which comprise District One of the IABC.

Quest/76 was designed to acquaint visitors with the overall purpose of Brookhaven, and to show them in the most modern way what makes this complex organization work. *Quest/76* is projected on three screens and has a sound track that includes music, narration and interviews.

Last year's prize winner, "Brookhaven's Quest," gave an overall view of Brookhaven, with no particular emphasis on any one area of research. This year, *Quest/76*, was aimed almost entirely at energy research, to reflect the changing emphasis of the Lab's and ERDA's mission. This year's show was shortened in spite of almost the same number of slides being used. The show was again co-produced by Carl Thien and Doug Humphrey, with the technical help of Sam Eneman, a consultant. In preparing for the show, more than a thousand pictures were taken and dozens of people were interviewed. Background music was selected from a score of sources ranging from Rampal to Joni Mitchell.

Since its first showing to the public at the Energy Fair and Open House, *Quest/76* has been viewed by approximately 50,000 people.

Election Returns

- Dixie Lee Ray, a Trustee of Associated Universities, Inc. (AUI) and former head of the Atomic Energy Commission, was elected Governor of the State of Washington. She and Ella T. Grasso of Connecticut are the only women in the history of the country to have been elected to this office. Other women who have occupied this position have done so as successors to their husbands.

Coming Our Way

The United Way flag goes up early Monday morning to signal the beginning of BNL's United Way Campaign Week: November 15-19. During the week all employees will be able to see a 10-minute film about this once-a-year fund-raising drive that unites the appeals of 97 member agencies and hospitals in Nassau and Suffolk Counties.

Reneé Flack, BNL's Equal Opportunity Assistant, who is on loan to United Way, explains the scope of this year's campaign: "\$3,788,945 was raised by our area United Way last year; this year's goal is \$4,400,000 - the need is \$5,800,000." She's working hard to close that gap.

The Laboratory and many major Long Island corporations have loaned key personnel like Reneé to help organize employee campaigns for this worthy cause. Besides showing films and speaking about United Way, she also trains all solicitors for Suffolk County's campaign.

Prior to the Loaned Executive Program, much less out of every dollar was turned over for agency and hospital services because people had to be hired to do what Reneé is doing now. Today, more than 85 cents out of every dollar collected goes to help others.

Asked about her personal enthusiasm, Reneé admits she never paid much attention before to United Way. "Without thinking much about it, I've given each year,

(Continued on page 2)



Reminding all of us of BNL's United Way kickoff are this year's campaign workers - chairmen Barney McAlary and John Binnington, publicity director Bev Goldstein, and the following department representatives and tour guides: John Grisoli, James Birtle, Larry Fuller, James Stangby, Peter Delmonte, Blair Munhofen, Joan Tiller, Ken Mohring, Frances Scesny, Bill Bottinger, Ron Peierls, Ed Shelton, Ro Piccione, Bob Powell,

Helen Kalbach, Joan Perullo, Josephine Weltz, Gail Williams, Stu Rideout, Vincent LoDestro, Francine Donnelly, Carolyn Eterno, Bonnie McNair, Elaine Rowland, Elinor McCaw, Marge Stoeckel, Carole Kerr, Jackie Larrie, April Donegain, Ted Erickson, Audrey Blake, Bob Fuchs and Madeline Windsor.

United Way (Cont'd)

mainly to put my sticker on the door to keep other door-to-door solicitors off my back." But today Renee is committed. "It made a real difference to me to visit a couple of United Way agencies to see firsthand the good work being done and exactly where my money goes." She visited Hi-Hello Child Day Care Center and Catholic Charities.

Renee has another very special reason for backing United Way 100 percent: Her foster son, who has a speech defect, receives therapy from a United Way agency. "I didn't even realize that where he goes is an affiliated organization until I became involved with the campaign this year."

BNL's goal in the United Way campaign



Renee Flack

is to raise at least \$40,000 and increase employee participation from last year's 11% to 50%. "This is still far below the percentages reached by most major companies on Long Island - and most other government labs," emphasizes Barney McAlary, campaign co-chairman. Says his fellow chairman, John Binnington, "Through the personalized departmental campaigns planned for this year, better communication about the role United Way plays in the lives of one out of every four Long Islanders should help us reach our target."

Each employee will receive a pledge card and brochure listing community United Way agencies and hospitals. Some examples of the services your contribution provides are:

- Emergency Relief
- Mental Health
- Drug & Alcohol Programs
- Family & Individual Counseling
- Day Care & Headstart
- Foster Care
- Health Related Programs
- Hospitals & Institutional Care
- Hostels & Youth Homes
- Information & Referral
- Youth, Senior Citizens & Homemaker Services

To provide strict accountability and equitable distribution of funds to the various human-care organizations, more than 90 representative community volunteers, including 171 expert accountants, rigorously check agency budgets, facilities and programs annually.

In addition, about 15,000 volunteers keep costs down by giving their time to affiliated agencies and hospitals. Among this cadre of volunteers are many BNLers who, like Renee Flack, are making sure that the United Way does indeed work for all of us. The *Bulletin* will spotlight some of their efforts during the coming month.

At BERA's Very Special Event



During intermission



Comedian Pat Cooper opened the show.



Lionel Hampton in action

The Way It Was Last Year

1976

| Employees | Department | Contributors | % Participation |
|-----------|-----------------------------------|--------------|-----------------|
| 387 | Accelerator | 36 | 9.3% |
| 123 | Applied Mathematics | 11 | 8.9 |
| 369 | Applied Science | 61 | 16.5 |
| 97 | Biology | 14 | 14.4 |
| 110 | Chemistry | 18 | 16.3 |
| 50 | Director's Office | 11 | 22.0 |
| 355 | Plant Engineering | 22 | 6.6 |
| 25 | Fiscal | 4 | 16.0 |
| 124 | Safety & Environmental Protection | 9 | 7.2 |
| 18 | Information | 2 | 11.1 |
| 54 | Instrumentation | 6 | 9.2 |
| 104 | Mechanical Engineering | 3 | 2.9 |
| 216 | Medical | 36 | 16.6 |
| 32 | Personnel | 4 | 12.5 |
| 43 | Photography & Graphic Arts | 2 | 4.6 |
| 276 | Physics | 32 | 10.5 |
| 26 | Purchasing | 5 | 19.2 |
| 54 | Reactor | 5 | 9.2 |
| 120 | Central Shops | 8 | 6.6 |
| 70 | Supply & Materiel | 1 | 1.4 |
| 51 | Staff Services | 9 | 17.6 |
| 10 | AUI | 6 | 50.0 |
| 2714 | Total | 305 | 11.0 |

Cafeteria Menu

Week Ending Nov. 19, 1976

- Monday, November 15**
 Corn Chowder
 Beef Liver & 1 veg. 1.10
 Scrambled Eggs, Sausages, fr. fr 1.05
- Tuesday, November 16**
 Beef Noodle Soup
 Knackwurst & Sauerkraut 1.05
 Sauerbraten & Potato Pancake 1.30
- Wednesday, November 17**
Thanksgiving Special
 Turkey Noodle Soup or Apple Juice
 Breast of Turkey, Dressing, Giblet Gravy & Cranberry Sauce
 or
 Baked Sugar-Cured Ham with
 Candied Sweet Potatoes & Mixed Vegetables
 or with
 Whipped Potatoes & Mashed Yellow Turnips
 Apple, Pumpkin or Mince Pie
 Small Beverage \$2.00 plus tax
- Thursday, November 18**
 Chicken Vegetable Soup
 Cheese Ravioli & 1 veg. 1.00
 Roast Chicken, Stuffing & 1 veg. 1.10
- Friday, November 19**
 Fish Chowder
 Spaghetti & Clam Sauce 1.00
 Breaded Pork Chop & 1 veg. 1.30

New York City Trip

The next group railroad trip to New York City will be on Wednesday, December 1. Departure will be at 8:32 a.m. from the Patchogue LIRR Station. The round trip fare for adults is \$2.45, children under six years ride free. Any trip to Patchogue may be used for the return trip.

This would be a good opportunity to do some Christmas shopping and see the different holiday decorations around the city. Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York, no later than November 22. Make checks payable to "Cash." Refunds will be made only if cancellations are received before noon on November 23.

Equipment Exhibit

The Varian LeakMobile will visit the Laboratory on Friday, November 19, and will be parked in the Cafeteria parking lot from 9 a.m. to 2 p.m. The exhibit will feature the 936 series of Helium Mass Spectrometer Leak Detectors.



Ushers at the Special Event were: (from left) Audrey Bangel, April Donegain, Colleen Holland, Dorothy Morelli, Elinor McCaw, Joan Perullo, and Marge Stockel. Here Audrey Bangel has just thrown a dart at the reservation board to pick a ticket holder who would get in free. Everyone who went thought it was a great show, but the turn out was very disappointing. Only 441 people attended in all, and BERA stands to lose a bundle of cash. — photos by Horton

BROOKHAVEN BULLETIN

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for the employees of
BROOKHAVEN NATIONAL LABORATORY

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CARL R. THIEN, Public Relations Officer

In Memoriam

Word has been received of the recent death of two former employees of Plant Engineering; Adam Kiefert, a steamfitter, who worked here from May 1947 to June 1960, and Herman Stoll, a plumber, who was employed from December 1954 to May 1970.

Tea, Sherry And Plants

"Grow Something Beautiful" is the theme of the fall Tea and Sherry Party sponsored by the Hospitality Committee on November 18 at the Brookhaven Center from 3 to 6 p.m. The wives of all employees are invited to attend, and women who are employed at the Lab are invited to drop in after working hours.

Many varieties of unusual and beautiful indoor plants will be on display. In addition, there will be demonstrations of dried flower arranging, Japanese flower arranging, sand-design terrariums, potting plants, and making macramé holders for hanging plants.

Free babysitting will be available at the gym, so please come and enjoy an interesting afternoon.

TUNE IN!

#423

I have just read that there will be another increase in the Social Security base salary bringing both the employer's and the employee's contributions to almost \$1,000 per year.

Has the Laboratory looked into the possibility of withdrawing from the Social Security program and investing an equal amount in the TIAA-CREF plan? Since our retirement plan is fully vested, employees would suffer no loss and I'm sure that in the long run we would receive far superior benefits.

Also, increases in Social Security payments cause a proportionate decrease in basic employee contributions to the retirement plan thereby reducing future TIAA-CREF benefits. This can cause a hardship for lower-paid employees who find it financially impossible to make additional retirement plan contributions. I feel it would be far better for both the employee and the Laboratory if this money were invested in TIAA-CREF rather than in the Social Security program.

Answer:

Legally, Associated Universities, Inc., as a nonprofit (Internal Revenue Code 501-C-3) corporation could withdraw from Social Security participation by giving the federal government two years notice in advance. The complex evaluation as to what is in the best interests of our employees has been carefully considered and it is our opinion that they are best served by continuing participation.

An excellent article researching this very problem was done by TIAA-CREF and reached the same conclusion. I'm enclosing it for forwarding on to the employee who has raised this question.

— B. McAlary

Editor's Note: Copies of the article are available upon request from the Public Relations Office.

BAFFA Concert

The BAFFA Symphony Orchestra and Chorus will present its first concert of the season on Sunday, November 21, at 8 p.m., at Our Lady of the Snow Auditorium in Blue Point.

The concert is under the direction of Mark Orton and will feature "Mendelssohn's Symphony No. 3" (Scotch), Förster's "Horn Concerto in E flat," Mozart's "Regina Coeli," and the rarely performed Dvořák "Te Deum."

Tickets are \$2.00 in advance of the performance, \$4 at the door. For ticket information call 286-0517.

Anna-Maria Vasquez is a Technical Specialist in the Microbiology Division of the Medical Department. She cultures HeLa cells investigating the effects of poly I-C on the mammalian cell cycle. The division research involves the study of growth and inhibition of cells and she says "there's always an incentive for further research. It's intriguing and a challenge."

Anna-Marie received her degree in biochemistry from Dumbarton College, Washington, D.C. She started out at BNL in the Biology Department in 1969 and moved to Medical in 1971.

An active person, she is a member of the Laboratory's Affirmative Action Committee, and also has her "100 hour" badge for volunteer work at Mather Hospital. To relax, she goes biking or swimming, or plays classical guitar. Anna-Maria travels at every opportunity.

Faces/Places



Vaccination Date Set

Swine flu vaccinations have been scheduled for Tuesday, November 30 at the gym. Over 1100 employees have registered for the vaccinations and it is expected that "operation swine flu" will be completed in one day.

The majority of those vaccinated will receive the monovalent vaccine which protects against swine flu only. The bivalent vaccine, which is a defense against both swine flu and the Victoria strain, is recommended for people with chronic medical problems, in particular:

Heart disease of any etiology; chronic bronchopulmonary diseases; chronic renal failure; diabetes mellitus and other chronic metabolic disorders; chronic neuromuscular disorders; malignancies and immunodeficient states.

Jerry Kinne of the Director's Office, who is administering the program, says that the November 30 date is later than had been anticipated, but vaccine supplies could not be guaranteed before that time. It is also hoped that a vaccine "gun" which injects the vaccine swiftly and painlessly will be available on that date. Kinne will issue a memorandum shortly advising the scheduling of the shots, and details will also appear in next week's *Bulletin*.

Coal

(Continued)

one to get to work on a larger size plant, perhaps up to ten tons per day.

Extrapolating from their bench scale plant, studies indicate that a full scale plant would require 25,000 tons of coal per day, and would produce 40,000 barrels of liquid per day and 120 million cubic feet of natural gas per day. The cost of the plant would be over \$575 million. According to Steinberg, the return on the investment would compare favorably to a chemical feedstock and pipeline gas oil refinery.

At present, a gallon of gas from coal conversion would cost more than gas from oil. As to the environmental impact, Steinberg says it would be necessary to have environmental control processes to insure that the gases and tars are cleaned.

Although there are numerous variations of the hydrogenation process, Steinberg says the Brookhaven process is unique because it is a one-step deep hydrogenation and is non-catalytic, for directly producing gasoline type materials.

Those involved in the coal conversion project are Peter Fallon, project leader, Gerry Farber who devised the small experimental coal feeder, James Smith and George Woodson who constructed the plant, analytical chemist Bob Doering, engineers Charles Waide, Stan Majeski and Bob Isler, and Otto White, Safety and Environmental Protection, who advised on safety.

Sports News

Bowling

Red League

A great night for R. Larsen with games of 222/225/219 for a 666 scratch and 696 gross series earning him his club awards. The 666 scratch is high in the leagues so far. Congrats also to R. Meier with games of 205/206/198 winning his club awards with a 609 scratch and 681 gross series. Other high games were J. Petro 223, J. Scesny 213, E. Sperry 210, J. Pukit 204.

Black & Blue League

Halfway through the first half the Hot Stuffs are 9½ points ahead of the Power Meds. It must be their new powder blue bowling shirts! Congratulations to Barney Brehm on his 678 club award with a 680 gross series. High games were Ed Sperry 214, Ellie Kristiansen 209, Debbie Antonio 192, René Flack 172. High gross pots were won by Ellie Kristiansen 257, Bob Holland 229.

Green League

The Sparks jumped to a 11½ point lead as they took eleven points from the Trouble Shooters. For the losers, A. White had a 212 game. The Got-A-Hit-Ums moved into second taking seven points from the Bubble Boys. The Blue Jays dropped to third as

the 76ers rocked them for eleven. For the Blue Jays, H. Haller had a 205 and D. Stelmashuk 221. Although the Pick-Ups lost eleven, H. Bell did make the 7-9 split. Nice rolling Howie. The Super Cools took eleven points from the Pick-Ups. J. Bartalomy had a 215. C. Dodge of the Pinball Wizzards also rolled a 200. For the Blue Jays, Tom Iarocci won a Triple Score Award by rolling three 160 games.

Pink League

The Pinsplitters have moved back into first place again followed closely by the Gutter Getters and Fiscal Assets. High games for the night were M. Stoeckel 187, R. Rosati 188/169, H. Keeley 169, S. Vanderkolk 157, K. Conkling 156, M. Brenner 154, G. Fales 153, C. Beckner 153.

Purple & White League

10/28/76: First place was taken by the Sea Gulls. Nice games were bowled by Joe Mayeski 212 and John Usher 207. Nancy Mayeski bowled high game for the women with a 168. Peg Taylor converted the 6-7-10 split.

11/4/76 was position night and the Good Guys are in first place closely followed by the Sea Gulls and the Flounders. Ken Asselta had a great night rolling a 233/593. Nice games were rolled by Dick Murgatroyd 211 and Ben Belligan 202. Betty Roche was high for the women rolling a 182/488. Nice games also by Nancy Overton 173 and June Polistina 172.

Tennis

The gym will be available for tennis Tuesday evenings from 5 to 9:30 and Saturday afternoons from 12:30 to 5:30. Players may reserve one hour per week by signing the reservation form in Berkner Hall starting at 11:30 Monday for Tuesday evening play and Thursday at 11:30 for Saturday afternoons.

The reservation schedule will be posted near the drinking fountain in the gym on Tuesdays and Fridays. The names of two players must appear on each hour reserved and no names shall appear more than once in a calendar week.

Volleyball

The 1976-77 volleyball season is about to begin and players are needed for teams in both the Men's and Mixed Leagues.

Anyone interested in playing, if not already on a team, may join the players' pool by calling Karen Schaich on extension 3623.

Gym Winter Schedule

Effective Monday, November 15, the gym will be open in the evenings for BERA scheduled activities only.

Monday - 5:00 to 9:30 p.m.

Mixed League Volleyball

Tuesday - 5:00 to 9:30 p.m.

Tennis (by reservation - sign-up sheet posted in gym)

Wednesday - 5:00 to 9:30 p.m.

Men's League Volleyball

Thursday - 5:00 to 9:30 p.m.

Basketball League

Friday

5:00 to 7:30 p.m.

Soccer League

7:30 to 9:30 p.m.

Karate

Saturday

10:00 a.m. to 12:30 p.m.

Badminton & Genereal Activities

12:30 to 5:30 p.m.

Tennis

Sunday - Gym closed

Selected Reading

Science 194, October 22, 1976

Science, values, and human judgment. K.R. Hammond and L. Adelman. 389-95

Science in a political context: One view by a politician. J.W. Symington. 402-5

Wanted — Dead Or Alive

The person

who cuts out interesting articles, tears out pages and generally leaves the Sunday *New York Times* in disarray at the Library. Other would-be readers are complaining loudly and might get out of hand if such a practice doesn't stop. Sometimes, even rational people go berserk if they are frustrated in their reading of the Sunday *Times*. Take heed.

1977 BNL Holidays

| | | |
|------------------------|----------|---------------------|
| New Year's Day | Friday | December 31 (1976) |
| Washington's Birthday | Monday | February 21 |
| Memorial Day | Monday | May 30 |
| Independence Day | Monday | July 4 |
| Floating Holiday | Tuesday | July 5 |
| Labor Day | Monday | September 5 |
| Floating Holiday | Tuesday | September 6 |
| Veteran's Day | Friday | November 11 |
| Thanksgiving Day | Thursday | November 24 |
| Day after Thanksgiving | Friday | November 25 |
| Christmas Eve | Friday | December 23 (½ day) |
| Christmas Day | Monday | December 26 |

Classified Advertisements

Autos & Auto Supplies

VW TUNE UP KIT - For 64-67 Beetle; fuse kits for VW, Opel, MG, Austin Healey, Volvo, others. Rich, Ext. 4172.

2 SNOW TIRES - Sears Dynaglass C78-13 mounted & dynamically balanced on Toyota rims. Ext. 4121.

CARE FOR A CLASSIC - With right of return in case of repair. 69 Cadillac Sedan deVille. Ext. 3267, 473-2594.

75 FORD VAN E250 - Std, 351 V8, ps/pb, low mi, radio, aux fuel tank, 2000 lb cap, 10 ply tires, mtd snows. \$4300. 585-6680.

72 AUDI - 27,500 mi. \$1300. 363-7232.

NEED A SNOW TIRE? - 1 Firestone 650-13. \$18. 744-5871.

75 YAMAHA - RD 250 B, 1500 mi, 55 mpg. Asking \$750. Neal, Ext. 4019.

72 HONDA - 350 CB, sissy bar, luggage rack, saddle bags, highway bar, fairing, mint cond. 9000 mi. Asking \$800. Dan, 277-1284.

65 HARLEY DAVIDSON - 1200 cc, customized black & chrome, mechanically sound. \$1200. Craig, Ext. 4417, 363-2393.

74 VOLVO - 144, am/fm radio, 4 dr, 65,000 mi. Best offer. 765-5344.

HOLLY CARB - 650 double pumper, brand new, still in box. \$100. Mike, 878-2486.

68 BLUE RAMBLER - Station wagon, 4 dr, standard shift, 6 cyl, good second car. \$150. Glenn, 281-7873.

2 SNOW TIRES - 670x15. \$6 ea. Ext. 3082.

65 FALCON - V8. 281-6784.

68 JAVELIN - 343, 4 spd, good cond. \$350. 924-6246.

72 MERCURY - Marquis Brougham, 42,000 mi, fully loaded, very good cond. Asking \$2100. Peter, 286-8119.

72 AMC HORNET - DL Sportabout, ps/pb, auto trans, recent brake job done, 36,500 mi. Asking \$2000. 286-3377 after 6.

74 FIAT - 128, 24,500 mi, dark blue, 2 dr, radio, radials, must sell. Asking \$1500. Bob, Ext. 3312, 924-7412 eves.

70 PLYMOUTH DUSTER - A few small dents, plain but reliable, 6 cyl, auto, ps/pb, 24 mpg. Asking \$975. Bob, Ext. 4411, 727-2346.

72 SUZUKI MOTORCYCLE - 250 cc, road & trail, mint cond. Mike, 286-0744.

15" RIMS - Reversed steel rims. \$20 for pair. Mike, 281-3460.

59 VW BEETLE - Customized, running cond. \$195. 281-3460.

66 DODGE VAN - 1969 engine. 475-3792 after 5.

70 AUSTIN AMERICA 1300 - Runs, needs tune-up, extra tires & rims. \$150 as is. Al, Ext. 3650, 269-9175 after 6.

65 I.H. SCOUT - 4 wheel drive, r&h, 4 cyl, good cond. \$650. 924-6610.

70 BMW 2002 - 4 spd, high mi, but in good shape. Asking \$1700. Ext. 4492, 286-0384.

75 HONDA - CB-360T, bought new in '76, 1600 mi, excel cond. \$850. Tony, 598-7113.

68 FORD WAGON - 307 V8, automatic, ps, excel mech cond, clean interior, needs body work, best offer. 727-7304.

SNOW TIRES - (2) 7.75x14 black walls, \$5 ea; (1) 8.55x15 w/w. \$5. W. Wall, 363-6597.

68 OLDS - 442 w/70, W-30, 455 cu in, 4 spd trans M21, Holly 660. \$900. Ext. 4742, 744-2688.

RIMS - (2) 13" 5-hole, \$2; (2) VW 5-hole, \$3. 727-5912.

76 MERC BOBCAT - Auto trans, 33 mpg, ps, 11,000 mi. \$3000. Must sell. Tom, 727-5387.

HELPER SPRINGS - Coil type, \$7; air cond recharge kit, \$3. Frank, 281-9269.

70 PLYMOUTH VALIANT - 6 cyl, 43,000 orig mi, ac/ps, tinted window shield, radial snows. \$1350. 475-9364.

65 JEEP WAGONEER - New trans & floor shifter, new heater core, alternator, rebuilt carb, good tires & brakes, 4 wheel dr, ps, 6 cyl. \$800. Steeve, 289-1313.

74 HONDA - 750 w/6800 mi, excel cond, many extras. \$1300 firm. 399-2418.

2 SNOW TIRES - Mounted on Ply rims, 8:25x14. \$30. Chuck, Ext. 3512.

72 FORD PICKUP - W/cap, 3 spd, 302 eng, steel belted tires, good shape, red, high mi. \$1650. 581-5827.

Boats & Marine Supplies

19' MFG BOAT - Fiberglass w/1971 Johnson motor, 65 hp elec start & power tilt, tilt trailer. \$1000. Will store for winter. 878-1895.

PLYWOOD DINGHY - Good cond, needs coat of paint. \$75. Ext. 3593.

SUNFISH - Almost unused w/new highlander trailer. \$700. J. Evans, Ext. 4321, 286-2247 after 6.

14' GLASBAR - W/40 hp Johnson, excel cond, many extras. \$650. 473-7862.

25' OWENS - 1960, handyman's special, motor in excel cond. \$1500. 281-6468 after 5.

SUNFISH - Light, older boat, good cond, smooth hull, sail w/window. \$270. Ext. 4238, 286-3509.

Miscellaneous

LATHE TOOL BIT HOLDERS - Asst types for bits & bornig bars. New. Rich, Ext. 4172.

PRIDE DB 20 - Receiver preamp, 12V mobile or 115V base, 20 DB gain on CB, new in carton. Al Campbell, Ext. 3354.

ANTENNA - Hy-gain 270 fiberglass 2 meter antenna w/18' Coax & PL 259 for mobile or base. Al Campbell, Ext. 3354.

TR-72 DRAKE - 2 meter mobile xceiver, hi/lo output, touch-tone pad & 21 pairs of trans/rec crystals. Al Campbell, Ext. 3354.

CLEGG - 2 meter mobile xceiver Mark III, new in carton, 15 watt or 1 watt w/5 sets crystals. Al Campbell, Ext. 3354.

LINEAR AMP - New base w/bilateral rec preamp and dual power 100/200 watts. Al Campbell, Ext. 3354.

LEAF SHREDDER & BAGGER - 6 hp Sears, used only twice. \$175, or best offer. Ben, 929-6220.

MASTERWORKS - Am/fm multiplex stereo w/Garrard turntable & 2 speakers. \$100. 286-1062.

SONY 2010 - Quadralizer, \$125; Dynaco 120 stereo amp, \$120; Garrard Zero 100 turntable w/Shure M91-Ed, \$75. All in perfect cond. Ext. 4121.

SKIS - 185 cm Hart Camaro w/Solomin 404 bindings; 210 cm Morsan metal w/Cubco bindings. \$40 a pair. Ext. 4121.

4 MARBLE SLABS - 3/4x2'x7', white, 7/8x2'x6' (2 pieces); 3/4x22", 51", red unpolished, excel cond. Ext. 2265.

TURNTABLE - Empire 3 spd belt drive. \$30. G. Friedlander, Ext. 4301.

SHIRT - Blue pullover, \$1.50; men's shoes 9M, \$12; shirts, \$3 each or 2 for \$5. Ext. 3609.

SPRING COAT - Green check, 14, \$8; blue blazer, \$4, spring coat, size 12, melon. \$8. Ext. 3609.

SPORT JACKETS - Size 38, asst, good cond, \$5 each. Jeans, \$5. Ext. 3609.

DRAFTING LAMP - Clamp or bolt on, \$18; light fixture, \$3; plant hangers, \$2.50 each. Ext. 3609.

CASSETTE TAPES - 3 Memorex MRX oxide, 120 min, 2 unused. \$4. Howar, Ext. 4605.

TANDEM BICYCLE - Schwinn, 2 additional child carriers, front & back, lights & mirror, excel cond, must sell. \$100. Dan, 277-1284.

PORTA CRIBS - Wooden, brand new, orig price \$45, now \$25; older net type, needs net repair, \$5. 473-2473.

POOL TABLE - Jordan, 7', all cues, balls, & rack, new cond. \$70 or best offer. C. Kelsch, Ext. 4203, 751-0835.

MEAT & FOOD SLICER - Rival electric. \$20. 286-1855. HUMIDIFIER - W/heater, 20 gallon; fish tanks, 20 & 5 gallon. Best offers. Ext. 3279/3388.

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

FILL AVAILABLE - Dark brown, light & white sand, U-haul, reasonable. 653-4195.

SCALE - Infant weight type, Detecto, good cond. \$20. Dunning, 732-4068.

RIDING MOWER - 3 1/2 hp, 2 spds, needs minimal work. \$50. Dunning, 732-4068.

12" B&W TV - Toshiba, \$40; hair dryer, \$5; speaker, \$20. Rosa, 698-5306.

STEREO CONSOLE - Phono/am/fm Magnavox, \$100; tape recorder, concord 884, needs work, \$60. Rosa, 698-5306.

FLASHY BAY GELDING - Western pleasure, 15.2 hands, 8 yrs old, sound, healthy, potential barrel racer, also jumps. Ext. 2402, 288-6021 eves.

PALAMINO GELDING - English pleasure, 16 hands, 14 yrs old, sound, healthy, great trail horse. \$500 or best offer. Ext. 2402, 288-6021 eves.

ELECTRIC MOTORS - 1/2 hp, 3/4" shaft; 1/2 hp w/gear reduction to 36 rpm. B. Espensen, Ext. 3992.

PATIO SET - 4 steel chairs & table, needs paint. \$20; 1/2 hp reversible elec motor. Bill Espensen, Ext. 3992.

COCKTAIL TABLE - Pennsylvania House, dark pine, 48" long. \$35. Kathy, Ext. 3725.

BASEBOARD HEATER - 6' electric, thermostat controlled. Ext. 3688.

DINING RM SET - Aged (antique?) 6 high back chairs. Ext. 3688.

DRESS & COAT - Butte knit, set, size 12, sleeveless A-line dress, tailored coat. \$25. Kathy, Ext. 3725.

HOBBIE SURFBOARD - 9'8", excel cond. \$45 or best offer. Pete, Ext. 3310.

CANNON CAMERA - TL-QL, single lens reflex, 50 mm lens & case. \$125. Ron, Ext. 4082, 289-1003.

BACONER - Hamilton Beach, brand new, \$10; expandable gate for children or pets, \$4; car radio antenna, new, \$5. Bill Espensen, Ext. 3992.

MEDICINE CABINET - 13 1/2"x19 1/2" w/light, \$10; clothes hamper, good cond. \$5. Bill Espensen, Ext. 3992.

1880 CAST IRON STOVE - Kitchen, \$150; old wooden duck decoys, \$10 each. 589-9103.

HOBBY HORSE - Child's, good cond, \$4; elec wall clock, good cond, \$3. 727-5912.

REFRIGERATOR - Frigidaire 19.3 cu ft, frost-free, avacado green, in use, excel cond. \$175. 924-6977.

10 SPD BIKE - Ladies full size, in good cond. \$60. Ext. 2408, 472-1243 after 6.

RUG KIT - Ext. 4003.

KODAK SUPER 8 PROJECTOR - \$30; Sears 8 mm projector, \$30; slide projector, \$30; Weber reel to reel tape recorder, \$15. 289-7804.

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

BEDRM SET - Contemporary, triple dresser, chest, 2 night tables, box spring, \$150. Good cond. 231-9057.

BOX SPRING - Sealy Posturpedic, queen size, excel cond. \$45. C. Nauman, Ext. 3412, 286-3764 eves.

DRUM SET - 4-piece by Ludwig, Hi Hat cymbals, very, very good cond. You've got to see it. Mike, 878-2486.

35 MM SLR - Petri w/50mm lens, internal light meter. \$77. Russ, 744-3160.

TYPEWRITER - Royal portable, \$75; Castro convertible green & tan tweed, \$100; swynomatic, \$5, all excel cond. 751-2867.

MOBILE HOME - 12x60, 2 bedrms, fully carpeted, screened patio, excel cond, Florida. \$9000. 475-5206, after 5.

ATTENTION ARTISTS - New canvases, 6x8, 7x9 only. Ext. 3609/4172.

DRYER - \$60; excel cond sewing mach, \$40. 878-9022.

2 CANARIES - 1 female, 1 male, beautiful coloring, healthy, 1 cage. Asking \$80 for both. 281-5205.

22" B&W RCA TV - Console, 2 speakers, new cond. Ext. 3392, 475-8330.

TRICYCLE - Brand new, never used. \$15 or best offer. S. Spark, Ext. 4111.

EXTINCT SCOOTER - Sears Allstate, can be resurrected w/bucket of parts, free. Roger, 363-6521.

VACUUM CLEANER - Sears heavy duty hand and auto vacuum cleaner w/all attachments, gift, never used, orig cost \$28, asking \$15. Ext. 2381/2384.

SUITCASE - White vinyl, 19"x28", very good cond. \$8. Ext. 2381/2384.

LADIES BOOTS - Beige leather, wet look, size 7 1/2 M, like new. \$8. Ext. 2381/2384.

BURRIS RECLINER - Gold, 3 position, goes flat back, good cond. \$40. Steve, 289-1313.

CB - 23 channel, provision for external speaker & PA, Boman CB-720, power mike & magnetic mount, mobile & antenna, 3 months old. \$150. Steve, 289-1313.

ENCYC BRITANNICA - 1954 ed w/all year books. \$90. 234-5487.

BOWLING BALL - Red & black, can be redrilled for purchases grip. 298-4566.

2 GI JOE DOLLS - W/extensive gear. 298-4566.

CRAFTSMAN - Heavy duty power router, 1 hp w/table & carrying case, new \$83, asking \$50. 473-7460.

UPRIGHT FREEZER - United, 2.3 cu ft w/touch-a-matic defrost, \$350; Polaroid #104 w/flash attachment, \$10. 473-7460.

CRAFTSMAN - 18" belt driven jig saw w/stand, 1/2 hp, new \$105, asking \$75. 473-7460.

SHOP VACUUM - Craftsman, multi-purpose, dry pick up only, 8 gal w/dolly, \$15; steel frame work bench, 2'x5', \$30. 473-7460.

AQUARIUM FILTER - Dyna flow mod 410, up to 20 gal tank, excel cond. \$10. 289-1069 after 6.

WINCHESTER - Model 70, cal .243, varmint model, like new, case, 3 boxes ammo. \$110. Frank, Ext. 4581.

RADIAL ARM SAW - Craftsman, 10", rear mounted controls, 2 hp, w/dust collector & steel stand. \$150. 473-7460.

STEEL OFFICE DESK - 42"x30", 4 drawers, \$25; kitchen set, chrome formica, 6 pieces, \$25. 878-1001.

STENOTYPE MACHINE - Brand new, w/case & stand, cost \$280, sell \$200. Murdock, Ext. 4688.

TAPE RECORDER - Reel to reel portable, Panasonic, good cond, other Candle, excel cond. \$15 & \$20. Joan, Ext. 4393, 399-2084.

VACUUM CLEANER - Bradford, canister w/viberbeat attachment for rugs, used a few times. \$25. Joan, Ext. 4393, 399-2084.

RECORDING TAPE - Scotch brand, low noise 202, 1.5 mil polyester on 10" alum reels, 45 reels. \$4/reel or package deal. Bob, 744-3361.

UNIVOX GUITAR AMP - Guitar, mic & organ inputs, reverb & tremolo controls. Ext. 3270.

ICE SKATES - Men's size 6 & 8, ladies size 5. \$8/pr; child's desk & chair, \$7. 289-0413.

ORGAN - Thomas/Heathkit, 2 manual spinet, 13 bass pedals, separate rotating spkr, music books. \$300. R. Hildenbrand, Ext. 3273.

COLOR TV - 21" GE, new picture tube, recently re-conditioned, console. \$85. Hildenbrand, Ext. 3273.

QUAINT SPINNING WHEEL - Working cond. \$200. 473-5585.

ANTIQU FURN - Tables & chairs, also cut glass. 472-0509.

MINK COAT - Natural wild mink, size 10-12. 472-0509.

RIVAL - Protect-o-matic meat & food slicer, like new, elec. \$20. 286-1855.

Real Estate

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

For Sale

N SHIRLEY - 4 yrs old, high ranch, 4 bedrms, 2 full baths, panelled family rm, oil heat, 1/2 acre, 2 sheds, am/fm radio intercom system through house, rented w/excel tenant & pays \$300/mo. Asking \$38,500 or \$17,500 over mortgage. 878-9022 after 5, owner.

N PATCHOGUE - 3 bedrm ranch, fireplace, w/w carpet, all appl, full basement, 18 months old, asking \$36,000. 654-1844 after 5.

PATCHOGUE VILLAGE - 3 bedrm ranch, attic, basement, garage, \$34,000. Ext. 2333, 475-7694.

E PATCHOGUE - 4 lg bdrms, living rm, fp, formal dining, lg kitchen, 2 baths, 2-car garage, s&s, ac, 160x237 part wooded lot. 475-6916.

BELLPORT - 3 bedrm, 1 1/2 baths, 2 story colonial w/full basement, 1/2 arce, fp, full appl, \$42,000. 286-2247 after 6.

MILLER PLACE - 3 bedrm ranch, full basement, large living rm, 1 1/2 car garage, 16x32 in ground pool, near schools & shopping. 473-7460.

RANCH HOUSE - 4 bdrm, kitchen, 1 1/2 baths, finished basement, 3-car garage, 110x100 plot. \$36,000. 281-6626.

For Rent

BROOKHAVEN HAMLET - Apt in older country home, lg living rm, kitchenette, bedrm, bath, furn, util incl, mature adults preferred. 286-0129.

PATCHOGUE - Furn eff apt, priv bldg, full kitchen & bath. \$175/mo + util & security. 475-7464 after 6.

VERMONT - Ski Bromley, Magic, Stratton, x country ski on grounds, beaut furn chalet, fp, weekend, weekly & share season rates. 757-5599.

VERMONT CAPE - 3 bedrms, firepl, fully equipped, ski Bromley & Stratton, week, weekend. 732-6499 after 6.

RIDGE - 1 bedrm house, eat-in kitchen, 3/4 wooded acre. \$225/mo. 588-5221.

VERMONT VACATION - 3 bedrm mobile home w/fp, located on 10 acres, 10 min from Okemo Mt, close proximity to 7 other ski areas, avail weekly or weekends. 473-8186 after 6.

N SHIRLEY - 2 brand new 3 bedrm apts, 1 for single male to be shared w/owner, other w/6 month lease or 1 yr. \$350/mo incl util. Alvin Kanofsky, Ext. 3857, (215) 866-8497.

Wanted

IGO PLAYER - Japanese black & white stone game, beginner, welcome. Hidehiko, Ext. 3379, 3032 home.

SOMEONE - Interested in jet black Scottish terriers, puppies of top show quality lineage AKC, guaranteed health. Marty, Ext. 3284.

ENLARGER - And darkroom equip for beginning child, cheap please! Rich, Ext. 2495.

2 SNOW TIRES - & rims, 5.60x15, used for VW bug, Bhatt, Ext. 2966.

BOOKS OR MAGS - W/photos of Rudolf Valentino. Saxton, 929-4701.

CAR MANUALS - Car owners or shop manuals, auto related literature. 281-3460.

TV ANTENNA - 924-3756 after 5.

ROOMMATE - To share lg 2 bedrm duplex apt, 5 min to Lab. Bob, Ext. 3312.

FOR ADOPTION - Sm mixed miniature shepherd-scottie puppies, 7 weeks old. Joan, Ext. 4393, 399-2084.

RELOADING KIT - 12 ga. Bob M, Ext. 2501/2.

OLD FIDDLE - In usable cond w/reasonably good bow & case. 286-08