



Fullbright Lecturer Visits Soviet Union

This past spring, Orrington E. Dwyer, DAS, held an appointment as a Senior Fulbright-Hays Lecturer for seven weeks in the Soviet Union. His visit was made possible by the Cultural Exchange Agreement signed by the U.S. and the U.S.S.R. in 1972, which was implemented for the first time during the past year.

Eight Americans visited Russia and an equal number of Russians came here. Of the eight Americans, two were scientists. Dwyer, well known in the field of liquid-metal heat transfer, lectured primarily on the theory of bubble growth in nucleate boiling of liquid metals on heated surfaces.

Dwyer visited four separate institutions, where, in addition to lecturing, he participated in seminars, visited research laboratories, and held working discussions with researchers in liquid-metal heat transfer. The Soviet Union is probably the foremost nation in the world in this field.

He first visited the University of Novosibirsk, where he remained for one month. The University is located in the town of Akademgorodok (academic town), about 20 miles from the city of Novosibirsk, in the heart of Siberia.

the Soviet Union, is conferred by the U.S.S.R. Academy of Sciences on individuals who, after some years of professional work, have gained an international reputation in their fields of specialization.

Dwyer left Akademgorodok on April 30 bound, via Moscow, for the city of Donetsk in the Ukrainian Republic. He was to spend 10 days at the Polytechnic Institute of Donetsk, but upon arrival in Moscow he was advised by the Soviet Ministry of Education that there were only three working days (May 6-8) during the first 10 days of May. May 1-4 were national holidays for the celebration of International Communism, and 9-11 were national holidays for celebrating the victory over Germany in World War II.

So he spent three working days at the Polytechnic Institute. It was established in 1921, and has 17,000 students. It has nine different Faculties (or Divisions), one of which is the Metallurgical Engineering Division, to which Dwyer was assigned. This Division is 50 years old and has nine different departments, including a Heat Transfer Department.

"While in Donetsk I gave a series of four lectures; one on the conduct of scientific research in the U.S.; one on the main differences between liquid-phase heat transfer with liquid metals compared to that with ordinary liquids; one on boiling heat transfer with liquid metals; and one on the educational system in the U.S. I was the first American to visit the Institute, so they were very curious about me, and more eager to learn about American methods of education and research than about the field of boiling-liquid-metal heat transfer," recalls Dwyer.

Dwyer also visited the famous Krzhizhkovsky Power Institute in Moscow. It employs about 1500 people, and the research work is divided into three general categories: (1) Thermal Physics; (2) Electrical Engineering; and (3) Economics of Power Generation, Power Planning, Systems Analysis, and Computer Applications. The Thermal Physics Division, in which Dwyer was chiefly interested, is comprised of 12 Laboratories, one of which is devoted to liquid-metal heat transfer research. He was much impressed with the quality of both the theoretical and experimental studies, the latter involving only potassium, carried on at this institute.

Before ending his Russian visit, Dwyer was also a guest at the Institute of Physics and Power Engineering in Obninsk, which is about 70 miles from Moscow. This Institute, which operates under the jurisdiction of the U.S.S.R. Committee on Atomic Energy, was established in 1946, employs more than 4000 people, and provides scientific and technical information for the design of nuclear power reactors.

The research work is in support of both light-water-cooled thermal reactors and sodium-water-cooled fast-breeder reactors, with more emphasis on the latter. Dwyer was mostly interested in the liquid-metal heat transfer studies carried out in the Liquid-Metal Technology Laboratory. Some of the world's leading experts in both liquid-phase and two-phase liquid-metal heat transfer are found in this laboratory, and Dwyer found his visit there especially rewarding. Dwyer stated, "I was very glad to have had the opportunity to meet and talk with several men whom I had known for several years only through their publications."

In making some general comments on life in the U.S.S.R., Dwyer stated "There are very few single dwellings in Russia. The people mostly live in large apartment buildings from four to ten stories high. As a foreigner, I was not invited to any Soviet home, because Soviet citizens must obtain special permission to entertain foreigners in their homes. But I was entertained lavishly by my hosts in the various hotels where I stayed." He also said that he found the Russian people to be extremely friendly, kind, and generous, and very anxious to talk with him and learn about life in the United States.

Dwyer also commented "As an American visiting under the auspices of the U.S. (Continued on page 2)



Welder, bottom left, completes installation of steam heating coils in bottom of new 400,000 gallon oil storage tank.



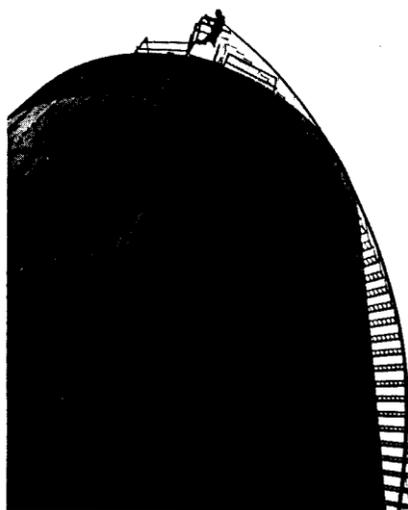
Orrington E. Dwyer

Akademgorodok is a unique town. Established in 1959 as an educational and research center, it contains 17 research institutes, in addition to the University, and has a population of about 50,000. A close relationship exists between the University and the institutes. The majority of the senior Scientific and Technical faculty members spend most of their time at the institutes. Although Dwyer was officially assigned to the University of Novosibirsk, he actually spent most of his time at the Thermal Physics Institute. This Institute, one of the oldest in Akademgorodok, has a total staff of about 200 and consists of 11 Laboratories, each headed by a full professor at the University.

Dwyer's main interest lay with the Thermal Mechanics Laboratory. This Laboratory, one of the largest in the Institute, consists of five separate Groups, one of which is concerned with boiling liquid-metal heat transfer.

"Education is a very serious matter to Russian youth," states Dwyer. Formal schooling begins for the Russian child at age seven, and he completes ten grades before entering the University. All education is free, but a much smaller fraction of Russian youth complete a college education than in the U.S.

At the University of Novosibirsk, as in most universities in Russia, the student must successfully complete five years of work to obtain his Diploma, which is equivalent to our Bachelor's degree. His fifth year is spent entirely at one of the Institutes doing research under the direction of a senior scientist. After that, the student can become a post-graduate student and spend three more years at his Institute, and work towards his Candidate's degree, which corresponds to our Doctorate. For this, he has to pass a qualifying examination, publish one or more papers, and pass a final examination in the area of his research. The Doctor's degree, a highly coveted honor in



Marty Caunter checks top of new oil storage tank.

Fourth Unit Added To Lab Tank Farm

A new 400,000 gallon oil tank has been constructed and filled with #6 oil to insure adequate heat during the coming winter season.

This new tank will bring the Lab's storage capacity to 1,100,000 gallons, a supply for 44 days at the rate of 25,000 gallons a day. Two of the three older tanks have a capacity of 200,000 gallons each, while the third tank holds 300,000 gallons of the tarlike bunker oil.

#6 fuel oil (or bunker oil) can only be pumped when it is heated to 120 degrees, and requires special equipment in the storage tank to keep it flowing. In the new tank two steam heating coils are in the bottom of the tank and will be heated from the steam plant.

According to Martin Caunter, Plant Engineering, as soon as the interior welding was done in the tank, it was filled with water for a pressure test to detect any leaks. After the tank was emptied, a fleet of tank trucks from Northville Industries came at half-hour intervals to put oil in until the 400,000 gallon capacity was reached.

NAL Is Now FNAL

Lately, there has been a lot of confusion over the whereabouts of Fermi National Accelerator Laboratory. The fact is that Fermi National Accelerator Laboratory (FNAL) and the National Accelerator Laboratory (NAL) in Batavia, Illinois are one and the same.

On May 11, 1974, during the official dedication ceremonies, NAL's name was changed to FNAL. AEC Chairman Dixy Lee Ray and Enrico Fermi's widow were present at the ceremonies.

The decision to change the name of the Laboratory was announced in 1969 by Glenn T. Seaborg, the Chairman of the AEC at that time. The name change was to take place when NAL's construction was near completion. Dr. Seaborg believed that naming the Laboratory after the late nuclear physicist, Enrico Fermi, was the best way of honoring his accomplishments and discoveries in both theoretical and experimental physics. Dr. Fermi is probably best known as the leader of the team which first achieved a controlled nuclear chain reaction at the University of Chicago in 1942.

Wyche Family Proud Of Geneticist Son

Geneticist James H. Wyche has joined the faculty of the University of Missouri-Columbia as an assistant professor in the division of biological science and the chemistry department. Wyche's parents are both employed at BNL; his mother, Fannie, in the Physics Department; and his father, William, in Plant Engineering.

Wyche did his undergraduate work at Cornell University. After receiving his doctorate from Johns Hopkins University, he became a doctoral fellow at the University of California at San Diego. While there, Wyche held Jane Coffin Childs and American Cancer Society postdoctoral grants.

A native of Mattituck, Long Island, Wyche is married, and he and his wife Karen have three sons.

Bond Program Underway

BNL has been asked to again participate in the U.S. Treasury Department's 1974 Savings Bond Campaign. Through the Payroll Savings Plan you can assure yourself and your family a secure future. Rising college costs can be met through Bonds, and retirements can be planned for.

Automatic payroll deduction for the purchase of savings bonds is a safe and simple way to accumulate reserve funds. The Payroll Division will make an automatic deduction from each weekly or monthly paycheck in small or large amounts towards the purchase of bonds in various denominations.



AEC Chairman Dixy Lee Ray (left) looks on with apparent approval as Paul Gaughran, Savings Bond Campaign Chairman, presents her with a super-sized Bond.

The Savings Bond Program as we know it today was launched in 1941 when President Franklin D. Roosevelt bought the first Defense Bond from Secretary of the Treasury Henry Morgenthau. Treasury Bonds have been offered for purchase by individual citizens at various times in our history dating back as far as 1776. But, more recently, many of us can remember the "baby bonds" of the 30's and some may recall hearing of the Liberty Bonds of World War I.

While most employees are familiar with the advantages of Bonds, the annual campaign serves as a reminder to those of us who tend to put off savings plans.

Remember, Bonds now mature in 5 years and the payroll deduction plan offers a consistent and somewhat painless way to save. New U.S. Savings Bonds pay 6% interest when held to maturity.

During these times when inflation is excessive and the cost of living rises nearly every month, there is a certain amount of security in knowing that there is a way for you to set aside money for the future.

SUNY Expands Courses

The tremendous surge of interest shown by Long Island residents in continuing education programs has prompted the State University of New York at Stony Brook to expand their continuing education course options to handle an additional 2,000 students.

This fall, 100 courses will be offered covering a variety of academic disciplines. Of these, ten will focus on contemporary society.

"Personal Privacy and Public Surveillance," will discuss the development and effects of government and private agency data banks which collect and store personal information. The course reflects the growing concern over the invasion of individual privacy.

"The Unspeakable and the Trivial: Troubles of Everyday Life," is a course designed to explore how individuals react to traumatic events in their lives. The course will go into aspects of life which produce feelings of discomfort, anxiety of terror such as terminal illness, failure, rape and discrimination.

The continuing education program is designed primarily for individuals who have a bachelor's or master's degree. Students will be accepted into the program through August 31 with registration set for the second week in September.

Official & Special Events

Monday, July 29
German and Finnish Students Tour
Friday, August 2
Movie - 8:30 p.m., Berkner Hall

Friday, August 9
Movie - 8:30 p.m., Berkner Hall

Wednesday, August 14
Navy Meeting - 7:30 p.m., Brookhaven Center

Friday, August 16
Movie - 8:30 p.m., Berkner Hall

Cafeteria Menu Week Ending August 2, 1974

Monday, July 29	
Cream of Celery	
Pork Chow Mein on Rice	1.00
Beef Liver & 1 Veg.	1.00
Tuesday, July 30	
Scotch Broth	
Braised Meatballs on Noodles	.95
Sauerbraten & Potato Pancake	1.20
Wednesday, July 31	
Turkey Noodle	
Southern Fried Chicken & 1 Veg.	1.00
Broiled Filet & 1 Veg.	1.05
Davy Jones Fish Fry	1.25, Tax Incl.
Thursday, August 1	
Lentil Soup	
Corned Beef & Cabbage	1.20
Saga Burger & French Fries	.95
Friday, August 2	
Fish Chowder	
Stuffed Flounder & 1 Veg.	1.05
Braised Short Ribs & 1 Veg.	1.15

YOC Program '74 Style

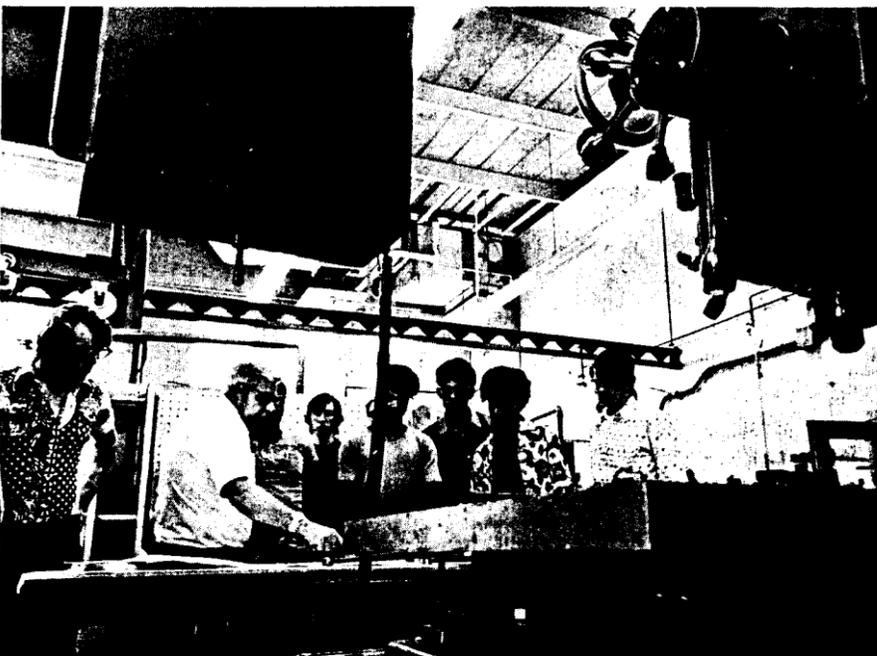
On July 8, 29 students began an 8-week program involving basic skills development, vocational guidance, and on-the-job training at BNL. The annual YOC Program will continue through August 30, under the direction of George Sabine and Kay Hunt of Personnel.

Ann Flood and Patricia Wilson from the Accelerator Department and Helen Caisey, Director's Office, have begun a series of "office practice classes," held twice a week, to improve students' typing and basic clerical skills. During the first session, the three women offered their experience at BNL as a resource to the women who attended the courses.

The students have been assigned to work in technical and clerical areas where they receive job training and personal counseling. Most were recruited through high school guidance counselors or BNL employees. Three participants are returnees from past summers, and seven have been involved in BNL's Co-op High School Program.

Area high schools represented include Riverhead, Longwood, Sachem, Center Moriches, Bellport, Newfield, Islip, Connetquot, Smithtown, Stony Brook, and Hempstead. Several recent graduates plan to attend either Suffolk Community College, Pace University, Howard University, Florida A&M, or one of the several branches of SUNY.

In addition to regular duties, the students are scheduled for a series of tours throughout the Laboratory, and several lectures including one from the representative of the State Labor Department and one from the U.S. Postal Service.



James McIntosh, Central Shops, gives YOC participants a tour of the machine shop.



Clifford Fredrickson

Fredrickson Heads MIS

Clifford Fredrickson has been appointed Head of Management Information Systems (MIS) at BNL. The MIS Office is responsible for the planning and development of long-range Laboratory information systems based on the needs of BNL management and the requirements of individual departments and divisions.

"The computer resources of the Lab are impressive, and we plan to utilize this capability in areas of administrative information," says Fredrickson. "We hope to plan for teleprocessing capability so that management can obtain information when it is needed. One of the most important aspects of this new office is that it will reduce the volumes of paper work that we presently have, and it will improve the timeliness of gathered information. The Office will also be involved in performing feasibility and special studies and for the recommendation of solutions to administrative information problems."

Fredrickson, who began working at the Lab in 1967 in Administrative Data Processing, lives in East Setauket with his wife Mary and their three children.

Hospitality News

The Hospitality Committee's second evening get-together will be held on Tuesday, August 13, from 8:00 p.m. to 10:00 p.m., at the Recreation Building in the apartment area. Summer punch recipes will be demonstrated.

All newcomers and oldtimers are invited to attend.

Arrivals & Departures

Arrivals

Ruth D. Duffy	Applied Science
Lawrence A. Fanella	Central Shops
Anthony Kokinelis	Applied Science
James R. Lehmann	Medical
Maureen F. Stock	Photography

Departure

Joseph C. Polacco	Biology
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Friday Night Movies

Tonight - July 26
8:00 p.m. Berkner Hall
\$1.00 adults - 50¢ under 18
Main Feature: "Fahrenheit 451"
Next Week (August 2)
"The Wrong Box"
Starring Peter Sellers, John Mills and Ralph Richardson

A tontine is a peculiar winner-take-all kind of insurance whereby the sole survivor inherits the total fortune. Robert Louis Stevenson wrote a humorous tale based on this gimmick, which in turn was the inspiration for a fantastically funny, black humored Victorian comedy featuring some of Britain's most brilliant character comedians. John Mills and Ralph Richardson are simply superb as the elderly heirs. While Mills is determined to do away with his brother, Richardson, so that his nephew will ultimately inherit the fortune, Richardson's nephews are equally determined to do away with Mills! Aiding the plot is Peter Sellers as a wacky doctor who specializes in questionable cases - most specifically signing death certificates when assured that a corpse will one day appear. It's part melodrama and part romance, mixed with an enormous amount of explosive comedy and stylish wit as well as elegant, uninhibited "camp."

Traveler's Note

The p.m. bus will leave the Administration Building promptly at 3:45 p.m. for the Yaphank Station to meet the 3:59 p.m. train. As a prompt departure is necessary to meet the train, those wishing to take the bus should arrive at the Administration Building no later than 3:40 p.m. This train arrives at Jamaica at 5:47 p.m. and at Penn Station at 6:11 p.m.

Upton Nursery School

Upton Nursery School is a co-operative pre-school for the three and four year old children of Brookhaven National Laboratory employees.

The children attend school two or three mornings a week and participate in a varied program including art, music, outdoor play, dramatic play and other activities that help prepare the children (in a fun way) for elementary school.

Our teachers are professionals and are assisted by one parent in each class at each session. Parents cooperate in the running of the nursery school which enables us to keep the tuition fee low. Car pools are also available.

There are still openings for the 1974-1975 school year. If you are interested in enrolling your child please call Ann Garret, 286-1825 for further information.

Fullbright Lecturer (Continued)

State Department, I was accorded every courtesy and encountered no difficulties on my entire trip. By American standards, the standard of living of the average Russian scientist is low. Very few Russian citizens can afford to own an automobile, but public transportation systems are good, and travel costs are relatively low. However, buses always seemed to be overcrowded." As far as employment is concerned, there is a lot less distinction between the sexes in the Soviet Union than here, commented Dwyer. He said that he met several women holding very responsible positions in science and education, and nearly all the practicing physicians in the U.S.S.R. are women.

In conclusion, Dwyer said, "I found my visit to the Soviet Union very rewarding both personally and professionally, and I am very grateful for having had the opportunity to visit the U.S.S.R." — Angela Hill

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Danish Pianists At BNL

A program of contemporary music will be presented in Berkner Hall on Wednesday, July 31 at 8:30 p.m. by pianists Janne Savery Als-Nielsen and Finn Savery, sister and brother from Denmark. The program will include Arnold Schoenberg's Suite for Piano, Opus 25, Piano Sonata No. 2, Opus 14 by Serge Prokofiev and several compositions in modern classic style and jazz idiom by Finn Savery.

Admission to the concert is free, but contributions will be accepted at the door to help defray expenses.

Janne Savery Als-Nielsen studied piano at the Royal Danish Conservatory, making her debut in 1961. She later studied with the Italian conductor and pianist Carlo Zecchi in Salzburg and in Sicily, where she was among the prize-winners of the 1965 competition in Taormina. She has performed in concert with the symphony orchestra at Tivoli and has broadcast frequently on the Danish radio. In honor of the 100th anniversary of the birth of Arnold Schoenberg, originator of the twelve tone style, Janne Savery has recorded his Opus 25 for the Danish radio.

Finn Savery was educated at the Royal Danish Conservatory in the classical tradition as a pianist and a composer, but he also belongs to the Scandinavian frontier in modern jazz. His composition entitled "Swan Meeting" was a prize-winner at the recent Scandinavian Jazz Festival in Stockholm, and his musical "Teenagerlove" was the most successful production in decades at the Royal Theatre in Copenhagen, as well as being selected for performances in numerous other European capitals.

BGA Tournament

On Monday, August 5, the BGA will hold the biggest tournament of the year at the Flagg Country Club in Baiting Hollow.

You do not have to be a BGA member to take part. All BNL employees are encouraged to participate in this 18 hole tournament. Trophies and prizes will be awarded for: longest drive, closest to pin, calloway, low gross and low net.

An entry fee of \$1.00 should be sent to George Korhut in Building 911B.

Remember that date: Monday, August 5, 1974, at 1 p.m. at the Flagg Country Club. Rain date will be August 8, 1974.

Races At The Pool

Last Friday the Inner Tube Derby and Kickboard Races were held at the swimming pool. The children joined the fun of racing old tire tubes and kickboards across the pool against the clock and fellow swimmers. Strong arms and legs were needed to be victorious and winners emerged tired and wet but very happy.

Smiling faces belonged to Jeff Constantin, Yaneer Bar-Yam and Mark Jach for the over ten tire race and David Miles, Joe Martinolich and Carol Dawson for the seven to nine year old kickboard races. The little guys had fun also with kickboard winners Claudia Meyer, Sandra Cowley and William Medina for the five and six year olds.

This week's special will be the Diving Contest and Paper Plate Races. Come one and all and have fun!

Dives Away



This week's Diving Contest produced a number of imaginative dives. This one could be called a statue dive . . .

Morning Play Session

The day was overcast but the children's spirits were undaunted last Friday morning when they congregated at the Recreation Building for the big Treasure Hunt. Added to the mystery of "where could the treasures be?" was the sporadic appearances of the white bearded pirate and his mean wife brilliantly portrayed by staff members Jim Waite and Mary Grace Lazaro. With the treasures found and the pirate and his wife captured, the kids were rewarded with a gay, fun-for-all party.

The Scavenger Hunt will be this week's special.

Club House

Not So Confidential

Phoubars triumph in a hard fought contest with the Converts. Glen Snape not only pitched for the Converts he was all over the field. In this reporter's humble opinion he is a strong contender for the M.V.P. award in the "Laboratory League."

G. Sabine hit a home run which proves that the age of miracles is still with us! D. Parsons and his new glove reminded us of Willie Mays. B. Brown (with the help of his wife) played his usual steady game. Mrs. Brown has been our biggest fan all season.

Charlie Browns won a tight one from the Streakers. The Streakers, playing catch-up ball tied the score in the late innings but the C.B.'s forged ahead with clutch hitting to win the game. A. Kreisberg emptied his bench trying to pull this one out! "Good try Arnie."

An aid to the Converts. If you stopped eating so much before the game you might have more spring in your legs during the game. But then again what's more important, winning a game or enjoying a sumptuous feast?
—B. Brehm

Softball

Dick Ruffing

Brookhaven League

After two weeks of play in the second half of the season, the winners of the first half, the Blue Jays, suffered their first loss of the season to the Old Timers with a score of 10 to 3. The Old Timers scored six runs in the 4th inning and that was the ball game. Nick Pisco was 3 for 4 for the Jays.

National League

The Six Pacs, winners of the first half, have now lost two in a row in the second half; first to the Ravens and last week to the Bio-Meds. The Bio-Meds put together a strong offensive to score 30 runs.

Laboratory League

The first half ended in a tie between the Charlie Browns and the Phoubars. The playoff will be at the end of the season. In last week's action the Charlie Browns defeated the Streakers, and the Phoubars came out on top over the Converts.

University League

In last week's action the Oh-Kays lost their second game in a row, losing to the Gotchas 12 to 11. In the other game played the Brookhaven Athletics defeated the Free Agents.

A Big Splash



Winners of the Inner Tube Derby and Kickboard Races.

Buried Treasure At BNL



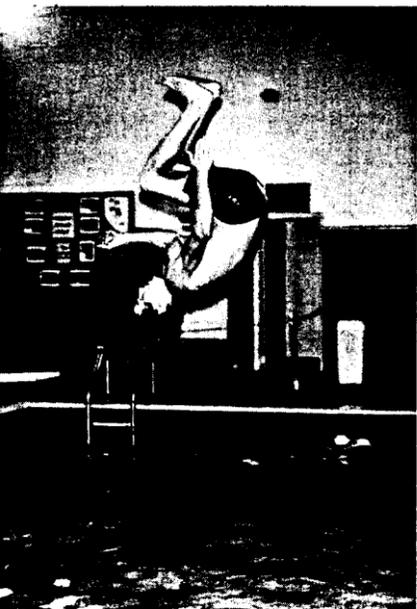
The Recreation Program treasure hunt starts off with a clue . . .



. . . the clue is followed . . .



. . . and the treasure is found, guarded by Pirate Jim Waite.



. . . and this a cannonball.

Photos by Dick Parsons

