BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

BNL Lecture:
A Two-Edged Sword

Both heart attack and the spread of cancer can be traced to the body's fibrinolytic system. For example, the immediate cause of heart attack is the failure of that system to degrade a fibrin blood clot lodged in an artery leading to the heart. On the other hand, when certain cells in a tumor subvert the fibrinolytic system, the result is metastasis: A path is cleared for the cells to escape the primary tumor, enter the blood stream, exit and establish secondary tumors.

Mort Rosen

Walter Mangel

The fibrinolytic system consists of the inactivate enzyme plasminogen, which is transformed by plasminogen activators to the protein-degrading enzyme plasmin. This system is under study in the Biology Department, by a group led by Biochemist Walter Mangel. He will discuss their work in a talk entitled "The Role of Destructive Enzymes in Heart Attack and Cancer," at the 229th Brookhaven Lecture, on Wednesday, November 19, at 4:30 p.m. in Berkner Hall.

Mangel explained that, early next year, the recombinant DNA company Genentech expects to receive FDA approval to market plasminogen activator as a "magic bullet" to dissolve blood clots. Over 60% of the heart attack victims in clinical trials exhibited reperfusion (resumption of blood flow) after plasminogen activator was administered.

While the clinical benefits have become obvious, however, how the enzyme works is not understood. Plasminogen is present in all body fluids, as is plasminogen activator; yet they do not interact to produce plasmin unless a fibrin blood clot is present. So how can a fibrin blood clot of one microliter, in a total blood volume of five liters, direct only its own destruction, and not that of everything else in the body?

The answer appears related to the observation that plasminogen binds to a target to be destroyed by plasmin, such as fibrin. This binding changes the structure of plasminogen so it is more readily converted to plasmin by plasminogen activator.

In his lecture, Mangel will discuss the efforts that led his group to its

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BNL Research Plane Crashes; Co-Pilot Dies, Three Survive

Two BNL researchers participating in an acid rain study survived a plane crash on Saturday, November 9, that claimed the life of the plane's co-pilot, John Kahl of Old Bethpage. Immediately following the accident, Chemist Roger Tanner was brought to South Baltimore General Hospital, and Chemistry Associate Daniel Leahy and Pilot John Stewart of Peconic were taken to the University of Maryland's shock trauma unit. As the Bulletin went to press, Leahy had been released from the hospital. Stewart and Tanner remained hospitalized, and both are expected to be released shortly.

Leahy and Tanner are members of the Environmental Chemistry Division in the Department of Applied Science (DAS). One of the Division's projects, a joint effort with the Atmospheric Sciences Division, is a two-part study looking at how the acidity of rainfall is affected by the effluents from metropolitan areas. For one part of this project, researchers collect ground samples of rain; for the other part, samples are collected in the air by a rotating group of researchers.

In the latest round of air sampling, the plane departed from MacArthur Airport in Islip last Friday. The group completed two research runs in the Baltimore area, the first on Friday afternoon, the second that night. Since this phase of the experiment was completed, they decided to return to Long Island on Saturday.

The plane took off from the Glenn L. Martin State Airport in Essex, Maryland, before noon on Saturday. A short time later, Stewart requested permission for an emergency landing at the Baltimore-Washington International Airport. Before that was possible, however, the plane made a forced landing in a field near a hospital in south Baltimore. There were some small fires on impact, but people on the scene were able to pull Leahy, Stewart and Tanner to safety before the plane burst into flames and was destroyed.

Just as the Department of Energy owns the motor vehicles used by the Laboratory, BNL is the custodian of the twin-engined Beechcraft airplane owned by the federal goverment. The plane was operated for BNL by Executive Fliteways Inc., of Islip. As employees of Executive Fliteways, Stewart and Kahl had been assigned to the BNL plane since September.

The Department of Energy (DOE) is conducting an investigation into the cause of the crash. DOE has also requested that the National Transportation Safety Board investigate the accident.

Commenting on the accident, DAS Chairman Bernard Manowitz said, "We very much regret the accident and, particularly, the death of co-pilot John Kahl. We are very grateful that the other men on board were spared. This unfortunate accident will slow down the project, but not stop it. We will now look for another plane that can be outfitted with all the experimental equipment necessary for continuation of the project."

PFTs Go With the Flow

Wearing a deerstalker hat and murmuring "Elementary, my dear Watson"; talking about "little grey cells" while twirling an elaborate moustache; having no hair and slurping lollipops — what do all these idiosyncracies have in common? Mystery enthusiasts will recognize that they are all distinguishing traits of great detectives. Without these characteristics, would Sherlock Holmes, Hercule Poirot and Kojak have achieved such renown? One way to spot great detectives, it seems, is by their unusual traits.

The "house detective" perfluorocarbon tracer gases (PFTs) developed at the Tracer Technology Center are no exception. The distinguishing features of the PFTs, though, are not just pleasant eccentricities. They are properties that uniquely qualify PFTs to track flow patterns in different substances, and in places ranging from oil wells under the North Sea to 3,000 kilometers (km) of air traveling over North America to ventilation systems in commercial buildings.

The Tracer Technology Center (TTC) was established in the Department of Applied Science in 1985 as a place where individual researchers, government agencies and private industries can get advice, or support research or proprietary work on tagging and tracing. The center is headed by Russell Dietz, who pioneered the development and practical application of perfluorocarbon compounds as tracers.

Properties of PFTs

PFTs have all the properties associated with effective tracer gases. They are stable in their gaseous form, do not affect their surroundings and are easily detected. Their physical and chemical inertness prevents their disappearance on a journey, and also helps in separating them from less stable compounds for eventual analysis. Like the sulfur hexafluoride (SF_6) tracer gas they have replaced in the past ten years, the PFTs are biologically inactive and thus perfectly safe to use. They do not easily dissolve in water or adsorb onto surfaces. But unlike the SF_6, their vapor pressure is low enough for them to be easily adsorbed onto specific solids used in passive and programmable sampling devices.

Since PFTs are hardly used in industry, only very small amounts need be released to be spotted over the minute amount existing already in what they are tracing. Lastly, they have a peculiarly high affinity for reaction with electrons, so they are extra sensitive to electron capture detection — thus extra easy to find.

"Easy to find" is relative. Is tracing a PFT in a given substance easier or harder than finding a needle in a haystack? Said Dietz, "One way of describing it is that we are pretty sure we can find one grain of sand's worth of PFT in a Shea Stadium completely filled with sand."

Dietz went on to explain that such detectability is valuable not only in giving dependable, accurate data, but since so little PFT has to be used, the cost compares favorably with other, much cheaper, tracers and is the only economically viable alternative in some cases. Using so little has the added advantage that only a minute amount of PFT has been added into the general background, so future tracer experiments will still be possible.

PFTs in Oil Wells

At the end of its first year, the TTC is involved in several experiments. "Right now we are concentrating on some especially interesting practical applications," said Dietz. "One is the use of PFTs by an oil-drilling firm in the North Sea. Once the first, fast flow of oil has lessened from a well, it is usual to inject gas back into it. This forces more oil up to the surface. But it's important to know the most effective place to inject the gas. That's where tracer technology is helpful."

So out at sea between Scotland and Norway, the Norwegian Institute for Energy Technology has injected both radioactive tracers and PFTs into five injection wells serving 28 production wells. If the PFTs are detected, they will be an attractive alternative to the radioactive tracers used at present. By checking where and when the PFT emerges, the flow pattern of where the gas would be most usefully injected can be deduced. Also, by the way the particular PFTs combine with the oil, information about the quality or quantity of oil in a certain well may be obtained.

Continued Dietz, "Samples are collected about twice a month. We are now in possession of the very first samples from the tests, with more on the way. It's going to be interesting to see what information we get."

Long-Distance Air Flow

Another project will test and verify long-range atmospheric transport and

(Continued on page 2)

Mort Rosen

The tube held by Russell Dietz is an example of the capillary adsorption tube sampler which is used to collect gas samples from an oil well in the North Sea. By gas chromatographic analysis of the contents, Dietz and his colleagues at the Tracer Technology Center hope to find evidence of the PFTs that were injected into the oil field last June, about 1,500 feet from the production well.

From the Arctic Tundra to the Amazon Swamps

Dennis Puleston has had a lifelong love affair with the sea. So, when he retired from the Lab as Technical and Public Information Officer in 1970, it was only natural that he turn once more to the blue water. And, in his so-called retirement, he has spent more time at sea than most of us would in ten lifetimes.

Here are a few statistics to jolt you out of your armchair: Since 1976, he has been on 28 expeditions to Antarctica, and about half as many to Alaska and the Arctic. When that part of the world is impassable, he may be found in such exotic climes as Indonesia, Madagascar, the Seychelles. His travels keep him on the go as much as eight to nine months a year.

Dennis Puleston in the Cochin region of southwest India, on the Malabar coast.

Puleston is not just traveling for the sake of traveling: He is gainfully employed. He works for a travel company that conducts cruises to the less frequented ports. Not for him is the glitz of Acapulco and a cast of thousands. "Nor do we visit cathedrals and art galleries," he says. "We go to the Arctic tundra, the Antarctic ice fields and the swamps of the Amazon."

Puleston is the ship's resident naturalist and acquaints the passengers with the flora and fauna ashore. He also writes and illustrates a log of the cruise. Each passenger is sent a bound copy when the cruise is over.

Puleston went right to work after he retired from the Lab. First, he volunteered his services to the National Audubon Society and led some of their ecology tours to such places as Alaska, Patagonia, Galapagos and the Amazon. Then, in 1976, he was asked to lead a National Audubon group that was going to Antarctica aboard a vessel called the Lindblad Explorer. This was so successful that he was asked by the Lindblad people to stay on as a naturalist for their tours, and this time he was paid. Since then he has shuttled between Antarctica, the Arctic and the Tropics. The cruises last from two weeks to a month and a half.

In 1984, the Lindblad went where no cruise ship had gone before — the crew negotiated the Northwest Passage in 42 days, going from Newfoundland to Yokohama. "Norwegian explorer Roald Amundsen did it in 1906, and it took him three years," says Puleston. "Our trip was exciting. At one point we had to go back 60 miles because of ice, and sometimes we had only a foot of water under the keel."

For those of you who think such a cruise might be a nice change of pace, check your piggy-bank. A cruise of this length, in a single cabin on a boat deck, would set you back about $22,000.

On Puleston's right arm, a tattoo is partially revealed. Is that recent? He laughs. "No, that came about when I was sailing around the world with a friend, in the early 1930's. It was done with a shark's tooth during my initiation into a clan in the Samoan Islands." That trip took him six years, and was recounted in a book he wrote entitled *Blue Water Vagabond,* first published in 1939.

Puleston has long been unhappy about how human beings treat their environment. "It is said in Genesis that God gave man dominion over all the creatures," he says, "and, unfortunately, a lot of people take this literally and without any sense of responsibility."

In 1967, out of a class action suit to bar the Suffolk County Mosquito Commission from using DDT was born the Environmental Defense Fund, and Puleston was its founding chairman. Now the Fund is well established and working on such problems as land use, water resources, wildlife, and man-made carcinogens, and Puleston is still active as a trustee.

Although a number of nations have signed a treaty to protect Antarctica, some of these nations exploit its resources, and environmentalists are concerned about the threat to this continent. Puleston does, however, give the U.S. high marks for observing the letter of the treaty and for the research it does there.

Dennis Puleston and Sir Peter Scott, son of the explorer Robert Scott, in the Antarctic.

There are still some places in the world, he says, "that have not yielded to what is known as progress," and where one could get away from it all. Puleston suggests parts of Alaska, the Antarctic and the Arctic, New Guinea, the Solomons and Madagascar.

Even when he is on Long Island, his home base, he is busy. He is now lovingly putting together a book on the Island's natural history. The book has 12 chapters, and each chapter represents a month of the year. Puleston describes what flora and fauna one might expect to see in each month. He has illustrated it with his own sketches.

In a sense, Puleston is continuing to do what he has always done, but, he says, "I do it in more comfort now." He is active the year round and finds life full and rewarding. He puts some of his activities down to luck and says he has just happended to be in the right place at the right time. Perhaps, but he has also brought a lot to it.

In October he returned from another trip to Alaska and, later this year, will head once more for the Indian Ocean and a new series of cruises. Says he, "I think I have the best job in the world."

— Bernice Petersen

(Bernice Petersen, the former editor of the Bulletin, retired last August but submitted one last story for Bulletin readers to enjoy.)

BNL Lecture (Cont'd)

model for the regulation of the activation of plasminogen. Some of their work involved experiments at the National Synchrotron Light Source and the High Flux Beam Reactor, where they have been characterizing the extremely large structural change that occurs in plasminogen when it binds to its target.

Mangel will also discuss some of the properties of fluorogenic substrates he has synthesized. He holds two patents on these compounds, which, when cleaved by an enzyme, produce a fluorescent product that can be detected at extremely low concentrations. Mangel hopes to generate interest in his project among BNL scientists doing research with lasers, to develop an assay for a single molecule of enzyme. Such a feat should yield important insights into how enzymes function.

After Walter Mangel received his Ph.D. in biophysics in 1970, from the University of Illinois, Urbana, he went to the University of California-Berkeley, as a postdoctoral Fellow in molecular biology. In 1974, he went to the Imperial Cancer Research Fund Laboratories in London to work on tumor viruses. Two years later, he returned to the University of Illinois as a member of the Biochemistry Department, until 1985, when he joined the BNL staff. Mangel has received several fellowships from the National Institutes of Health, was a Durnham Senior Fellow of the American Society in 1974 and received the Eleanor Roosevelt Fellowship from the World Health Organization in 1975.

All those interested in getting together after the lecture are invited to go with the lecturer to a restaurant off site. Anyone who would like to be part of this group should call Sanford Lacks, Ext. 3369.

An International Symposium

Peter Horton

Every three years since 1977, BNL has hosted an International Symposium on the Production & Neutralization of Negative Ions & Beams. This year, nearly 100 researchers attended the fourth such symposium here, from October 27-31. This year's meeting focused on such topics as high intensity and polarized negative hydrogen ion (H^-) sources, sources for high energy accelerators, the production of negative ions heavier than H^-, the acceleration and neutralization of negative ions, and neutral beam systems. Pictured are those who organized the symposium: (from left) Lisa Chimento, proceedings secretary; Symposium Chair James Alessi, head of the Source Development Group, Alternating Gradient Synchrotron Department, which sponsored the meeting; Marion Heimerle, symposium secretary; Ady Hershcovitch, co-chairman of the symposium; Ron Clipperton, symposium coordinator; Ahovi Kponou and Krsto Prelec, members of the local organizing committee.

PFTs (Cont'd)

dispersion models. PFTs will be used to trace air flows 3,000 km across North America and into Canada. Said Dietz, "We'll be breaking a lot of new ground. We've done previous tracer experiments of 1,000 km, but three times the distance required new thinking and much preparation. For example, six months was spent having two new PFT compounds made to our specifications for these conditions."

From January through March, these PFTs will be released for three hours at noon and at midnight from two locations, in Montana and Minnesota. Brookhaven Atmospheric Tracer Samplers (BATS), a programmable air sampler, will be waiting at 75 National Weather Monitoring sites, 61 in the U.S. and 14 in Canada. Samples will also be taken at five tower sites and from two airplanes to ensure getting data from different air levels.

"In all we'll have about 7,600 analyses to do from BATS samples collected at the ground stations, and 6,400 from capillary adsorption tube samplers from the towers and aircraft," said Dietz. "This is a multi-lab undertaking, with collaborators from the U.S. National Oceanic and Atmospheric Administration, Idaho Falls, and the Environmental Measurements Laboratory, New York. Several million dollars are committed to this experiment. Just the cost of the two new PFTs is about $400,000. But the old sulfur hexafluoride tracer would have cost $50 million! That's a big savings."

On a Smaller Scale

PFTs are just as valuable for information on a smaller scale, such as installation or correction of ventilation systems in commercial buildings. Some zones in a multistory building may be stuffy, while others are cold. The best arrangement of vents can be shown by the paths followed by PFTs, with no damage to personnel or property. The PFT system can then be used for an annual check to see if the venting is still performing as planned. "We believe this will be useful on a practical business level," said Dietz.

Other new programs soon to be undertaken by the TTC will use PFTs to pinpoint oil leaks in underground, high-voltage cables without the expense of exploratory digging, and to test for indoor pollution from possible flue-gas leaks from combustion devices, or from soil-gas radon leaking into homes. — Liz Seubert

Sold — To the Highest Bidder

Brookhaven Women in Science sponsored its fourth Renate Chasman Scholarship for Women fund-raiser, an Art Expo & Auction on Saturday, November 1. This was the most profitable fund-raising effort to date: $2,700 was made from the artwork sales, gate receipts and the evening's donations. This brings the fund up to about $7,500.

About 170 people attended the benefit, and 99 works of art were sold at auction, including a signed and numbered lithograph by Michel Delacroix and one by Salvador Dali. Chairwoman Eva Bozoki, on behalf of the Scholarship Committee, thanks all those who attended, as well as those who made purchases — both counted towards the evening's income.

In Memoriam

It has been learned that **James G. Stangby**, who retired from the Department of Nuclear Energy (DNE) in November 1981, died on November 7. He was 70 years old. Stangby came to the Lab on May 10, 1948, to work in the Biology Department. He moved to the Department of Applied Science in March 1977 and, that October, to DNE, from which he retired as a senior staff assistant. He lived in Shoreham and is survived by his wife Mary Jane; sons Daniel, of Durango, CO, and Philip, of Aurora, CO; two granddaughters, Cynthia and Jenifer of Durango; and a brother, Philip of Madiera Beach, FL.

Equipment Demo

Pioneer-Standard Electronics, Inc., a multi-line distributor of electronics equipment, will demonstrate Digital Equipment Corporation's VAXmate, microVAX II, and LN03 Plus laser printer with graphics. The demonstration will be held on Wednesday, November 19, from 9 a.m. to noon in the Applied Mathematics Dept. seminar room, second floor, Bldg. 515. All are invited.

PSI News

Those attending the next monthly meeting of the Upton Chapter of Professional Secretaries International (PSI) will learn about the retirement center called Vista Grande that PSI operates in Rio Rancho, New Mexico. The meeting will be held on Wednesday, November 19, at 6 p.m., in the Applied Math Conference Room, Bldg. 515.

Thank You, From United Way

"Thanks, Betty!" That's the reason for this United Way plaque, presented to Betty Pergan, Department of Applied Science, by Lou Di Carlo, Supply & Materiel, head of this year's United Way drive. As she has done for BNL United Way campaigns since 1981, Pergan adds up incoming donations, tracking each department separately. As the total mounts, it is adjusted on the barometer by the main gate.

"Most people like to know how we are doing as we go along," said Pergan. "And it's encouraging for representatives to be able to give an accurate total for their department's contribution at any time during the drive. It's a lot of work, but worth it to keep up the interest in reaching the goal. I wasn't expecting this plaque, but it's a nice thank-you."

A special plaque is not the only way the BNL United Way campaign thanks people who contribute. This year, there is a weekly drawing from all the donor cards for a prize of $50 towards dinner for two. "We've got our first winner," said Di Carlo. "The lucky card belonged to Paul Hough of the Biology Department. There's another drawing next week, so hurry and get your card in. Even if you don't win, United Way will be nearer our $75,000 goal."

Mort Rosen

Group Meeting: DEC Local Users

A short meeting of the Upton Local User Group will be held on Wednesday, November 19, at 11:30 a.m. in Room B of Berkner Hall. A Local User Group (LUG) made up of people within an area who use Digital Equipment Corporation computers, share common interests, and can exchange hardware and software ideas. All are invited to attend, especially users of VAX, PDP, microVAX, VMS, UNIX, RSX, RT, FORTRAN, etc. For more information, call Zoreh Parsa, Ext. 4748.

In Stormy Weather

The following radio stations have agreed to carry announcements regarding emergency closings and delayed openings at BNL:

Station	Area	AM	FM
WALK	Patchogue	1370	97.5
WBAB	Babylon	1440	102.3
WBLI	Patchogue		106.1
WCTO/ WGSM	Smithtown	74	94.3
WHLI	Hempstead	1100	98.3
WLIM	Patchogue	1580	
WLIX	Islip	540	
WLNG	Sag Harbor	1600	92.0
WRCN	Riverhead	1570	103.9
WRIV	Riverhead	1390	
WSBH	Southampton		95.3

Arrivals & Departures

Arrivals

Wayne H. Brush ..... Safeguards & Sec.
Gerald A. Griffin .... Safeguards & Sec.
Steven B. McCune ... Safeguards & Sec.
Larry B. Mullins .... Safeguards & Sec.
Joann Palumbo ..... Safeguards & Sec.
Gary G. Rooks ..... Safeguards & Sec.
Richard J. Thorp ... Safeguards & Sec.
Lawrence Witt ..... Safeguards & Sec.
Arthur Forman ..... Applied Science
Per O. Spanne ..... Applied Science

Departures

This list includes all employees who have terminated from the Laboratory, including retirees:

Robert W. Peck Jr. ..... Medical

Theater Group

The BERA Theater Group will meet on Wednesday, November 19, in the North Room of the Brookhaven Center. Socializing will start at 7:30 p.m. and a brief business meeting at 8 p.m. This will be followed by a program of short, choice scenes from well-known plays, including "I am a Camera." Plays will range from Restoration to Contemporary, by way of bedroom farce. From old-timers to newcomers, everyone will have an opportunity to get involved to the degree they want. For more information, call Kurt Fuchel, Ext. 4116.

Swim Club

At the Flushing YMCA Masters Swim Meet on Sunday, November 9, the first of the 1986-87 indoor season, the BNL Swim Team collected 14 medals for top-three, age-group finishes. In addition, Toshi Sugama placed third overall in the 200-yard breaststroke and set a personal record.

50-yard Freestyle		
Peter Heotis	25.716	1st men 35-39
Jose Pires	36.663	9th men 30-34
100-yard Freestyle		
Peter Heotis	57.910	2nd men 35-39
Paul Michael	1:15.830	6th men 55-59
Jose Pires	1:17.656	7th men 30-34
Laurie Hastings	1:19.061	4th women 30-34
Marsha Belford	1:19.084	5th women 30-34
50-yard Butterfly		
Peter Heotis	28.243	1st men 35-39
Marsha Belford	40.528	3rd women 30-34
50-yard Backstroke		
Gene Kaplan	1:19.195	4th men 55-59
50-yard Breaststroke		
Toshi Sugama	33.704	1st men 40-44
Laurie Hastings	45.927	5th women 30-34
Peggy Micca	50.299	3rd women 40-44
100-yard Breaststroke		
Toshi Sugama	1:13.256	1st men 40-44
Marsha Belford	1:37.600	2nd women 30-34
Laurie Hastings	1:39.492	3rd women 30-34
Peggy Micca	1:50.842	2nd women 40-44
200-yard Breaststroke		
Toshi Sugama	2:44.980	1st men 40-44
Laurie Hastings	3:34.200	1st women 30-34
100-yard Individual Medley		
Peter Heotis	1:08.283	1st men 35-39
Marsha Belford	1:31.333	4th women 30-34
200-yard Individual Medley		
Marsha Belford	3:14.178	2nd women 30-34

The Swim Club will practice on Thursday, November 20, at 5:15 p.m. at the BNL pool. For more information, call Marsha Belford, Ext. 5053, or Peter Heotis, Ext. 2304.

THE GREAT AMERICAN SMOKEOUT 10TH ANNIVERSARY

According to Health Promotion Specialist Elaine Friedman, there are four ways BNL employees can participate in the 10th annual Great American Smokeout on Thursday, November 20.

"If you smoke, try to quit for 24 hours," says Friedman. Smokers can trade in their packs of cigarettes for packs of lifesavers or gum in Berkner Hall, between 11 a.m. and 2 p.m. on the day of the Smokeout. Secondly, smokers and non-smokers can pick up free literature at that time on cancer prevention from an American Cancer Society representative.

Those who don't smoke can "adopt" a smoking colleague for the day. American Cancer Society tips for helping someone to quit for the day include: making yourself available either in person or by phone for the entire day, enlisting the help of others to give moral support, and not preaching or nagging.

Finally, you can drive your car with its headlights on to show your support of the Smokeout. Drop a note to Friedman at Bldg. 490 or at Berkner Hall the day of the Smokeout to let her know how you choose to participate.

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1987 Holidays

New Year's Day	Thursday	January 1
Floating Holiday (Martin Luther King Jr.'s Birthday)	Monday	January 19
Presidents Day	Monday	February 16
Memorial Day	Monday	May 25
Floating Holiday	Thursday	July 2
Independence Day	Friday	July 3
Labor Day	Monday	September 7
Veterans Day	Wednesday	November 11
Thanksgiving Day	Thursday	November 26
Day after Thanksgiving	Friday	November 27
Christmas Eve	Thursday	December 24 (½ day)
Christmas Day	Friday	December 25

Bowling

Pink League

Kathy Kissel bowled a 180, Mary Grace Meier 173, Renie Rosati 171, Louise Chinn 160.

Red/Green League

J. Morris had games of 231/223 for a 644 scratch series, C. Bohnenblusch 213, R. Larsen 213, T. Prach 213, E. Sperry IV 208, W. Kristiansen 205, J. Roesler 205, J. Connelly 203/201.

At the Cafeteria

Pumpkin Contest

The Cafeteria's Pumpkin Contest was won by John Bourquin, Plant Engineering, who was the only person out of 472 entries to correctly guess the pumpkin's exact weight — 36-1/2 pounds. For his feat, Bourquin received the pumpkin, as well as a pumpkin pie. The pie was quickly gone, but the pumpkin still decorates his stoop.

Holiday Hams

Holiday hams weighing from 18 to 20 pounds each may be ordered through the cafeteria, for $2.10 per pound, plus tax. Orders will be taken from November 14-21, and pick-up dates will be November 25 and 26.

Cafeteria Menu

Week of November 17

Monday, November 17

Cream of mushroom soup	(cup)	.70
	(bowl)	.90
Cajun popcorn w/1 veg.		2.60
Baked ziti w/garlic bread		2.55
Chicken salad Hawaiian (lite-weight)		2.35
Hot Deli: Meatloaf sandwich		2.45

Tuesday, November 18

Beef barley soup	(cup)	.70
	(bowl)	.90
Roast turkey w/dressing & 1 veg.		2.75
Pizza with two toppings		95¢/slice
Zucchini pasta salad plate (lite-weight)		2.35
Hot Deli: Corned beef	(bread)	2.45
	(roll)	2.60

Wednesday, November 19

Chicken rice soup	(cup)	.70
	(bowl)	.90
All you can eat special:		
Spaghetti & meatballs w/garlic bread (no take-outs)		2.90
Baked fish w/1 veg. (lite-weight)		2.85
Hot Deli: BBQ pork on onion roll		2.45

Thursday, November 20

Chunky tomato soup	(cup)	.70
	(bowl)	.90
Chicken Kiev over rice pilaf		2.80
New England boiled dinner (lite-weight)		2.60
Hot Deli: Baked Virginia ham	(bread)	2.45
	(roll)	2.60

Friday, November 21

Shrimp chowder	(cup)	1.00
	(bowl)	1.25
Baked ravioli Parmesan w/French bread		2.65
Fish Florentine w/1 steamed veg. (lite-weight)		2.85
Hot Deli: Pastrami	(bread)	2.45
	(roll)	2.60

Classified Advertisements

Autos & Auto Supplies

82 DODGE ARIES - wagon, 4 cyl., am/fm, cb, a/c, trailer hitch, $3,500; 81 Chevy, 4 dr., 4 cyl., am/fm, a/c, $1,500. Both good cond. 654-1146 after 5 p.m.

78 SUBARU FE - 2 dr., sedan, runs very well, reg. gas, $1,100. Ext. 2961 or 751-5593.

80 DATSUN 210 - 5 spd., 40 mpg, 71k mi., htchbk, many new parts, mint cond., asking $2,200. 589-7496.

75 MAVERICK - a/t, good running cond., 100k mi., 6 cyl., $500. 751-2867.

77 OLDSMOBILE - Toronado, a/t, a/c, full pwr, dependable, uses unleaded, asking $725. Frank, Ext. 3976 or 399-1307.

85 SUBARU GL - wagon, white, 25k mi., garaged, very clean, extras, tape deck, etc., asking $7,900. 288-3104, eves.

77 FIAT SPIDER - needs some work, $300. Ext. 2484 or 758-6241 after 6 p.m.

SNOW TIRES - (2) Dunlop GR78-15, steel belted, on Olds five hole rims, $60. Ext. 3392.

84 CADILLAC - Coupe de Ville, 29k mi., excel. cond., $12,400. 654-8622 9-5 p.m.

66 FORD - Mustang, not running, $500. 399-0942.

84 HONDA SPREE - good cond., 3k mi., $175. Ext. 4241 or 477-2184.

82 MAXIMA - loaded, full pwr, elec. sunroof, 2-tone brown, stereo, very good cond., clean, 80k hwy. mi., $5,500. Mark, Ext. 5176.

86 CHRYSLER - 5th Avenue., loaded, 26k mi., excel., $11,000, firm. Ext. 2816 or 878-0480, eves.

80 FORD FAIRMONT - a/t, p/s, a/c, 65k mi., asking $2,300. Peter, Ext. 2826 or 928-8579.

79 PONTIAC LeMANS - 4 dr., a/t, a/c, p/s, p/b, am/fm, good cond., runs well, $1,900. 331-4538.

80 VW RABBIT - diesel, $1,000 firm. 878-4873 or 878-2040 after 6 p.m.

73 JEEP - pickup, J4000, 1 ton, 4 spd., 4WD, 360 V8, lift kit, spoke rims, $1,500. 281-0380.

81 CHEVY CITATION - 4 dr., 4 cyl., htchbk, rebuilt a/t, p/s, p/b, fm radio, superior, 62k mi., 28 mpg, $1,950. Ext. 2545.

84 DODGE 600ES - orig. owner, 40k mi., 4 dr., immac., fully loaded, garaged, $6,500. 924-3236.

69 CHEVY - pickup, V8, a/t, ladder rack, good work truck, $500. 744-4386.

85 SKYLARK - a/c, p/s, p/b, am/fm cass., sunroof, 40k mi., excel. cond., $5,400. Chun, Ext. 2014 or 282-3008, eves.

TIRES - (2) 14" Firestone 721 radials, $20; pickup truck running boards, $75; trailer hitch, for 2" receiver, $135. Artie, Ext. 2987 or 325-0743.

76 CUTLASS WAGON - 2 seats, a/c, all pwr, low miles, rusty; 81 Mercury Capri, htchbk, 5 spd. overdrive, sunroof, more, $3,200. Ext. 4100.

78 T-BIRD - p/s, p/b, a/c, a/t, excel. in & out, new battery, exhaust, needs engine work, $1,500. 727-0364.

84 PONTIAC FIERO - low mi., loaded, red, asking $8,200. Dick, Ext. 4313 or 722-4094.

78 CHEVY MONZA - 2 dr., wagon, very good cond., 4 spd., am/fm cass., $950. Ext. 4409 or 361-7821.

79 PONTIAC WAGON - a/t, am/fm stereo tape, excel. body, good running cond., $2,200. 473-3070.

TIRES - (8) 13", $10 ea.; (2) snow tires, 14", $15 ea. Steve, Ext. 2314 or 929-6877.

80 OLDS TORONADO - red, V8, diesel, all pwr, orig. owner, clean, $2,500 neg. Ext. 3794.

FRONT BUMPER - chrome, fits Ford van or pickup, $25.; carb. & manifold, 2 bbl., Ford, $25; roof rack, chrome, $10. Ray, Ext. 3536 or 289-7615.

77 PONTIAC - wagon w/hitch, $750; 71 Dodge Swinger, a/c, p/s, $1,000. 567-5947.

76 PONTIAC SUNBIRD - 6 cyl, a/t, $500. Ext. 2314 or 567-5131.

70 TOYOTA CORONA - a/t, a/c, v.g. body; tires, (4) 175-13 radials on 4-lug rims; Holly 4 bbl carb., manifold for Buick V6, make offers. 395-3456.

75 CHEVY NOVA - 350 V8, 85k mi., good engine to put in boat or car, $300. Dorry, Ext. 2103.

78 TOYOTA CELICA - liftback, orig. owner, no rust, 99k mi., 5 spd., new battery, starter, asking $2,400. Bob Larson, Ext. 4656 or 928-1806.

TIRES - (4) Michelin XZX, 175SR14, good cond., $60 or best offer. Vasilis, Ext. 2676.

81 CHEVETTE - 4 dr., 4 spd., blue, 30 mpg., excel. cond., $950. Joe, Ext. 5131 or 929-4425.

77 MERCURY - XR7 Cougar, good cond., needs work, runs fine, asking $700. John, 286-1348.

PICKUP/CAMPER PACKAGE - 70 Dodge D-100; 8 ft. slide-on camper, gas heat/stove, truck depend., camper clean. Bob, Ext. 3145.

VW ENGINE - 40 hp, rebuilt w/50k, inc. all accessories, $125. Ed, Ext. 4768.

66 JEEP PICKUP - small block Chevy, turbo 400 trans., tinted glass, $2,000 neg. Call 929-4716 after 6 p.m.

83 FORD LTD - 60k mi., a/c, p/s, $4,200. 289-7661 after 3 p.m.

MUFFLER - VW Bug, new inc. tailpipe, $25. Ed, Ext. 4768.

82 TOYOTA STARLET - 5 spd., am/fm cas., excel. cond., 46k mi., asking $2,800. John, 286-1348.

83 SUBARU - station wagon, a/c, p/b, p/s, pw/pm, am/fm, orig. owner, mint cond., $5,500. 924-3674.

80 200SX - a/c, 5 spd., htchbk, sunroof, 76k mi., am/fm, p/s, p/b, runs well, $2,800 neg. 654-0830.

83 MERCURY LYNX - 4 dr., htchbk, 65k mi., a/c, a/t, p/s, p/b, stereo cass., excel., $3,900. Tony, Ext. 2462 or 269-9510.

78 CORVETTE - white/red leather int., glass T-tops, prof. recond. in/out, mint, flawless, $13,500. 589-7496.

TIRES - (4) 13" and alum. slot rims, best offer. Wayne, 698-1184 after 6 p.m.

81 RABBIT LS - diesel, 90k mi., a/c, am/fm cass., very good body, interior, $1,900 or best offer. Ext. 5611 or 281-2002.

72 FORD LTD - new trans, $350. Ext. 4995 or 3525 or 399-1249.

80 VW RABBIT - diesel, 4 dr., 94k mi., 45 mpg, am/fm, a/c, clean, good cond., $1,500. Ext. 4782 or 821-0695.

77 TOYOTA CORONA - wagon, 5 spd., 130k mi., very clean interior, excel. engine, $1,200. Dave, 928-5800 (work) or 588-2916 (home).

Boats & Marine Supplies

19½' SEA SPRITE - 1985, cuddy, I/O Merc w/all electronic, Shoreline trailer, asking $10,000. 363-6845.

NYLON ROPE - 200', ¾", double braided, almost new, $115. Artie, Ext. 4987 or 325-0743.

14' STAR-CRAFT - alum. boat, very good shape, $450. Ext. 4312.

13' SLOOP - moving, must sell, reasonable price. John, 286-0542.

27' CATALINA - 1976/77, 3 sails, atomic 4, many extras. Bob, Ext. 2144.

10½' ALUMINUM BOAT - 4 yrs. old, $150 or near offer. Peter, Ext. 2826 or 928-8579.

28' OWENS - 1965, inboard, glass f/bridge, new upholstery, motor not running, $750, make offer. Ray, Ext. 3536 or 289-7615 or 727-0842.

Miscellaneous

AT&T TELEPHONE - Amp, ivory, $25; antique white/gold drapes, lined, 70"wx82"l, $100/pr; red/gold ice bucket, $5. Ext. 2527.

HANGING LAMP - antique brass, w/globe; 4 cast iron radiators. 878-1805 after 5 p.m.

AIR CONDITIONER - 11,000 btu, wall unit, recently charged, good cond., make offer. Joe, Ext. 3397.

SOUND CAMERA - Elmo super 8, excel., zoom w/mike, new $250, now $125. Ron, Ext. 2141.

CHILD'S SKIS - Hart, 110 cm, Tyrolia bindings, size 13 boots, $25. Ext. 3313.

OPERA TICKETS - Met, LaBoheme, Dec. 19, $22 ea. Donna, Ext. 2754.

TICKETS - 2 for Isles vs. Philadelphia, Nov. 29th, section 321, $20 ea. Ext. 2824 or 727-3218.

BATH VANITY - new, formica, w/drawer, best offer. 277-3805.

55 GALLON DRUM - w/spigot, $30; stand for drum (1), $10; chairs, fireside, harp-shaped, carved wooden frames, traditional, cut velvet, custom made. 281-6699.

OPERA TICKETS - N.Y. City, (2) Sun. Nov. 16th, 1 p.m., second row orch. $30 ea. Ext. 7785.

QUEEN BDRM. SET - $300; wood wardrobe cabinet, $35; console stereo, $35; moving, much more. 924-1798.

COLOR TV - 19" Magnavox; am/fm stereo console, maple w/doors, about 4' long, best offer, moving, must sell. Vita, 277-0464.

BUMPER POOL TABLE - 35"x50", slate top, like new, everything inc., $75. 589-6803.

MOVIE CAMERA - Super 8mm and movie editor, regular 8mm, best offer. Mark, Ext. 5350.

3M DISKETTES - 5¼", ds/dd, new $10/10. Jim, Ext. 3372.

SIMMONS CRIB - mattress, dresser, yellow, good cond., $110. 567-9025 after 6 p.m.

MOVIE CAMERA - GAF, Super 8. excel. $45; baby items. 744-9677.

HEATER - Kerosun, good cond., asking $25. Ext. 4241 or 477-2184.

FIREWOOD - split, seasoned oak, 4'x16'x20-22" pieces, $105 delivered. 732-2849.

WALL UNIT - Colonial/Country, 3 piece, lighted, mint cond., asking $400, Ext. 7517 or 758-5669.

FISH TANKS - $20. Ext. 2050.

19" TV - Zenith, black & white w/cart, $20. I. Meyer, 929-4326.

FULL WETSUIT - women's, small $100, orig. $160. Ernie or Tim, Ext. 2957 or 281-7873.

C.B. ANTENNA - Avanti, C.D.R rotator, tripod 6', $100 firm. 281-2186.

DANISH CHAIR - $25; twin mattress, $25; kit. table, 2 leaves, 6 chairs, $75; apt. size dryer, $95; B&W TV, $25, more. 929-6932.

DINING TABLE - Queen Ann, 100 yrs. old, 42"x60" with center leaf, $200; 10-light crystal chandelier, $75. Ext. 3457 or 732-1913.

HOLIDAY CRAFT FAIR - Baiting Hollow Church, Sound Avenue, Calverton, Sat. Nov. 15, 10-3.

COVER - for bucket seats, gray stretch, 2/$25; citrus juicer, $15. Ext. 3701 or 751-8128.

DISK DRIVES - IBM, compatible Panasonic, ½ ht, DS100, new, $75. Ed, Ext. 4768.

KEROSENE CAN - 5 gal., $4; car speakers, $10; flashlights, $1 ea; hanging plant pole, $4. Joe, Ext. 2898.

AZALEAS - 3-5 ft. diameter, you dig, $50 ea. 689-9234.

REF-FREEZER - Westinghouse, frost free; GE 40", stove, self-clean; Wasteking dishwasher; sink/faucet, $525 buys all. 286-1213, eves & wknds.

KODAK CAROUSEL - projector lens, 102mm, f2.8, $10; 35mm rangefinder w/book, case, $25. Susan, Ext. 4267.

BABY STROLLER - 1 yr. old., excel. cond., orig. $200+, asking $95; patio furniture, chairs, tables, orig. $1,500, best offer. John, 286-1348.

MOVING SALE - small electric appliances. 289-7661 after 3 p.m.

TURBO OVEN - convection turbo; knitting and ribber machine w/table. 475-0509.

SLEEPER SOFA - Q-size, butcher block ends, $85; pole lamp, 3 balls, marble base, $20. Ext. 2386 or 286-8470.

METAL CABINET - 6 adjustable shelves, 72"H x 36"W, $15; 1940 oak butcher meat hook rack, $20; old bookcase, $65. 878-6637.

SNOW BLOWER - Craftsman, 3½ hp, 18", like new, $180. 928-6209 after 4:30 p.m.

STORAGE DRUM - lined, 55 gal., kerosene w/spiget and cradle, like new, $15. Eva, Ext. 2197.

CASSETTE - player, radio combo, Samsung portable or plug-in, $10. Jim, Ext. 2432.

COMPUTER MONITOR - Tandy, VM-2, monochrome, 1 yr. old, excel. cond., orig, $149, asking $100. John, 286-1348.

ROWING MACHINE - fully adjustable, excel. cond., $75; GE chest freezer, $50. Dave, Ext. 2760 or 929-3620, eves.

WINDOWS - (2) custom-made, vinyl double-hung, insulated, each 35"x37" mounted in frame, $200/pr. Ext. 7112.

ELECTRIC BARBEQUE - 1.5 kW, $35 or near offer. Peter, Ext. 2826 or 928-8579.

OLD MAGAZINES - Field & Stream, Car Craft, Easy Rider, Hot Rod, some full year sub; fish tanks, 10 gal. w/acc. gravel. Ray, Ext. 3536 or 289-7615.

FURNITURE - corner china closet, $50; gold velvet swivel rocker, $30; coats, fake-fur, size 12, $20; suede w/fur collar, size 16. $35. 744-9822.

KEROSUN HEATERS - (2), Radiant 10, excel., $50; china closet, 5', walnut, excel., $200. Ext. 2529.

PORT-A-CRIB - or small playpen, suitable for 2 yr. old's naptime. Sandy, Ext. 4550 or 281-0843 after 6 p.m.

DRAPES - for large window area, $18. Morris, Ext. 4192.

PLAY PEN - portable, 1 yr. old, like new; toddler clothes; toddler winter pile-lined jacket; excel. cond., crib and mattress cover set. Ext. 3084.

UNICEF - X-mas gifts, & cards, free catalogs/info./order. Ext. 2022 or 744-8386.

BOW - 50 lb. Browning w/arrows, $50; pine cone wreaths, handmade, 14" & 16", also trees and candy canes. Artie, Ext. 4987 or 325-0743.

Car Pools

MASTIC - need ride to/from Lab., 8:30-5:00 p.m. shift, will pay. Jody, Ext. 2907 or 395-3963.

GREENLAWN/HUNTINGTON - 1 driver needed. Call Jim, Ext. 5057.

Lost & Found

FOUND - male golden retriever, on site. Sheryl, Ext. 4400 or 689-7725, eves.

Yard Sale

HAMPTON BAYS - furniture, & household items, corner of Wakeman & Shinnecock, Sat. Nov. 15 & Sun. Nov 16, 8:30-4:00 p.m. 728-2104.

Free

TRIVIA CARDS - golden, NFL edition. Ext. 4727.

OIL TANK - 250 gal., you pick up. Ext. 2484.

Real Estate

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

For Rent

CORAM - new Bretton Woods condo, 2 bdrms., 2 bath, l/r, d/r, eik, w/w, 5 appl., golf, tennis, clubhouse, no pets, $800 mo. + util., 1 mo. security. 289-0413.

PATCHOGUE - furn., spacious apt. w/fireplace, $550 mo. inc. all. Ext. 4478 or 475-3838.

MORICHES - charming, 1 yr. old country cottage, 1 bdrm., full bath, kit./dining/living area combined, full bsmt., w/w, a/c and more, 6 mi. from BNL. $600 mo. + util. Call 878-9284.

HUNTER MOUNTAIN, NY - ski house, 1/10th mile from Mt., Nov-April, share, $500 per person, 6 bdrms., 3 baths 2 full kit. Bob, 588-0677.

RIDGE - 1 bdrm. apt. in waterfront home, fully furn., full bath, l/r, eik, pvt. ent., offstreet parking, minutes from Lab, inc. cable and utilities, $525 mo. 929-6945, leave message.

VERMONT - vacation, 3 bdrm. house, f/p, fully equipped, beautiful view, x-country & downhill skiing, reasonable, family oriented, avail. weekly or wknds. 732-6499 after 6 p.m.

HOLBROOK - newly decorated, 4 bdrm. home, 1½ baths, dining area, country kit., enclosed sun room, new heating system, windows & stove, closets galore, Sachem S.D. $900 + util., Ext. 2529 or 588-7989, eves.

SETAUKET - 3V schools, 3 bdrm., cont. Colonial, 2½ baths, huge l/r, d/r, f/r, eik, 2 car garage, fenced in ½ + acre, solar hw. Ext. 4157 or 698-6103, eves.

HILTON HEAD, SC - 2 bdrm. condo, sleeps 6, golf, tennis & many extras, $300/wk. off season, $400/wk prime, 585-9149.

HAMPTON BAYS - waterfront, 2 bdrm. house, furnished, Nov. thru May '87. 728-2104.

SOUND BEACH - 1 bdrm. apt., l/r, kit., full bath, w/w, unfurn., pvt. ent., single only, refs, 2 mos. sec., $550 inc. util. 744-0725, eves.

RIDGE - 2 bdrm., eik, l/r, full bath, avail. immed., $625 mo. inc. util. Call 924-5541.

For Sale

RIDGE/LAKE PANAMOKA - 3 bdrm., 1 bath ranch, crawl bsmt., fenced yard, deeded lake right. 929-3662.

SAYVILLE WEST - 3-4 bdrms., cedar ranch, brick front, 2 full baths, garaged, c/ac, eik, d/r, l/r, fam./rec room, full bsmt., lg. patio, appl., w/w, extras, sidewalks, mint cond., Sayville school distr., walk to golf course & bay, $150. 589-2681.

YAPHANK - Whispering Pines condo, Dogwood model, 4 bdrms. w/fp, formal d/r, kit., 3 bdrms., 2½ baths, garage, full 8' fin. bsmt., central air, 20'x20' brick patio, landscaped, many extras, $149,990. 924-6474.

BROOKHAVEN HAMLET - 4 bdrm. Colonial, ½ acre, cul-de-sac, Florida room, country kit., inground pool, full bsmt., mint, $180,000. Walter, Ext. 4605 or 286-1959.

DELRAY BEACH, FL - condo, 2 bdrm., 2 bath, all appl., enclosed porch, many improvements, semi-attached, near water, clubhouse, sauna, pool, sports, mature adults. Ext. 4192 or 751-7787.

EAST SETAUKET - 3 bdrm., split-level ranch, eik, l/r, d/r, den w/fp, w/w, deck 3V school district. $132,500. Ext. 2760 or 929-3620, eves.

SHOREHAM NORTH - 4 bdrm. Colonial, 2½ baths, den/fp, bsmt., fenced, patio, formal d/r. 744-1750.

POCONOS - chalet, 3 bdrms., l/r, d/r, f/r, kitchen w/woodburning stove, w/w, garage w/electric door opener, circular drive., Pocono Country Place, paved roads, pools, lake, clubhouse, tennis, all ent. are security guarded 24 hrs., $115,000, neg. 286-4652.

HAMPTON BAYS - legal 2 family house, excel. cond. 728-2104.

Wanted

TRAINS - Lionel, American Flyer, accessories, any cond., brings good price. Carole, Ext. 3362 or 924-4096.

FORD TRUCK - without engine, reasonable. Dan, 281-4735 after 5 p.m.

17' CANOE - alum. or fiberglass. John, Ext. 7671.

LOVING HOME - for kittens, 8 weeks old, litter trained, males and female. Call 751-1920.

HAND TRUCK - appliance. John, 4243 or 924-3492.

CB ANTENNA - for home mount on chimney, reasonable price, should be in good cond., John, 286-1348.

SOMEONE - to level & grade fill, area approx. 30'x75'. Ext. 2492 or 475-8658 after 7 p.m.

BENCH PRESS - w/adj. back & leg attachments, also 25 or 50 steel plates. John, 286-1348.

ELECTRONIC REPAIRMAN - to fix GE TV, remote control unit or used GE remote unit to buy. Jim, Ext. 2432.

ENGINEER - to solve my smoking fireplace problem. 698-1362, leave message.

CAST IRON RADIATORS - any size, considered. Ext. 3705 or 862-7998.

SLIDING DOOR - and frame, used, broken glass, OK. Victor, Ext. 2395.

Ads left out of this issue due to lack of space need not be re-submitted to appear in the next issue.