



Brain Control Can Bring World Peace Says AUI Lecturer

"A peaceful world," says Professor Kenneth E. Moyer, "depends not only on the control of the hostile tendencies that lead to war, but also on the control of the hostile tendencies that set neighbor against neighbor, and husband against wife."

Dr. Moyer, ninth speaker in the AUI Distinguished Lecture Series, has outlined several possible means of controlling aggressive behavior in a recent paper titled "Brain Research Must Contribute to World Peace."

"It appears that the scientists in brain research stand on a threshold similar to the one on which atomic physicists stood in the early 1940's."

On Thursday evening, October 2, in Berkner Hall at 8:30 p.m. Professor Moyer will deliver an address on "Some Implications of Recent Brain Research for Behavior Control." As Professor of Psychology at Carnegie-Mellon University, Moyer is well versed in the physiological manipulation of aggression. His lecture will focus on recent developments in brain research, including the effects of artificial stimulation, surgery, and drugs on human behavior.



Kenneth E. Moyer

There are several possible means for controlling aggressive behavior. One is through education. Another is by surgically interrupting the aggressive circuitry in the brain. Still another method involves surgically implanting a radio-controlled electrode in the septal region. When stimulated via a remote push-button, a violent psychotic immediately changes from an aggressive individual to one who is relaxed and without hostility. A fourth method is to use drugs which do not sedate but overcome aggressive behavior. All of these methods are referred to as psychological manipulation for control of aggression.

Dr. Moyer has stated that, "We have already heard the quotation that 'War is too important to be left to the generals.' I submit that the physiology of peace is too important to be left to those of us who do brain research. Would this cure for war be worse than the war? At the moment we just don't know. We had better find out as soon as possible."

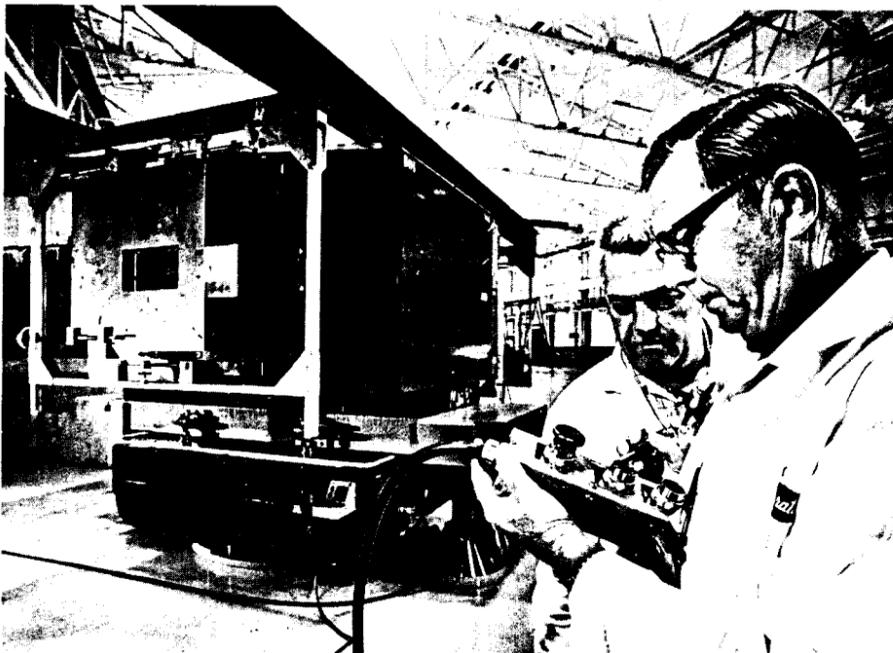
The AUI Distinguished Lecture is open to the general public and tickets are not required.

Optician On Vacation

On October 1, 6, 9, and 13th, the optician serving the Safety Equipment Room in Building 535 will be on vacation. There will be no issue of prescription safety glasses during this time. If a need arises for plano safety glasses or special cover goggles, the Safety Services Office should be contacted.

The optician will return on October 15, 1969 at his regular time.

150-Ton Transporter



Senior Lab Technicians Robert Baker and Robert Aldridge adjust control box for the magnet transporter used to move spectrometer magnets weighing up to 150 tons. The transporter is positioned under a magnet assembly used in an experiment for Stony Brook located in the new East Experimental area of the AGS. —Humphrey

High School Co-Op Program To Start

BNL will once again participate in the Board of Cooperative Educational Services High School Cooperative Program for the 1969-70 school year. The program will operate on the same basis as last year, with the students working from 2 p.m. to 5 p.m. each school day.

As before, the objective of the program is to assign the students to jobs where they will develop good working habits and useful skills under sound supervision.

Administrative units desiring to use the services of one of these students can contact the Personnel Office for information about availability and assignment. Monday, September 29, is the deadline for applying in order to make schedules for the students to start work in mid-October.

Moon Rocks Still To Come To BNL

According to latest word from the Lunar Receiving Laboratory BNL's sample of Lunar material will be ready for delivery to representatives from the Lab on September 30.

Preparations are being made for display of the sample as soon as practical after it is delivered to Brookhaven.

Third Brookhaven Semester Group Arrives



The third group of students for the Brookhaven Semester Program arrived at the Lab last week. One of the stops on an orientation tour for the group was the HFBR, where the students were shown BNL's newest reactor. Left to right are: Dianne Ward, Knoxville College; Layton Doucet and Deborah Livingston, Grambling College; Omega Norton, Knoxville College; Claire Whitten, faculty member from Tougaloo College; Wayne Harris, Prairie View College; and Nsa Ani Nsa, a Nigerian student from Texas College. —Lauber

150 Ton Load No Sweat For New Transporter

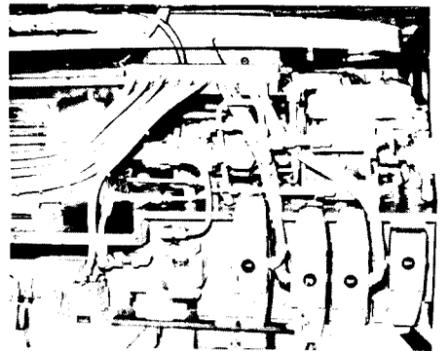
Compared to the load it can carry, the "Mighty Mite" is a real powerhouse. It can lift and walk away with a 150-ton magnet assembly without even slowing down from its normal pace.

This is not to say that Mighty Mite is a fast mover! In fact, its normal speed is a stately one foot a minute. Of course, if this dizzy pace is too much for the operator to stomach, he can shift to low gear, and move along as slow as two inches a minute!

"Mighty Mite" is properly called a magnet transporter, and is used to precisely position spectrometer magnets in experimental areas of the AGS. The unit, which is about the size of two office desks pushed together, weighs a little over 10 tons, and depends for its power on one 10 horsepower motor that drives the pumps of an intricate hydraulic system. Carrying range of the transporter is limited only by the length of the 440-volt wire that supplies electric power.

The carrying capacity of this machine is 150 tons, but is limited by the capacity of the floor to approximately 120 tons. The transporter is capable of positioning heavy objects in space with a precision of ten thousandths of an inch in an x, y, or z axis.

The translation along each axis as well as the the angular displacement in the



Part of the neatly-packaged hydraulic circuit of the transporter. All is hidden under the hood of the machine, yet is accessible for easy servicing.

horizontal plane is unlimited because it is performed in increments which repeat themselves. The machine is fully automatic and employs the most progressive antifricition devices including hydrostatic oil thrustbearings; air bearings; and linear motion roller bearings.

The console is an integral part of the device as is the hydraulic "muscle," and the electrical and electronic system. The entire machine is a compact conglomerate of mechanical, structural and electrohydraulic engineering.

The unit was designed by Eugene Halik, who was in charge of the engineering of the 140-foot Radio Telescope at the National Radio Astronomy Observatory in Greenbank, West Virginia.

This unique transporter will help experimenters to locate their gear without the tedious and costly disassembly and reassembly which was previously necessary when moving the magnets with overhead cranes. The transporter can also move into areas that are not serviced by the cranes. When the empty transporter is moved from one job to another, it can be pushed along on its air bearings by only a small crew.

Engineers, designers and technicians closely connected with this project were: R. Aldrige, R. Baker, W.E. Harrison, Jr., R.E. Mignerey, D.A. Plows, C.E. Reed and last, but not least, J.A. Tagliavia who served on the project in many capacities. Most of the above are members of the Mechanical Engineering Division.

Coming Attractions

10/2 AUI Distinguished Lecture
Dr. Kenneth Moyer

10/7 BERA Concert
Eastman Quartet
(Berkner Hall - 8:30 p.m.)

Seaborg Notes BNL Medical Advances

The Bio-Medical Laboratories of Lawrence Radiation Laboratory, University of California, Livermore, were recently dedicated at a Symposium on the Biological Implications of the Nuclear Age. Dr. Glenn T. Seaborg, Chairman of the AEC, was a participant in the symposium and dedication ceremonies.

In his address, "The Atom's Expanding Role in the Medical World," Dr. Seaborg spoke broadly about some of the recent progress being made in the medical applications of the atom, and specifically about BNL's role in this progress.

"Unfortunately," he said, "this is a subject that is not widely discussed outside of the medical profession. The remarkable contribution of the atom to medicine deserves more attention. . . We are already experiencing its benefits every day."

Dr. Seaborg went on to say that today nearly every medical speciality has found clinical uses for radioisotopes. He said some 30 different radioisotopes are used around the world in the diagnosis and treatment of many diseases and disorders and in continuing research on them.

"We have made an assessment of the general use of radioisotopes in hospitals and clinics in the U.S. that indicates that these amazing servants of mankind are now being employed in approximately 8 million individual therapeutic treatments or *in vivo* and *in vitro* diagnostic procedures. . . I have reserved for special discussion the manifold new applications of technetium-99m."

"Technetium-99m, developed at Brookhaven National Laboratory and Argonne Cancer Research Hospital, has in recent



Extracorporeal Irradiation of the Blood has now become a routine procedure at Brookhaven for the treatment of leukemia.

years proved to be such a versatile tool that I believe it is worth special attention as an example of recent progress in nuclear medicine. This short-lived radioisotope is used for the diagnosis of thyroid disease, liver disease, brain disease, and kidney disease, depending on its physical and chemical state. . . Some measure of the value of technetium-99m can be gleaned from the fact that at least 2000 diagnostic procedures are being carried out daily in the U.S. with this radioisotope and it is now being used on a worldwide basis because of its nearly ideal properties as a diagnostic tracer. . .

"A sulfur colloid labeled with Te-99m developed at BNL has become an important and widely used agent for studies of the liver, spleen and bone marrow. For such applications this colloid has proved superior to colloidal gold which has been previously used for these purposes."

Dr. Seaborg went on to speak of "an exciting new possibility - californium-252, which has the useful property of emitting neutrons as part of its decay process. Neutrons may be more efficient in destroying oxygen deficient cancer cells than are x-rays and gamma rays. Needles containing californium-252 have been prepared at the Savannah River Laboratory and are being evaluated in radiation experiments at BNL. This possible use of an internal isotopic neutron source in cancer therapy could be a major advancement."

He continued, "Among the persistent and unsolved problems confronting physicians today are those concerning management of leukemia. At BNL solutions are being sought by a new and unorthodox technique of intermittent irradiation of blood in an exteriorized shunt (extra-corporeal irradiation). Results so far indicate

Chilean Visitor



Distinguished visitor to BNL last week was Dr. Ismael Mena, Head of the Department of Nuclear Medicine at Catholic University, Santiago, Chile. Dr. Mena spent several days here conferring with BNL staff members on the use of L-Dopa in the treatment of Manganese poisoning, a crippling disease that strikes manganese miners of all ages. The L-Dopa treatment used was developed by Dr. George Cotzias and his team of researchers for Parkinson's Disease. After leaving BNL Dr. Mena flew to Los Angeles where he delivered a paper at UCLA Medical Center. From California, Dr. Mena will go to Japan to participate in the 16th International Congress on Occupational Health.

Cafeteria Menu

Week Ending October 2, 1969

| | |
|-----------------------------------|-----|
| Friday, September 26 | |
| Old Fashioned Clam Chowder | |
| Broiled Swordfish/Butter Sauce | .75 |
| Beef Burgundy on Noodles | .70 |
| Fish 'N' Chips | .65 |
| Monday, September 29 | |
| Mulligatawny Soup | |
| London Broil/Mushroom Sauce | .65 |
| Swedish Meatballs on Rice | .65 |
| Ravioli/Parmesan Cheese | .65 |
| Tuesday, September 30 | |
| Beef Barley Broth | |
| Pot Roast of Beef/Brown Gravy | .70 |
| Chicken Chow Mein/Chinese Noodles | .65 |
| Broiled Link Sausage/Apple Sauce | .65 |
| Wednesday, October 1 | |
| Cream of Mushroom Soup | |
| Barbecued Pork | .65 |
| Spaghetti with Italian Sausage | .65 |
| Fried Filet of Sole/Tartar Sauce | .70 |
| Thursday, October 2 | |
| Onion Soup/Cheese Croutons | |
| Veal Parmigiana | .70 |
| Beefsteak Pie/Pastry Cover | .80 |
| Baked Macaroni au Gratin | .65 |

that certain forms of leukemia may be favorably influenced by this treatment."

Concerning the importance of trace metals to health and disease, Dr. Seaborg said, "Procedures developed at BNL have provided better sensitivity and specificity for measurement of the trace metal manganese. The importance of manganese as an essential element lies in its extensive participation in both catalytic and non-catalytic biochemical processes for which this metal is specific.

"Among recent investigations of manganese have been those involving studies of melanin-producing tissues. Since melanin formation is defective in the brains of patients with the neurological disease Parkinsonism, efforts were initiated to affect melagenesis and to determine its influence on the disease. One of the gents investigated by Dr. Cotzias and coworkers at BNL was the melanin precursor dihydroxyphenylalanine (DOPA). They found a surprisingly favorable response to the drug DOPA by patients suffering from Parkinson's disease. The results are very encouraging. About 250-300 patients have been treated with DOPA and carefully studied. Roughly one-half of these patients have become self-sufficient. Of the 50 percent who did not become self-sufficient, the amount of nursing care was significantly reduced.

"One can predict that the studies to date on Parkinson's disease and the continuing investigation of drugs similar to DOPA will lead to further understanding of the nature of several crippling neurological diseases."

Here and There

Dolores del Castillo

Mort Rosen (Photography) lectured at a recent meeting of the Long Island Press Photographers Association held at the State University of Farmingdale. The slide-illustrated talk was on the subject of portraiture.

John Blewett (Accelerator) has recently returned from a trip abroad. Visiting laboratories in Germany and France, he also attended the Seventh International Conference on High Energy Accelerators held in Erevan, USSR. While in the Soviet Union, he visited a number of laboratories for high energy discussions.

Robert Chrien (Physics) attended the recent International Symposium on Neutron Capture Gamma-Ray Spectroscopy held in Studsvik, Sweden. While in Europe, he also visited several laboratories in Czechoslovakia and Germany.

Michael Thorpe (Physics) recently visited at Harwell, Oxford and the University of Essex at Colchester, England, for physics discussions of mutual interest.

John J. Russell of the Australian Commonwealth Scientific and Industrial Research Organization will visit at the Laboratory on October 2.

Andreas Gann and **Constantin Carpetis** of the Institute for Conversion of Energy and Electric Propulsion, German Research and Testing Station for Aeronautics and Space Flight, will be at the Laboratory on October 2 for discussions in energy conversion methods, power systems, cryogenics and superconductivity.

Japanese Science teachers, **Hidekazu Aikawa**, **Yukio Sakagawa**, and **Michio Tsukui**, will visit the Laboratory on October 3 for a general orientation tour.

Sol Pearlstein (DAS) is serving as Chairman for the Cross Section Evaluation Working Group Meeting currently being held on site. Participants in the meeting represent twenty-three laboratories throughout the United States.

IBEW September Meeting

The next general meeting of Local 2230 IBEW will be held on Thursday evening, September 25, 1969 at 8 p.m. in the K of C Hall, Railroad Avenue, Patchogue.

The agenda will consist of general business and reports from committees.

Mountain Climbing Club

The BNL Mountain Climbing Club has planned for four events to take place during the months of October and November. All of the listed events are open to all employees who are interested in the activities of the group.

October 3 thru 10 - Friday thru Friday
Camping in White Mountains of New Hampshire.

October 18 - Saturday
Hiking and birdwatching at Morton Wildlife Refuge (Jessup's Neck on Little Peconic Bay)

November 1 - 2, Saturday and Sunday
Caving near Kutztown, Pa. (excellent caves for the beginner)

November 15 - Saturday
Day at the Bronx Zoo (New York Zoological Society)
Contact Joe Fineman, Ext. 2341 or Gary Hughes, Ext. 7541 for more details.

Hospitality News

The next regular Hospitality Committee coffee meeting will be held on Monday, September 29, from 10 a.m. until noon in Cottage 11.

Don't miss this opportunity to make the acquaintance of your new neighbors who will be here for the winter. Bring the children - everyone is welcome.

A luncheon for all Hospitality Chair-ladies will be held this Thursday at the Brookhaven Center to plan the November tea and sherry party.

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NORBERT J. DERNBACH
Public Relations Officer

Letters To The Editor

Dear Sir:

The family of Clarence Hammond wishes to express their appreciation to the Laboratory and friends for the beautiful flowers and the many individual acts of kindness.

Sincerely,
Sally Hammond

Dear "Me":

In regard to your letter concerning the film, "Romeo and Juliet", please understand that I am writing this because I think you need to be "torn apart."

You stated that you had read it twice in thirty years. And you probably did just that! Your obvious pride at having been able to read every word of "Romeo and Juliet" just points out, all the more, your inability to perceive or read "into" the actual significance of it. You obviously know very little about "young love and death" or else were seriously cheated out of a very integral part of it.

May I remind you that you did not "actually see" these two people on the screen, you saw a representation of them.

If you remember correctly (or perhaps you were so struck, unknowingly, by the beauty of the scene that you cannot recall the actual meeting of Romeo and Juliet) that their meeting was "slightly" mutual. Please do not allow your own personal experiences to overshadow this particular episode.

You were "struck," assuredly, but by your own inability to accept this play in, perhaps, the way it was originally intended to be accepted by Shakespeare. He, thank goodness, was not as blind as you have been all these years. And do not forget that it was the same blindness, ignorance and intolerance on the part of the elder Capulets and Montagues which eventually drove these two beautifully sensitive young people to their early death.

"I"

Dear Editor:

Wouldn't it be a nice gesture on the part of BNL's employees if we voluntarily contributed a nominal amount of money to a worthy cause - like adopting a child (or children depending on the amount of money collected) over in Asia or some other country.

The letters written back and forth to the orphan could be printed in the *Bulletin* and would be of interest to many employees.

How about it?

Evelyn Birnbaum

Arrivals & Departures

Arrivals

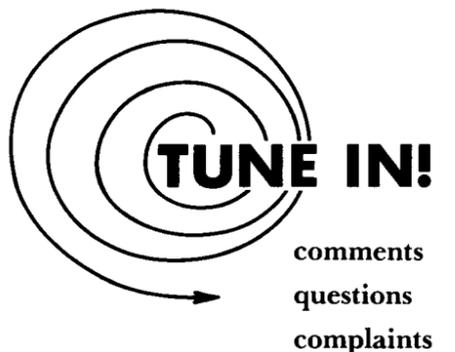
Robert E. Ackerhalt.....Chemistry
James T. Dixon.....App. Math.
Ronald D. Finn.....Chemistry

Departures

Anthony Adin.....App. Science
Mario DePas.....Chemistry
William R. Harris.....Physics

Safety Issue Schedule

Safety spectacles will be issued on Mondays from 9 a.m. to 12, and on Wednesdays from 1:30 to 4:30.



Mets Playoff Series Tickets

At this writing, it very much looks like our own New York Mets will be in the 1969 National League Championship Playoff. In the event this does happen, BERA will have eight (8) Box Seat tickets, at \$7.00 per ticket, to each of the three games (October 3rd, 4th and 5th) to be played at Shea Stadium. There will also be available 4 reserved seat tickets at \$5 each for the same games.

In order that as many BNL employees as possible may have a fighting chance in buying these tickets, a drawing for the seats will be held at the Recreation Office on Monday, September 29th at 3:00 p.m.

The drawing will be restricted to employees only. Each winner will be permitted to buy one ticket. If you would like to have your name entered in the drawing, call Blanche Laskee on Extension 2808 no later than Monday noon, September 29th. Winners will be notified immediately following the drawing.

World Series?

If the Mets survive the Playoff and get into the World Series, we should also have our 8 Box Seats for the games to be played at Shea Stadium. A drawing will also be held for the privilege of purchasing these tickets. If you would like to place your name on this list, call Extension 2808. The date of this drawing has not yet been determined.

Football Notes

by Jack Brennan

The four undefeated Clubs - Chemistry, Rat Pack, Slow Pokes and AMD - won their games to remain in a four-way tie for first place.

AMD in their second straight shutout, won a tight game with the Staggering Six 7-0.

The Slow Pokes beat the Kickers 34-0 with Jim Hooper and George Oldham scoring 2 T.D.'s each for the Pokes.

The Rat Pack beat Bio-Med 43-0, scoring 4 T.D.'s on their first four passes. Walt Reams scored 2 T.D.'s for the Pack.

Chemistry, a new Club this year, beat Physics 32-19 to remain tied for first place. Tom Brennan had 3 T.D.'s for Chemistry while Jack Crow of Physics had 2 T.D.'s.

BERA Concert Series

Tickets Now On Sale

From now until October 7, the BERA Concert Group will be making a concerted effort to sell subscriptions to the 1969-70 Concert Series. Ticket sellers are available in most areas of the Lab, and can be reached by phone if this arrangement is more convenient.

Listed below are the dates of the concerts for the coming series:

Tuesday, October 7, 1969

Eastman Quartet

Thursday, November 6, 1969

Agustin Anievas, Pianist

Tuesday, December 2, 1969

Ernst Haefliger, Tenor

Thursday, January 8, 1970

Young Artist Recital (Free admission)

James Gemmell, Pianist

Tuesday, January 20, 1970

Claude Monteux, Flutist

Thursday, February 5, 1970

Mozartium Woodwind Quintet of

Argentina

Thursday, March 19, 1970

Marvin Hayes, Bass

Tuesday, April 7, 1970

Pacific String Trio

All concerts will be presented at 8:30 p.m. in Berkner Hall. Season tickets are on sale at \$10 for adults and \$5 for children. Single tickets may be purchased for each event at \$3 for adults, \$1.50 for children, and \$3.50 for non-employee guests. Season tickets are available from:

| | | |
|-------------------|-----------|--------------|
| Arnold Aronson | Ext. 7411 | DAS |
| Elliott Auerbach | 7564 | Physics |
| Manny Hillman | 2378 | DAS |
| Margaret Hind | 2732 | Applied Math |
| Charles W. Kim | 7487 | Medical |
| Blanche Laskee | 2808 | Recreation |
| Myron Ledbetter | 7215 | Biology |
| Morris L. Perlman | 637 | Chemistry |
| John Stehn | 2449 | DAS |
| Rita Straub | 2878 | Medical |
| Kathleen Tibbets, | 7600 | Physics |

Soccer

M.T. Hutchings

Grumman 2 Vs. BNL 1 (2-0)

In a somewhat unsatisfactory, though enjoyable, match on Wednesday evening 17th September, we lost by the odd goal in three to a large Grumman contingent (some 25 players in all!). It was unsatisfactory because once again we felt we could so easily have done better. However, we never really settled down, due in part to a stiff breeze and in part to the quick tackling of our opponents. Both Grumman goals were the results of fine shots in the first half, though the first was scrambled home on a rebound and the second was the outcome of a much delayed free kick. At the other end good shots by Rotvik and Cox were well saved. The second half play was contained in mid-field. Grumman never really looked like increasing their lead and our goal, about 20 minutes from the end, was put in by their defender from a hard low-cross by Rotvik.

Practice games every Monday at 5:10 p.m. Phone Ext. 7608 or 7193 if you wish to join us. New employees welcome. Matches are being arranged for October weekends.

Best wishes to Mario who takes his shrewd play back to Italy (and retirement?) next week.

Sixth Round Robin

Pistol Tournament

The sixth Round Robin Pistol match of the 1969 season was held on September 11th at the BNL Pistol Range. The results were as follows:

In the .38 cal. individual event the winners were: C. Spinelli, Accel., 1st place, Class A with a score of 296; J. Barry, PEP, 1st place, Class B with a score of 284; P. Mercier, PEP, 1st place, Class C with a score of 240; P. Sparrow, AGS, 1st place, Class D with a score of 121.

In the .22 cal. individual event the winners were: J. Barry, PEP, 1st place, Class A with a score of 260; P. Hichborn, Accel., 1st place, Class B, with a score of 236; M. Johnson, Retired, 1st place, Class C with a score of 222; F. Rumph, Physics, 1st place, Class D with a score of 179.

The winners in the .38 cal. team event were: Capt. F. Bugala, Lab Police, and J. Rutherford, DAS, 1st place, Class A with a score of 579; J. Barry, PEP, and W. Fleicher, PEP, 1st place, Class B with a score of 558.

The next and final scheduled event of the 1969 Round Robin Tournament will be held on October 9th 1715 hours, at the BNL Pistol Range.

Theatre Group Try-Outs

Additional tryouts for the Theatre Group's winter production will be held September 25 at 8 p.m. Anyone interested in a part is urged to come.

This production will consist of two short plays: "Interview" by Jean-Claude Van Itallie (from America Hurrah) and "Good Day" by Emanuel Peluso. Both will be directed by Julie Peierls. "Interview" has four men's and four women's parts; "Good Day" has only two characters, a youngish man and an elderly woman.

Anyone wishing to read the plays may obtain a script from the producer, Gert Friedlander, by calling Ext. 608.

Events At Stony Brook Sept. 25 thru Oct. 1

A concert by the New York Woodwind Quintet with Samuel Baron, a discussion of the crisis in Northern Ireland, folk singer Gordon Lightfoot, and a free rock concert are events scheduled this week on the campus of the State University of New York at Stony Brook

An evening of chamber music will be offered beginning at 8:30 p.m., Friday, Sept. 26, in the 579-seat recital hall of the Stony Brook Lecture Center by the New York Woodwind Quintet with flutist Samuel Baron. Tickets are \$2.50 for the general public and \$1.50 for faculty and employees of the University.

Samuel Baron has recorded works for flute from the Baroque and contemporary repertoire. He plays a rare platinum flute, one of eight in existence.

Austin Carley and Karl Bottigheimer, experts on Ireland, will discuss the crisis in Ireland on Thursday, Sept. 25 at 8:30 p.m. in the study lounge of Cordozo College. Admission will be free.

Mr. Carley is an Irishman who teaches sociology at Long Island University. This summer, he wrote a series on the problems of Northern Ireland for the Boston Globe newspaper. Dr. Bottigheimer is a professor of history at Stony Brook with a special interest in the relationship between England and Ireland. He was in Ireland this summer.

Folk singer Gordon Lightfoot, composer of "In the Early Morning Rain" and other songs, will perform on Saturday, Sept. 27 at 7 p.m. and 10 p.m. in the Stony Brook gymnasium. Tickets for the public are \$3.00. Faculty and University employees will be admitted for \$2.00.

Gordon Lightfoot has appeared on the Johnny Cash television show, at Carnegie Hall and on college campuses throughout the United States and Canada. Mr. Lightfoot is a Canadian and has recorded four best-selling record albums.

On Sunday, Sept. 28, six young rock groups will perform on the plaza in front of the Earth and Space Sciences Building. The concert will be free to everyone. It begins at 4 p.m. and runs until 10 p.m.

Two of the groups scheduled to perform are Eric Zamm and Buffalo Fish.

Anyone interested in volunteering for the Long Island Symphonic Chorus may come to Room 71 of the Heavy Engineering Building on Tuesday, Sept. 30, between 8 p.m. and 10 p.m.

The Long Island Symphonic Chorus is a 100-member, mixed-voiced ensemble that performs on Long Island and in New York City during the school year. It is directed by Stony Brook Professor Gregg Smith.

Bowling News

Irma Carl

Purple League

Designers and Repulsives are tied for first place. Jack Austin was top bowler with a 561 series; Stan MacCormack bowled a 213-556; Ray Marlowe 207-532; Charlie Tomesch 524; Joe Cuccia 523; Mike Iarocci 520; and Tom Lee 501. Bob Eberbach and Vinnie Felice aided their teams by bowling over 200 in a game but couldn't break the 500 mark.

Red League

Here we find J. Berech rolled a 200; R. Larsen 205; and S. Kiss 222.

Pink League

Helen Kelly of the Bioboosers set the pace in this league and had the Pt. Jeff Lanes in an uproar with her terrific 213-531. She will be recipient of the BNL Special 678 Award for her 687 gross series. Congratulations Helen and keep up the good bowling. Bev Nine has really come back. She holds high average of 158 and has helped to move the Bookies into first place, with the Hopefuls very close behind. All this action in just two weeks time!

Movie Plans Tabled

The deadline date of August 29th has come and gone, and the Movie Committee most regretfully announces that the minimum thirty-five subscriptions for the Fall/Winter/Spring Movie Series has not been realized.

Refunds to those who have subscribed will be given at the Recreation Office any work day between 9:00 a.m. and 1:00 p.m.

Puff, The Magic Guillotine

For meteorologists at the AEC's Pacific Northwest Laboratory, the immediate problem was to simulate a true puff of air.

Like other meteorologists studying the spread of material in the atmosphere, they had tried several ways to do it, but each technique had some flaw.

The final solution was a little surprising in an age of high speed computers and laser beams. They devised a guillotine.

Meteorologist Paul Nickola described the situation: "For years, meteorologists have discussed the possibility of using a noble gas, which won't combine with the atmosphere, to follow atmospheric motion precisely.

"But, it just hadn't been done. There were problems with data collection, storage, analysis - with choice of gas - and, finally, with releasing the gas. We had solved each one in turn for a system using krypton-85, a radioactive noble gas, until we got to the puff - the instantaneous release."

Nickola and his colleagues at Battelle Northwest tried shooting the ceramic vial of krypton-85 with a carbon dioxide pellet. The vial tended to crack, not smash, releasing the gas over several seconds. "Besides, the security guards weren't too happy about our having a rifle on the grounds," Nickola added.

They also tried sliding a brick down onto the vial from a two-by-four. That worked a little better. Then, Nickola hit upon the idea of suspending the brick and came up with the guillotine.

PNL's guillotine is about three feet high and uses a lead brick instead of a blade. When the brick is released, it smashes the ceramic vial, releasing a small amount of krypton-85 instantly. The data collection part of the system is activated simultaneously.

Geiger counter detectors, mounted on poles at various distances and heights from the release point, measure the amount of krypton passing by every second. The readings are fed by cable into a storage center and back to a computer and instant read-out system.

"We had some trouble with breaks and shorts in the cables for a while," Nickola recalls. "It seems the desert rodents had taken a considerable liking to their plastic covering. We stopped that by suspending the cable on a series of fence posts."

Studies have been made both by releasing the krypton-85 continuously for several minutes, and by releasing it in a puff. The result has been an instant and continuous picture of the way in which the atmosphere disperses a pollutant.

"Of course, our main concern here is with predicting the diffusion of radioactive materials," Nickola explained. "But all pollutants are dispersed in similar ways, so whatever we learn can be applied to general air pollution problems."

Classified Advertisements

Positions Available

MESENAGER (1) - Staff Services.

Application Deadline: October 1, 1969.

Employees interested in applying for above positions should inform their Supervisor and file written request with Employment Office on or before deadline date.

Autos and Auto Supplies

69 FIAT-850 SPIDER - Orange, low mileage, needs some body work. \$1500. Louise, Ext. 2245.

65 CHEVY CAPRICE - New snow tires & brakes, r/h, w/w, auto trans, ps/pb. \$950. Ext. 574.

62 DODGE LANCER - Fair cond. \$100. Jose, Ext. 640, 744-3729.

65 VW SEDAN - New clutch & muffler, luggage rack. M. McAllister, SE2-9168.

2-14" FORD RIMS - 5 lug holes, used 2 seasons for snow tires. \$5/pr. Bill, Ext. 2308.

63 TEMPEST - Much rebuilding done, trans, heads, carb, new main bearings & oil pump. Shore, 475-5167.

13" CRAGAR MAGS - Brand new, chrome lug nuts incl, 13" tires incl. John, 744-9814, 6-7 p.m.

61 CHEVROLET - 6 cyl, std trans, good cond. \$150. Bob, Ext. 2450, 289-0357.

63 COUNTRY SQUIRE 9 PSGR STATION WAGON - Auto trans, ps/pb, pwr window, racks, good cond. \$650. W. Lundgren, Ext. 7525, 588-1566.

TUNE IN

