CAMPUS CURRENTS

STATE UNIVERSITY OF NEW YORK AT STONY BROOK

Nov. 25, 1985

Nurses Visit China
At the invitation of the People's Republic of China, SB nurses exchange medical knowledge and friendship ..... *page 2*

Knacke Heralds Halley's
SB researcher recalls his first look at Halley's comet, prepares for data collecting as it draws nearer ..... *pages 6,7*

University Invites Employees to Support Annual Fund

For the first time, University employees are being invited to contribute to Stony Brook's Annual Fund.

"The Annual Fund provides important unrestricted dollars for programs not funded through state allocations," said Annual Fund director Marlene Williams. As budgetary constraints increase, private support will become even more important, she pointed out.

Stony Brook's Annual Fund campaign began two years ago, through direct mail and phonathon contact with University alumni. Last year parents of current students added their support.

"The results have been encouraging," said Williams. "In just two years the number of alumni contributors has doubled, and total contributions have grown from $30,000 to $60,000."

The primary benefit of the Annual Fund, Williams stressed, is its flexibility. "Because it is unrestricted, that funding provides the University with the ability to take advantage of opportunities to meet its changing needs as they arise," she said. "We could utilize the funds, for example, as resources for lectures, scholarships, library materials or efforts to improve campus life."

Faculty and staff are invited to support the Annual Fund through direct contributions and participation as a volunteer caller in next spring's six-week phonathon. Phonathon callers give three hours of their time during the evening, and are provided with training and refreshments.

"The Annual Fund really does benefit all of us, as members of the University community," said Williams. "Its support helps the University to continue to fulfill its mission, and to continue its pursuit of excellence. That makes Stony Brook a better place for all of us."

Within the next two weeks, faculty and staff will receive information on how they can contribute. For more information, call the Annual Fund office at (24)6-7771.

Generator Fever Hits! (SB Not Immune)

By Alvin F. Oickle

Something like "generator fever" seems to be sweeping Long Island's North Shore during these post-hurricane weeks. Remembering dark days without electricity, 2,000 Brookhaven National Laboratory employees in early November put up nearly a million dollars to buy generators at less than half price. George Sintchak, a BNL electrical engineer and Stony Brook employee, was among a group that organized the BNL discount purchase from a Wisconsin firm called Generac. Sintchak told his former colleague, Richard J. Reeder, director of laboratories for Stony Brook's Division of Social Sciences, and Reeder quickly found dozens of others at Stony Brook interested in a mass purchase. "In fact," he said, "it soon became apparent I didn't have the time or facilities to handle it, so I turned it over to Pam Hill." Hill, acting executive director of the Faculty Student Association, on leave from the Purchasing Department, assigned the project to Mary Nordenberg of the FSA staff. Nine thousand invitations and order forms to all Stony Brook faculty and staff were scheduled to go out Nov. 14-15. At *Campus Currents'* deadline, the orders still were rolling in. While Stony Brook may not match BNL's 2,000 units, it appeared that the University community will be ordering several truckloads, packed at 130 per vehicle.

The four-kilowatt units, weighing 145 pounds each, are being sold on campus for $445, including tax and delivery charge. Reeder said the firm claims the generator retails in a national chain for $1,100.

Sintchak was quoted by the *Three Village Herald:* "A lot of people were really concerned about the possibility of ice storms affecting power this winter." And, no doubt, they had lingering memories of Hurricane Gloria's long power outages as well.

Noted Director Joins Theatre Department

By Ellen Barohn

Vivian Matalon says he is a "maverick" Englishman who received his theatrical training in New York and whose career has flourished both on Broadway and in London. Director of such quintessential American plays as the Tony Award-winning *Mornings at Seven* and *The Tap Dance Kid,* both on Broadway, he has also directed British productions of American classics like *The Glass Menagerie* in London.

Now, he has come to Stony Brook this fall as a visiting professor in the Department of Theatre Arts because he believes teaching is as important as every other phase of his career.

"I came to Stony Brook because I really do like to teach," he said. "I've missed teaching. For some time now I have been trying to form an association with a university located not too far from New York City with which I could have a permanent relationship on a one-semester-per-annum basis. I've felt for a long time that that would be a perfect life for me."

Matalon began his career as an actor after studying at the Neighborhood Playhouse. His first professional work was in summer stock, a training ground for young performers that—with today's economy and with the advent of touring package shows—has all but disappeared. It is a loss he mourns.

Tap Dance Kid *director Vivian Matalon discovers Stony Brook's "tremendous potential."*

"In stock we did it all," he said. "There was a new show every week, and each week we found the time to rehearse, to build sets, to sell tickets

(continued on page 2)

Emergency care *for patient Kelly Miranda is provided by Corps members (from left to right) Jim Rogers, Jim Luciano, Denise Peters and Jean Barrett.*

Volunteers Staff Round-the-Clock Ambulance Corps

By Ellen Barohn

The University is like a small city: people commute here to work, they live here and they spend leisure time here. And, as in any city, people here may have problems that require emergency services.

One of the on-campus organizations providing such service is the Stony Brook Volunteer Ambulance Corps, which is proudly showing off its new ambulance this fall.

The 15-year-old organization, after a two-year fund-raising campaign, has acquired its second emergency vehicle even while working hard at providing round-the-clock services with a limited budget.

Corps President Charlie Gatto and Vice President Barry Sadler (both undergraduates in their senior year) said the group operates on an annual budget of approximately $35,000. Half comes from Polity (the undergraduate student government) and half from the state.

One hundred thirty volunteers staff the service seven days a week, 24 hours each day. The service operates two ambulances and a transport vehicle. A major portion of the Corps' budget is spent on insurance and to repay a loan that helped finance the $40,000 ambulance.

The staff is made up mostly of undergraduates, with some graduate students and faculty members also participating. Each volunteer is required to complete a 26-hour Red Cross course in standard first aid and a 10-hour training program in CPR (cardiopulmonary resuscitation.) In addition, almost half the volunteers are certified emergency medical technicians (EMTs.) Throughout the school year, volunteers are required to attend periodic training sessions.

Once trained, the volunteers function as any ambulance service anywhere does. Each duty shift, running from two to nine and a half hours, is staffed by five crew members headed by a certified EMT. They make emergency calls on campus, including accident scenes, and transport the handicapped.

Gatto and Sadler said, "The Ambulance Corps would like to expand our training and our equipment. We provide a vital service and we enjoy doing it.

Anyone wishing more information about the Stony Brook Volunteer Ambulance Corps may call (24)6-2285.

Policies to Change with New Legal Age for Alcohol

In response to legislation, effective Dec. 1, that will change the minimum age for the purchase of alcoholic beverages in New York State to 21, the University has set in motion several initiatives coordinated by the Office of the Vice President for Student Affairs.

A committee made up of students, faculty and staff has been formed to review alcohol policy and make recommendations regarding the new legislation. Headed by Gary G.S. Mis, special assistant to the vice president for student affairs, the Alcohol and Drug Abuse Advisory Panel (ADAAP) meets weekly to discuss such concerns as enforcement of the new legislation. However, alcohol awareness also will be stressed, said Mis.

"Long-term goals of the panel will be centered around setting up education programs for faculty, staff and students, as well as assistance and intervention programs in cooperation with the University Counseling Center and the Employee Assistance Program," he said.

Changes in campus policies include the elimination of "fests" or pubs in residence halls after Dec. 1. However, students of legal age may drink in their rooms, suites and apartments, and in non-residence-based pubs such as the End of the Bridge, Rainy Night House and Graduate Student Lounge.

Faculty and staff, as well as students, also must adhere to the new law according to guidelines prepared by the ADAAP. These guidelines govern the amount of alcohol permissible at campus events where it is served, according to how many persons are present at an event, and also recommend specific amounts of non-alcoholic beverages and food to be served. The standard of one drink per person per hour has been adopted by the ADAAP.

The panel currently is reviewing ways to enforce the new legislation, said Mis. It is also examining ways to encourage creative programming for students events after Dec. 1.

(continued from page 1)

and to have love affairs. I don't know how we did it, but young actors today are missing so much by not having the opportunity to do stock as we did."

Several off-Broadway appearances combined with summer stock to get Matalon's career started. He returned to London and performed in several shows on the West End. He began directing for both stage and television in London in 1960.

Matalon has taught acting in Britain and in the United States. His teaching experiences and observations have helped him form a very definite idea of what a university theater program should be.

"I don't think," he said, "that a university—no matter how good its drama department is—should train people to train other people who then train still other people. Academia can be very seductive. We should send people out into the profession because it's good for the profession to have new people coming in."

Matalon continued, "At Stony Brook, there's tremendous potential. The important thing is that here, with the Fine Arts Center, you've got the bricks and mortar already, and without them you cannot make theater."

Like many of his peers, Matalon deplores the state of Broadway today. "Now, theater is regional. I'm foreseeing a time coming soon when there will only be 10 musicals running on Broadway and no plays.

"The trouble with Broadway is we don't have producers left the way we used to have them," he mused. "We have, instead, theater owners and general managers. They are people of varying degrees of talent and ability and intelligence. These days, a director is faced with having script conferences with businessmen/investors who don't always know what they're doing.

"Can you imagine what would happen if the roles were reversed and I went into court and told, for instance, the lawyers who were producing my play how to conduct the cases they were trying? They wouldn't stand for it, yet we must."

In choosing the plays he directs, Matalon said, he finds "something of a pattern. I like dealing with plays that are about relationships between people. I don't think I would be a good director for a Tom Stoppard play, even though he's a fine playwright, because I view his plays as being brilliant intellectual exercises. I prefer telling a story.

"I don't even use the word 'concept,' a word that seems to have come with inflation. We used to have ideas, now we have concepts."

What would he like to direct? Matalon answered without hesitation: *"Richard II, Othello* and almost every play by George Bernard Shaw—I've only done *Heartbreak House."*

Meanwhile, here at Stony Brook, Matalon is teaching courses in acting and directing. He is not now contemplating directing a full-scale production here, although "some kind of workshop production might be a possibility."

He considers Stony Brook's proximity to Manhattan an advantage. "There is a wonderful opportunity to develop new plays here, to use this a pre-Broadway workshop setting. It's exciting to be here when a theater program is being built. If everything works out," he said, "I want to be here when this happens."

BRIEFS

Happy 20th, ESS

The Department of Earth and Space Sciences celebrated its 20th anniversary last month, with the help of more than 100 alumni and former and current faculty and staff.

Formal talks and informal recollections were held along with receptions and a "Chairperson's Cup 5km Road Race," during a weekend-long program organized by the Department's Dr. Robert C. Liebermann.

Also held last month was the Marine Sciences Research Center's first reunion for former and current faculty, staff and students.

Two Fulbright Scholars Named from Stony Brook

A doctoral candidate and a graduate of the University have been named recipients of Fulbright-Hays Awards for overseas study for 1985-86.

A total of 563 graduate students from colleges and universities across the United States were given the awards, which are administered by the Institute of International Education.

Maria G. Messina, a doctoral candidate in Stony Brook's Department of Anthropology, is using the award to study the changing role of women in Morocco. Messina received both her bachelor's and master's degrees from Stony Brook.

Peter C. Rubardt, who received his master's degree in orchestral conducting from Stony Brook in 1984, is continuing his studies in Vienna, Austria.

Symposium Named for Tursky

A national society paid tribute recently to Bernard Tursky, professor emeritus of political science, for his contributions to the field of psychophysiological research. He was honored by his colleagues at the Society for Psychophysiological Research's 25th annual meeting in Houston. The organization held a symposium, "The Merger of Technology with Creativity: A Systems Model of Psychophysiological Inquiry" that was subtitled, "A Tribute to the Work of Bernard Tursky."

Tursky held faculty appointments in the Departments of Psychology and Psychiatry in addition to his appointment in the Department of Political Science. He is a pioneer in studies of biofeedback and the "placebo" effect.

Sterilizing Solution Passes Tortora's Test

Dr. George Tortora, associate professor of health sciences, has tested Astracide (a cleaning/sterilizing solution) and has found that it lives up to its claims.

Tortora was asked to test the solution by Howard Alliger, its inventor and president of Heat Systems Ultrasonics in Farmingdale. Alliger invented Astracide in 1976.

Tortora's tests proved Astracide as a quick, effective spore and bacteria killer. Because the solution is not toxic to humans, it has many potential uses in surgery, dentistry and other aspects of medicine, he said.

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P.R.C. Invites Nurses to Share Knowledge

By Sue Risoli

Patricia Gorzka, clinical assistant professor and former chairperson of the Department of Parent/Child Nursing, recently led a delegation of nurses that visited another institution to exchange ideas on new procedures, research and technology with colleagues there.

She also got to eat Peking Duck and see the Great Wall.

A commemorative plate, *given to her by her Chinese colleagues, is a reminder of Prof. Patricia Gorzka's scientific exchange trip.*

That's a brief synopsis of a two-week stay in China that Gorzka calls the "trip of a lifetime." While there, she and nine other nurses from the United States (four from Stony Brook) filled their Chinese colleagues in on health care in this country.

Gorzka was asked to head the delegation by the U.S./China Scientific Exchange, a non-profit, private group that arranges scientific exchanges between the United States and the People's Republic of China. The initial invitation had come from the Chinese Association of Science and Technology, as part of an ongoing attempt by the P.R.C. to expose its health care personnel to medicine as practiced in the U.S.

Gorzka—along with Stony Brook nurses Rena Litt, Barbara Maloney, Lilian McKinley and Ourania Pallace, and director of conferences and special events Ann Forkin (a former nurse)—gave presentations and toured hospitals and day care centers. Their Chinese hosts were particularly interested in the notion of "well-child" care, reports Gorzka.

"Right now nurses in China are taught only how to care for children who are ill," she says. "Well-child stations are staffed by technicians. There is an attempt underway to add the well-child component to nursing."

Also of concern to the Chinese, Gorzka recalls, was the "four-two-one syndrome." "That means that in a household you have four grandchildren, two parents and one child, because the Chinese are encouraged to limit their offspring to one child," she says. "For a family-oriented society such as theirs, this will cause great cultural changes for them."

Her Chinese counterparts shared their knowledge with the American nurses. At one hospital Gorzka and her companions saw acupuncture treatments being administered to two children to correct enuresis (bedwetting.) "Needles were applied to their scalps and wrists," she relates. "Their families said the treatments were helping. During the treaments themselves, the kids didn't move a muscle. It was fascinating."

Along with memories of stimulating scientific discussion with her Chinese colleagues, Gorzka brought back recollections of "their incredible warmth. They made us feel so welcome, wherever we went." And everywhere there were the children she calls "extremely well-behaved, very sweet."

She sums up the exchange by calling it "an extremely gratifying experience."

WUSB Wins Honors across LI Sound

By Alvin F. Oickle

Being the second most listened to college radio station in Connecticut may not seem like the pinnacle of broadcast popularity—unless your radio station is in New York.

The students who run WUSB at the University are enjoying their high rating in another state. The ranking came from a poll conducted by the *Fairfield County Advocate,* a weekly newspaper published in Connecticut. It ranked WPKN, at the University of Bridgeport, as "the best" and named Stony Brook's FM 90.1 station as runnerup.

Steve Miller, WUSB program director, said, "A significant portion of our listenership is in Connecticut. Our programming is geared not strictly to the college community but to people of all ages and lifestyles in the surrounding area. Connecticut is only seven miles away, across Long Island Sound, and very much in our listening area."

Are You Missing?

The University will honor those employees who have served the campus community for twenty-five, and twenty, years on Thursday, December 12 at 4 p.m. in the Recital Hall of the Fine Arts Center.

If you are a 25- or 20-year employee and your name does not appear on the following list (provided by the Department of Human Resources), please call the Office of Conferences and Special Events, (24)6-3325, as soon as possible. If your name is on the list, please check to be sure all information (your name and department) is correct.

Thank you for your assistance!

Twenty-five years

Albert D. Carlson, neurobiology and behavior; **Arnold M. Feingold,** physics; **Robert F. Schneider,** chemistry; **Bernard Semmel,** history; **Bernard D. Tunik,** neurobiology and behavior; **George C. Williams,** ecology and evolution.

Twenty years

Per A. Alin, history; **Elizabeth B. Bodkin,** human resources/University Hospital; **Dana Bramel,** psychology; **Frederick Brown,** French and Italian; **James Bucher,** physical plant; **Marjorie Bunn,** accounts payable; **Donald M. Bybee,** University Counseling Center; **Felicia J. Chrzanowski,** laundry/University Hospital; **Lawrence Coleman,** engineering; **Robert T. Dodd,** earth and space sciences; **Helen E. Dorre,** library; **Kenton Draigh,** Educational Communications Center; **Thomas Dzurilla,** psychology; **Leland N. Edmunds,** biological sciences; **Arthur J. Edwards, Jr.,** physics; **Joanne W. Elsesser,** president's office; **David B. Fossan,** physics; **Harold L. Friedman,** chemistry; **Daniel M. Frisbie,** admissions; **Aaron Godfrey,** comparative literature; **Oscar A. Haac,** French and Italian; **Charles Hansen,** Physics; **William Hollander,** administrative systems; **Robert Kerber,** chemistry; **Leonard Krasner,** psychology; **Linwood L. Lee,** physics; **Marvin Levine,** psychology; **Robert E. Lewis,** physics; **Jacob Lipkind,** library; **Velio Marsocci,** electrical engineering; **John Ramsey,** physical education; **Rosalie Rozensky,** School of Medicine; **John Russell,** Germanic and Slavic Languages; **Selma M. Schirmer,** info. res. center; **Rudolph Schlott,** chemistry; **Robert E. Schutte,** general institutional services, **Leslie Seigle,** materials science; **Anna M. Seitz,** cust. serv. Health Sciences Center; **Charles E. Staley,** economics, **Hang-Sheng Tuan,** electrical engineering; **Lin-Shu Wang,** mechanical engineering; **Margaret C. Wheeler,** anthropology; **Charles F. Wurster,** Marine Sciences Research Center.

Physicists "Stop" Atoms Dead in their Tracks

By Sue Risoli and Charles L. Keller

An atomic physicist at Stony Brook and his colleagues have stopped the atom dead cold—or at least as "dead" and "cold" as science will allow.

Atoms at ordinary temperatures generally move at speeds of up to 300 meters per second (more than 700 miles per hour). Stopping atoms literally "cold" for up to one second gives scientists a rare opportunity to measure and study them, to do further testing of various theories in physics and to become more exacting than ever in arriving at standards for measurements.

Research by Dr. Harold J. Metcalf, professor of physics at the University, and Dr. William Phillips of the National Bureau of Standards (NBS) led to the discovery of how to stop atoms by "laser cooling"—directing light into an atomic beam contained in a vacuum chamber.

Working with Metcalf and Phillips are senior research associate Tom Bergeman and graduate student Ivan So at Stony Brook, and Drs. John Prodan and Alan Migdall at NBS.

The scientists heated a bar of sodium metal to hundreds of degrees until it turned into liquid and then into gas. Out of a pinhole in their oven came a stream of hot, speeding sodium atoms. The atoms collided head-on with a beam of light from a laser. Each time an atom scattered the laser's light, that light's opposing momentum slowed the atom slightly. It takes 30,000 such head-on collisions to slow an atom to the point where it can be stopped for up to one second, then measured and observed.

"The development of standards is not a trivial problem," Metcalf said. "The NSB is charged with maintaining a system of weights and measures. It has been expanded to include electrical standards."

It has been known for years, Metcalf explained, that the atom is the best device for setting measurement standards for such endeavors as timekeeping. "Timekeeping is always based on something that oscillates, that moves back and forth," he said. "We use atoms not only because they have an inherent internal vibration frequency, but because that frequency is always the same among atoms of the same type. All hydrogen atoms have the same frequency, all sodium atoms have the same, etc."

He continued, "A watch is based on a tiny quartz crystal that vibrates. An atomic clock is very accurate."

Use of atomic clocks, rather than timekeeping based on astronomical observations, was first proposed in 1939, Metcalf said, but it wasn't until the 1960s that the time standard was switched. However, one difficulty remained: the fact that atoms move so quickly.

"When you have to work with something that quickly, you can't be as accurate as you might like," Metcalf pointed out. "But slowing down the atoms, as we now have, has increased accuracy.

"Plus, this improves electrical, mechanical, voltage and length standards as well. It is the job of the measurement scientists to convert one kind of measurement into another, so they are all interlocked. When one is improved, the accuracy of all measurements improves."

In physics, perfection "is impossible to reach," said Metcalf. "One can never arrive at absolute zero, or at the absolute center of things. But physics also is a continuing attempt to be exact.

"Now that we can stop the atom in this way, we can be more exact than we were before."

Alumnus Arranges Donation of Mass Spectrometer

Thanks to a Stony Brook alumnus, the GAF Corporation of Wayne, New Jersey has donated a mass spectrometer to the University.

Der-Ming Chiou, who earned his Ph.D. degree in chemistry at Stony Brook in 1978, is employed by GAF. Dr. Charles Iden, assistant professor of pharmacological sciences and director of the university's Mass Spectrometer Facility, said that Dr. Chiou arranged the donation when he learned that GAF no longer had any use for the 10-year-old spectrometer.

A mass spectrometer is an instrument usually used to analyze chemical compounds. Iden said the GAF spectrometer will be employed in analyzing isotopes in gas samples. The instrument will be available for researchers in Stony Brook's Departments of Pharmacology and Chemistry and at the Marine Sciences Research Center as well as by researchers at Brookhaven National Laboratory.

A magnetic coil *of the type used in their experiments is examined by Prof. Harold Metcalf, graduate student Ivan So and senior research associate Tom Bergeman.*

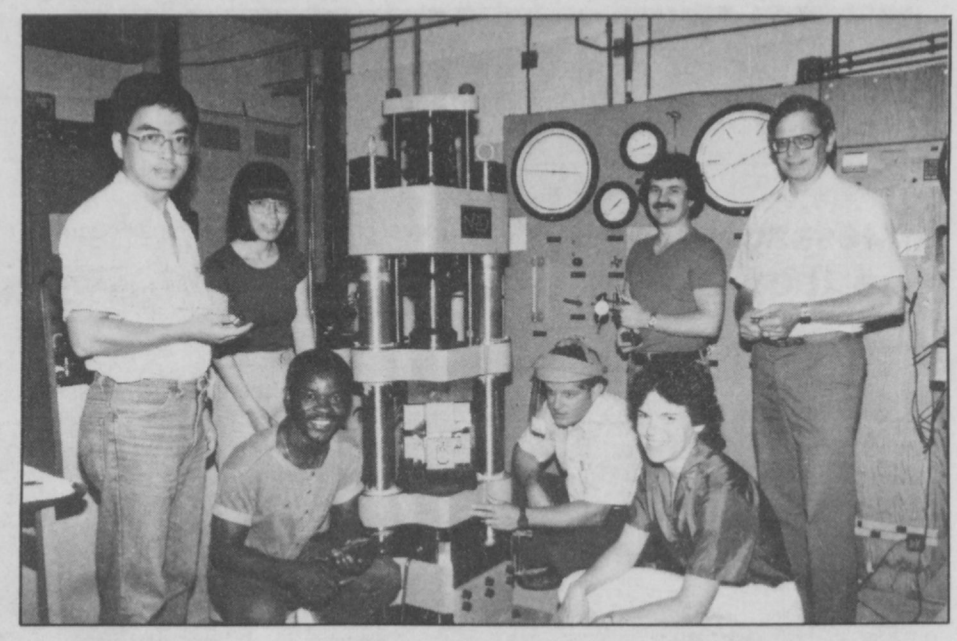
Atom Stopping Earns Researchers Place Among *Science Digest's* "Top Innovators"

Researchers Metcalf, Bergeman and So, along with their colleagues from the National Bureau of Standards, have been selected by *Science Digest* magazine as being among "America's outstanding innovators, responsible for the 100 most significant technological achievements in 1984-85."

They were named along with Jean Dalibard of the Ecole Normal Superieur in Paris.

The article, appearing in Science Digest's December issue, says, "Precise measurements of the differences between the various energy states of an atom are crucial to all sorts of physics."

Editor Oliver S. Moore III wrote, "To find out the caliber of high-tech creators at work today, we surveyed over 1,200 (organizations). The editors of *Science Digest* picked the final 100 innovations." The magazine claims a readership of 2.5 million.



Ready to delve *into mysteries waiting below the Earth's surface are (from left to right): Dr. Osamu Shimomura, Dr. Yosiko Sato-Sorensen, Gabriel Gwanmesia, Dr. Robert Liebermann, Dr. Tibor Gasparik, Anne Remsberg and Dr. Charles Prewitt.*

Scientists "Journey" Below Earth with New High-Pressure Laboratory

By Alvin F. Oickle

Sometime around Thanksgiving weekend, a tall crane will gently ease a large piece of high-pressure equipment weighing 18 tons through a 10-by-10-foot hole in the roof of a former service building at the University. When that hydraulic press is finally in operation in 1986, Stony Brook's Department of Earth and Space Sciences will have the first geological sciences laboratory in North America in which high-pressure experiments can be performed on specimens of millimeter dimension, at pressures of 300,000 atmospheres. (One atmosphere is the normal pressure on Earth.) Only Japan, the Soviet Union and Australia have similar labs.

That means that Stony Brook researchers will be able to synthesize in the laboratory specimens of rocks thought to exist 600 miles below the Earth's surface. "The excitement of this research," said Dr. Robert C. Liebermann, professor of Earth and Space Sciences, "is that this type of rock has never actually been seen on Earth.

"Once we make these rocks in the laboratory, it will be possible to study them intensely," he continued. "We hope this work will enable us to learn more about the physical and chemical properties and processes of the Earth's interior."

U.S./Japan collaboration

Work to get the Stony Brook Mineral Physics High-Pressure laboratory in operation has been under way for several years. The effort has involved close collaboration with several Japanese researchers, extensive international travel and communications, and funding at the level of $710,000 from the National Science Foundation's Division of Earth Sciences and SUNY/Stony Brook.

Three professors head the Stony Brook team of research scientists who have been planning the project: Liebermann, Dr. Charles T. Prewitt and Dr. Donald J. Weidner. They visited Japan in 1984 to inspect high-pressure equipment and to negotiate the purchase of major capital items. "Almost all the state-of-the-art equipment in this field is now manufactured in Japan," Liebermann explained. As part of international exchange programs, several Japanese scientists have been at Stony Brook this year and Weidner is traveling to Japan and Great Britain this fall and winter under grants from the NSF, the Japanese Science and Technology Agency and a Royal Society Fellowship.

Meantime, a former air-conditioning heat exchanger building southwest of the Earth and Space Sciences Building on campus has been under reconstruction since May. The 2000-square-foot building was redesigned to accommodate new equipment in support of research in mineral chemistry and mineral physics. When building a new roof, the contractor had to create a large hole so a crane can deliver the press to its permanent location late this week or early next week.

In September, Weidner was in Niihama, Japan, to supervise tests by Sumitomo Heavy Industries of the expected equipment. Back at Stony Brook, the research team had been designing and building hydraulic and high-temperature systems to operate in conjunction with the press.

A smaller press, a unit weighing just over a ton, was acquired in July from NRD Corporation of Tokyo and has been tested this fall in a mineral physics lab at the Earth and Space Sciences Building. It will be ready by late this year for mineral synthesis experiments to pressures of 100,000 atmospheres (a third the maximum pressure of the larger press) and temperatures of 1500 degrees centigrade.

Assisting in the testing and calibrating during visits this summer were Dr. Osamu Shimomura of the National Institute for Research in Inorganic Materials (NIRIM) in Tsukuba, Japan, and Dr. Yosiko Sato-Sorensen of the University of Washington at Seattle.

Call them SAM

Incidentally, the small press has been christened SAM-85. Smiling, Liebermann explained the name is an acronym for six-anvil machine, a description of how pressure is applied on all sides of a cube, as well as the nickname American scientists have given Osamu Shimomura and Osamu Fukunaga, another consultant in Japan.

Three other Japanese colleagues arrived this fall to spend a year collaborating with Stony Brook scientists. They are Dr. Hisao Kanda of NIRIM, Tsukuba; Dr. Manabu Kato, from Nagoya University; and Dr. Hiroshi Watanabe of Osaka Industrial University.

Liebermann also cites "a number of other key personnel," including Stony Brook alumnus Dr. Tibor Gasparik (Ph.D. 1981), a senior research associate who returned to Stony Brook last April from the University of Chicago; machinists Al Catalano and Ed Vorisek; administrative assistant Ann Lattimore and graduate students Gabriel Gwanmesia and Anne Remsberg.

Progress has been on schedule throughout the summer and fall. Now the team looks forward to delivery of the big press. Said Liebermann: "We anticipate that both high-pressure systems will be completely operational by mid-1986 and be available for both in-house and outside research experiments by October 1986." Since the new lab is a regional facility, it will be available by arrangement with the Stony Brook mineral physics researchers to scientists from throughout the nation.

IN AFFIRMATIVE

From the EO/AA Office

A Message from the Director

This is the first appearance of "In the Affirmative", a monthly section of *Campus Currents* that will contain items provided by the Office of Equal Opportunity/Affirmative Action. This month we are reprinting an article that is of particular significance to me.

As the professional and social milieux of higher education go, the question that always follows "Where did you go to school?" is "...and what do you do?" Since the paragraph-long work title I have (Special Assistant to the President for Equal Opportunity and Affirmative Action) never seems to suffice, I am usually lost. I was told it is best not to discuss politics, money, race, sex and religion in mixed company. Affirmative action is about all of the aforementioned. If I do, however, manage some reasonable explanation of what I do, the next question is, "...but, what is your profession?"

Equal opportunity/affirmative action is my profession. It is a career and profession I chose, studied for and am dedicated to. It is, as Professor Myrtle Reul describes in the following article, "...more than a field about law and regulation. It is a field about feelings. It's a charged area, full of explosive resentments, anger, fear, idealism and commitment."

I am pleased that Professor Reul granted us permission to reprint her article that appeared in the October 1980 issue of *Forum* magazine. It is a most accurate description of the work of affirmative action, and of the profession of those involved in the field. Copies will be made available to the next person who asks, "...and what do you do?"

—Marion T. Metivier
Director

EEO Officer in Higher Education

Editor's note: Part One of a two-part series. Part Two will appear in the Jan. 20 issue of Campus Currents.

By Myrtle Reul

Since 1964, a brand new profession has come into being. And only America has it. It has become sophisticated and complex over the past 15 years. It has acquired its own esoteric terminology, given impetus to various national associations, and created the need for professional journals and newsletters. It has, in a very real sense, become an industry. "Equal employment opportunity" and "affirmative action" (EEO/AA)—these terms are only buzzwords to some, but they're Monday-through-Friday career concerns for a growing number of American professionals.

Just like the career disciplines born from computer technology and space age research, EEO/AA is a new world of working ideas and incredibly impressive objectives. It offers room for excellence to those with appropriate expertise and sufficient career commitment.

Revised Order Number 4, is, in today's world of EEO, the key to operation. It is the blueprint for implementation of Executive Order 11246 and the guide for preparing a written affirmative action plan. It states simply that "an executive of the contractor should be appointed as director or manager of company equal opportunity programs."

This director is commonly referred to as the institution's EEO officer. Revised Order Number 4 implies that this professional be a top administrator appointed from within the organization rather than recruited from without. There are no federal requirements for advertising the position, unless the institution identifies such an obligation in its own written affirmative action plan.

Section 60.2:22 of the Revised Order states that the EEO officer "should be given the top management support and staffing to execute the assignment." If top management support means sufficient staff and budget to meet minimum requirements for equal employment opportunity, then Section 60.2:22 is alive and struggling for continuous implementation throughout the colleges and universities of America. But if the goal is sufficient staff and budget to really carry out affirmative action, then Section 60.2:22 has been ignored by almost every institution of higher education in this country. This lack of commitment to affirmative action, on the part of top administrators, accounts for why there are some good non-discrimination endeavors in higher education but almost no real affirmative action programs on any campus.

"It's a charged area, full of explosive resentments, anger, fear, idealism and commitment."

While the duties of the EEO officer are detailed in Revised Order Number 4, no qualifications for the job are identified. Amount and type of educational background, training, and prior work experience—these are hazy areas without guidelines or regulations. The federal government has completely failed to fill in the criteria that the Revised Order left out. The result is a disturbingly disorganized, non-uniformed EEO personnel pool. The training, experience, and personal commitment of individuals holding university EEO officer positions vary from campus to campus.

Training institutions have notoriously advised those interested in an EEO or affirmative action career that any problem-solving experience or decision-making practice is relevant (or even adequate) preparation for career objectives in these disciplines. In reality, specialized training and specific work experience are essential. Perhaps more than any other academic administrator, the EEO officer needs educated and seasoned expertise.

No position as demanding

The truth of the matter is that no position in any institution of higher education is as demanding, complicated, or as little understood as that of the EEO officer. Some of the confusion comes from a harsh EEO reality: this is a complex and poorly honed professional discipline. Whether that is the fault of sloppy government, inadequately trained EEO personnel, or a nebulous lack of social commitment, the fact remains unaltered. It's understandably difficult for an institution to work with the day-to-day operation of such a murky program and to appreciate the burden of the person in charge of it.

"No position in any institution of higher education is as demanding, complicated or as little understood as that of the EEO officer."

But another reason for these complications comes from the job duties spelled out in Revised Order Number 4. An analysis of those duties shows that the necessary skills, expertise, and knowledge demand an almost impossible combination of education and experience. Just a superficial examination of the job responsibilities, as identified in Section 60.2:22, indicates that some formal training is required in all of the following areas:

- administration
- advocacy
- EEO/AA law
- auditing and budgeting
- behavior assessment
- communications—oral and written
- community organization and asessment
- conducting investigations
- crisis intervention
- groupwork
- interviewing and counseling
- labor management and mediation
- management analysis
- needs assessment
- personnel
- problem solving
- psychology
- public relations
- remedial programs
- systems design
- testing and measurement
- publishing

In short, any individual under consideration for an EEO job needs a degree and a minor field combining expertise in each of the following: administration, counseling and guidance, journalism and/or English, law, psychology, social science and social work. And, if the position is on a college campus, the person should also have experience as both an academic administrator and faculty member. Without dual expertise, it's difficult to lend credibility to the officer title.

Wait, there's more

As if all this were not sufficient cause to throw in the towel, there's more. Even with regard to that rare person who does combine these varied skills, there's no assurance that the job will be approached with the sensitivity essential to successful EEO implementation. In other words, in the real day-to-day world, EEO jobs call for a complete set of non-advertisable requirements:

- the patience of Job
- the skin of a rhinoceros
- the persistence of a bulldog
- the retention of an elephant
- the surveillance of a hawk
- the wisdom of Solomon
- intermixed with flexibility and the capacity to handle minute detail
- plus, the ability to recharge your own battery and bounce back from constant pressure, lack of progress, and continuous criticism.

Part of the problem facing any EEO officer is everyone else's confidence that they know what an EEO officer should do. This is further complicated by their eagerness to espouse their individual viewpoint even when it's in direct conflict with the officer's job description, the framework of Revised Order Number 4, and the institution's written affirmative action plan. In short, there is nothing an EEO officer in higher education can do at this point that would completely please and satisfy anyone—let alone everyone.

While other professionals have territorial boundaries marking off their area of responsibility, the EEO officer constantly moves from crisis to crisis, each one entirely different from the last, except that it's controlled by one commonality: a deadline. In the EEO work world, there is never the luxury of being able to feel a sense of accomplishment of a job well done because before one task is completed, there is a never-ending list of new assignments, each with its own deadlines. An overdue annual update of the institution's affirmative action goals, a self-study report, an EEO-6 report, a rewrite of grievance procedures, preparation of selection criteria for search committees, or a meeting with employees and/or students who feel they've suffered discrimination—these are just a few of the countless responsibilities every EEO officer juggles and balances on a daily basis.

Equal employment opportunity is a field made up of independent and almost unrelated factors. Instead of dealing with one area of career concern, the EEO officer works simultaneously with the development of human resources, employment practices, equal opportunities for protected classes, adverse effect advertising, record keeping, defining jobs and job requirements, EEO and affirmative action law, federal regulations, institutional racism, institutional sexism, and human rights. The specialist must find a way to balance all these job duties and put that balance into an institutional framework that administration can understand and digest. Only then does the EEO professional truly perform the job function.

Officer must feel yet pull back

Certainly the most unique aspect of today's EEO work world is the relation which exists between those in need of equal employment opportunity/affirmative action services and the program officer. While many professionals can observe the phenomena with which they work, others must take part as active observer-participants. An effective EEO officer, like the social worker, must be able to see and understand things from the viewpoint and feeling-level of others. The legendary Will Rogers once said that if you want to understand other people's viewpoints, you must stand behind them and look at what is being observed. Well, the EEO professional must do more than merely understand some event from another person's perspective. The EEO officer must have simultaneous capacities to feel the event as that person feels it and to pull back and look at what's happening from the viewpoint and feeling-level of those who differ in opinion with (or even oppose) the complainant. This is because EEO is more than a field about law and regulation. It is a field about feelings. It's a charged area, full of explosive resentments, anger, fear, idealism, and commitment. Anyone afraid of that level of intensity or unable to work within such a highly charged work environment would be ineffective in the EEO field. Anyone too insensitive to acknowledge and accept everyone's right to have a gut-level response to the changes the field has caused certainly has no place holding an EEO officer position.

The EEO officer has a professional responsibility to see all associates in a global sense. It is not enough that any individual be seen in relation to the college or university—as an employee, a student, or a job applicant. The officer must be aware of those physical, social, and oftentimes emotional problems that come with every individual as a culturated, socialized, ethnicized person. It's important to know if the individual is disadvantaged, a racial minority, a female, physically handicapped, within the age-protected group, or a Vietnam veteran. The EEO representative must have an understanding of what it means to be any and all of these things, and have the ability to see beyond them. To be a woman is to be oppressed, but it is to be many wonderful things, as well. To be disabled is undeniably to experience physical limitations, but it is also to feel comfortable with physical imperfection.

Finally, these factors must be considered within the policies of the college or university, the network of federal agencies, and the legal framework. They must also be considered in light of the institution's commitment to affirmative action and equal employment opportunity.

Myrtle Reul is a professor of social work at the University of Georgia at Athens. Prior to her current position she was an equal employment opportunity officer.

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COMMENT

Campus Cyclists: Let's Be Careful Out There

By Douglas Delmar

A number of members of the campus community have expressed concern over the extreme lack of safety practiced by some bicycle riders on campus. Some tell me that they have either experienced or witnessed near-misses between bicycles and automobiles and even between bicycles and pedestrians. This is a situation which can be remedied easily through the practice of some "common sense" guidelines.

Bicycle safety is a continuing concern not only of Stony Brook's Department of Public Safety but of the New York State Department of Motor Vehicles. Aware that certain practices will eliminate many of the hazards presented by potential bicycle/vehicle or bicycle/pedestrian collisions, the Department of Motor Vehicles has incorporated many of these practices into the Vehicle and Traffic Law. A look at some of these ideas will demonstrate their usefulness when applied.

First, the Vehicle and Traffic Law tells us that "every person riding a bicycle upon a roadway shall be subject to all of the...duties applicable to the driver of a vehicle." These duties include signaling of intentions, slowing down for pedestrians (the Stony Brook Union crosswalk is a perfect place to put this idea into practice), being mindful of other traffic and just practicing safe driving habits in general.

Another section of the law tells us that bicycle riders should never ride more than two abreast on a roadway, and should revert to single-file riding when other traffic is present (a University community member recently told me about a near-accident on North Loop Road involving bicyclers riding four abreast while cars were approaching from either direction. Quite a scramble reportedly ensued; fortunately no one was hurt.)

Other provisions of the Vehicle and Traffic Law prohibit "no hands" riding, "skitching" on the back of moving vehicles, and carrying packages that interfere with one's ability to maneuver the bicycle.

The law states clearly that bicycles must keep as far to the right side of the road as is safely possible; that bicycles must be equipped with lights for use after dark; that they must also be equipped with working brakes and a warning bell; and that they must be supplied either with reflective tires or wheel-mounted reflectors.

The law exists not to curtail the pleasure or activities of bicycle riders, but instead to protect those in the traffic flow who are more vulnerable and unprotected than those operating enclosed motor vehicles—and to avoid inconvenience, injury, and the ultimate tragedy of accidents. All it takes is common sense on the part of all those using our roads for our campus to become a safer place.

Douglas Delmar, an officer in the University's Department of Public Safety, is coordinator of the department's Community Service Unit.

Campus Currents invites readers to submit their comments for publication, in the form of letters, essays or articles, to be printed in this new column. Submissions should be typed and signed. *Campus Currents* will not print unsigned pieces, but will at times honor requests for anonymity. The editor reserves the right to be selective in choosing pieces to be printed. Send materials to Comment, *Campus Currents*, 121 Central Hall 2760.

PERSONNEL*IZED*

Brought to you by the Department of Human Resources

Developing a Successful Relationship with Your Boss (Part Two)

In a previous issue we stated that to have a good relationship with your boss, it is necessary to:

- •understand your boss;
- •understand yourself and
- •take the responsibility for developing a good relationship.

In this issue, we will discuss the importance of understanding yourself and your style. How do you affect others? Do you know how you react in relationships? Are you aware of what you do that upsets others?

What are your strengths and weaknesses?

Most of us are not going to change our personalities, and we are not going to change the personalities of our bosses. But we should be aware of what we do that enriches or impedes our relationships with our bosses.

> "I finally realized that every time my boss asked me to do something, I responded by asking him a dozen questions. This upset him because he thought I was being insubordinate."
>
> —*A Subordinate*

Do you know what you do that your boss likes? Dislikes? Try this simple exercise: think about your relationships with your boss during the past week. List all of those things that you did that made him/her smile. And list all of the things that you did that made him/her frown.

Try to be more aware of the things that you do that upset your boss. Ask yourself if these actions on your part are so important that you have to do them even though it means risking your relationship with your superior.

How do you handle your dependence?

A subordinate-boss relationship is mutually dependent. But the subordinate is typically more dependent upon the boss than the boss is upon the subordinate.

> "I once though I was so important to the organization that my boss could not get along without me. But I left the organization 10 years ago and he is still there—going strong."
>
> —*A Subordinate*

Because we are dependent, at least to some extent, upon our bosses, it is natural for us to sometimes feel frustration and anger when our boss requires things that we do not like. Our instinct is to develop a resentment for our boss and perhaps to rebel against him/her. Sometimes we become so rebellious that our relationship becomes strained and it is hard for us to work together.

Other subordinates react in the opposite way and agree with their bosses all of the time. They agree even when a disagreement would be most beneficial to all concerned.

Needless to say, a healthy style of relating to our bosses is to accept the fact that we are dependent but not overly so.

> "I finally realized that the problem with my boss was as much my fault as it was hers."
>
> —*A Subordinate*

In parts one and two of this series we considered the working relationship from both the boss's point of view and the subordinate's point of view. We discussed the importance of understanding what a boss is trying to do. What is he/she trying to accomplish? What is he/she being judged by?

We also talked about the need to understand our own style. Have you honestly assessed your own strengths and weaknesses? Are you aware of what you do that your boss likes and dislikes? How do you react to the dependence that is a part of all of our jobs?

As subordinates, we must realize that everyone benefits when we develop a good relationship with our superiors. In an upcoming issue we will present as five-point program designed to help you achieve that goal.

Employees Encouraged to Take Long Weekend

The University is encouraging all employees, in areas where it is possible, to take the Friday after Thanksgiving as a day of vacation. Classes will not be in session and activity is expected to be minimal.

Buildings will be open for employees who wish, or who must come, to work. Obviously, essential services must be maintained.

The Department of Human Resources hopes that a maximum number of employees will take the opportunity to enjoy a four-day weekend.

If you have any questions, please contact Jurgen Krause, Human Resources, at (24)6-8301.

Campus Job Opportunities

Main Campus

Status and Title	Location	Base Salary
R-Steno	S. B. Foundation	$11.866
*S-Steno	Oral Bio. & Path.	11.866
*S-Sr. Steno	Psychi. & Beh. Sci.	14.811
*S-Sr. Steno	Harriman College	14.811
S-Maint. Asst.	Res. Phys. Plant	14.013
S-Maint. Asst.	HS€ Phys. Plant	14.013
S-General Mechanic	HSC Phys. Plant	17.563
S-General Mechanic	HSC Phys. Plant	17.563
R-Lab. Worker I	Physic.-VdG Lab.	9.880
S-Park. Svs. Att.	Public Safety	11.866
S-Clerk	Financial Aid	10.807
*S-Steno	Biochemistry	11.866
R-Sr. Typist	Med./CPMP	13.254
R-Sr. Steno	Neuro. Surgery	14.811
R-Sr. Steno	Psychiatry/CPMP	14.811
S-Maint. Helper	Res. Phys. Plant	12.541
S-Carpenter	Phys. Plant MC	17.563
S-NTP-Asst.to Direct.	Public Safety	27.000
S-NTP-Editor	Publications	10.200
R-NTP-Tech. Spec.	*Marine Sciences*	16K-18K
S-NTP-Asst. to Direct.	Psych./IMHR	13K-24K
S-NTP-Tech. Spec.	CPMP/Radia. Oncol.	15K-31K
R-NTP-Res. Asst.	Oral Bio. & Path.	15K-20K
S-NTP-Tech. Spec.	Mech. Eng.	15K-31K
R-NTP-Res. Asst.	Neurobio. & Beh.	15K-20K
R-NTP-Post. Doc. Res. Assoc.	Pharmacology	16K-17K
R-NTP-Tech.Spec.	Surgery (Transp.)	15K-27K
S-F-Physician	Univ. Hlth. Serv.	Comm.w/exp.
S-F-Professor	Hum. & Fine Arts	Dep.on qual.
S-Fin. Aid Officer	Financial Aid	16K-21K
S-Counselor	AIM/EOP Program	19K-21K
S-Tech. Asst.	Psychiatry	13K-20K

For more information on main campus jobs. visit Human Resources. Room 390. Administration Building.

University Hospital

Status andTitle	Location	Base Salary
*S-Mail & Supply Clk.	General Svc.	10.807
*S-Mach.Oper./Micro.	Micro.Gen.Svc.	10.807
*S-Tele.Oper.Train.	Tele.Switchboard	10.807
*S-DEMO	Rec. & Stores	11.306
S-Cleaner	HSC Phys. Plant	11.306
S-Cleaner	Housekeeping	11.306
S-Hosp.Attend.I	Linen	11.306
*S-Stores Clerk	Rec. & Stores	11.866
S-Laborer	Rec. & Stores	12.541
S-Laborer	Rec. & Stores	12.541
S-Motor Veh. Oper.	Gen.Serv./Motor	13.254
*S-Nurs.Sta. Clerk	Unit.Manage./Psych.	13.254
*S-Cashier	Patient Accts.	14.811
*S-T&R Ctr.Nurse II	Orthopaedics	22.041
*S-Mail & Supply Clerk	Gen. Serv.	10.807
*S-DEMO	Material Mgt.	11.306
S-Cleaner	Housekeeping	11.306
*S-Clothing Clerk	Housekeeping	11.306
*S-Steno	Admin./Oper.	11.866
*S-T&R Nurse I	Amb. Care/Pediat.	19.706
*S-T&R Nurse II	Predicted Stay	22.041
S-NTP-Tech.Spec.	CPMP/Radia. Oncol.	15K-31K
S-NTP-TH Asst.Direct.	Central Sterile	13K-24K
S-NTP-Tech.Spec.	Radiology	13K-24K
S-NTP-Assoc. Nurs. Dir.	Nursing Admin.	19K-37K
S-NTP-Asst. Nurs. Dir.	Nursing Admin.	7K-15K
S-NTP-Hosp. Epidem.	Infection Control	15K-31K
S-NTP-T.H.Resp. Ther. II	Respiratory Care	15K-31K
S-Tech. Spec.	Radia. Oncol.	15K-31K
S-T.H. Resp. Ther. I	Respiratory Care	13K-24K

For more information on University Hospital jobs. visit Human Resources. Room 132. third floor, Health Sciences Center.

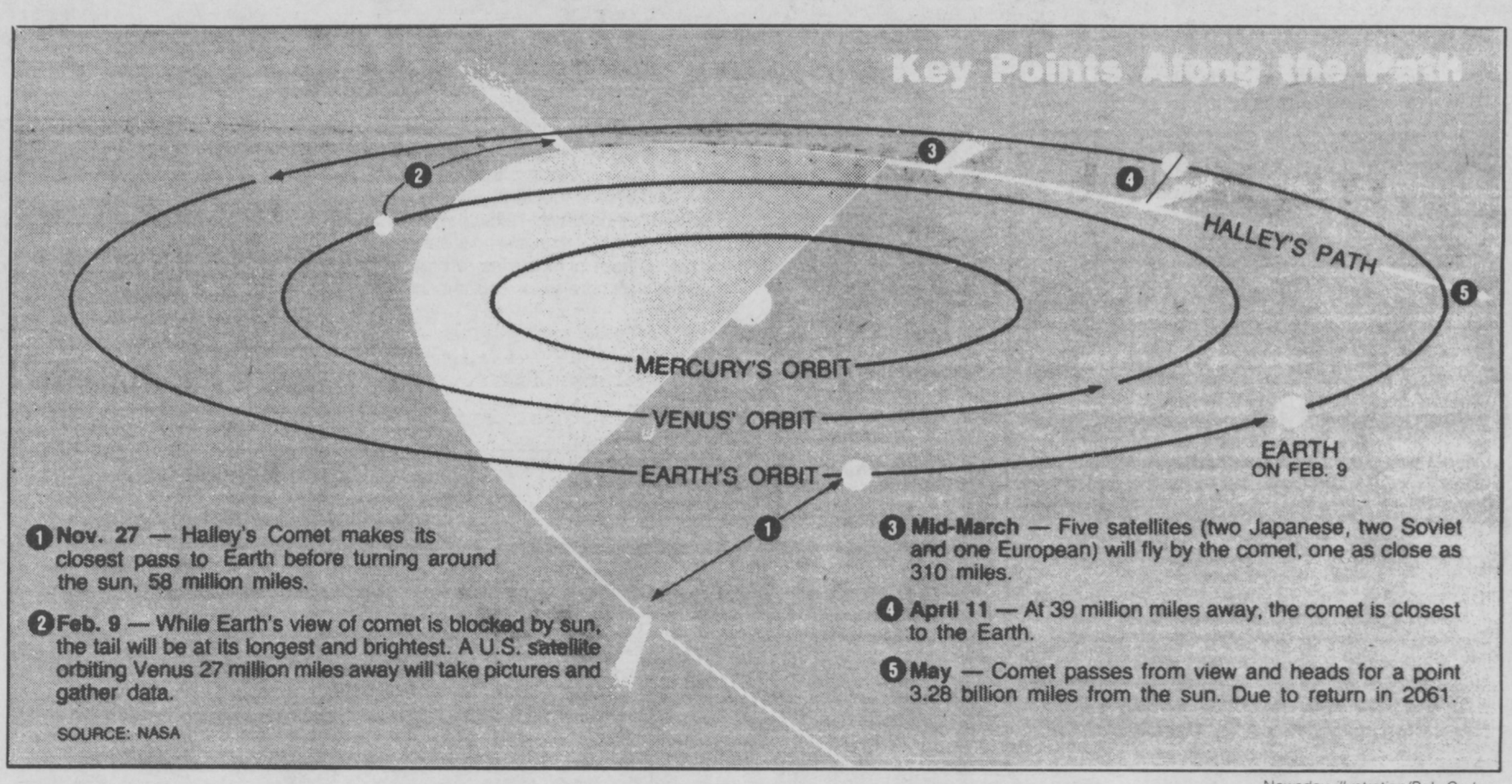
KEY

S—Must meet minimum qualifications as specified by the NYS Dept. of Civil Service
*S—Requires NYS Civil Service Exam in addition to meeting minimum qualifications as specified by NYS Dept. of Civil Service
R—Must meet minimum qualifications as specified by the Research Foundation
NTP—Non-teaching professional
F—Faculty

For Civil Service Test announcements. visit the Department of Human Resources. Main Campus or University Hospital.

"Personnelized" lists employment opportunities as a service to the Stony Brook community. Faculty and professional positions are posted for 30 days. Classified positions are posted for 10 days. "Personnelized" cannot guarantee the availability of any position.

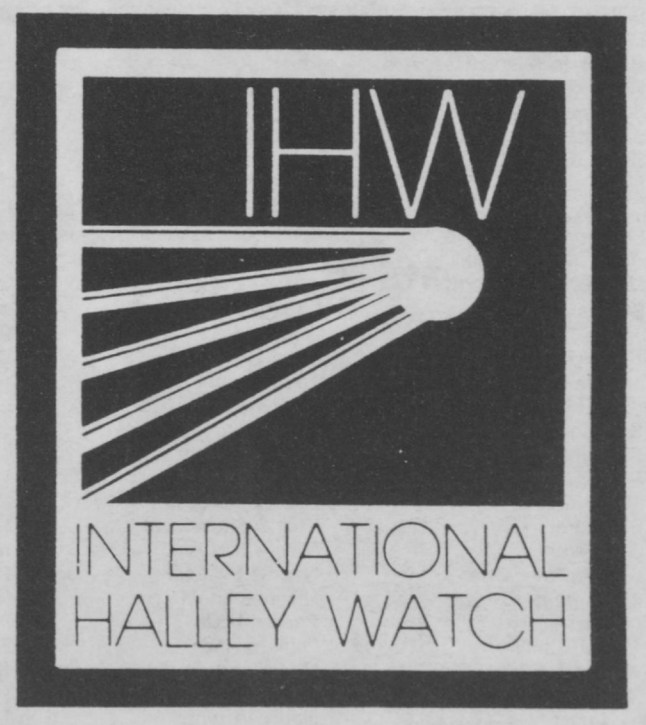
Halley's Comet Readings Head for SB Center



Newsday *illustration/Bob Graham*

"Halley's comet will appear unspectacular to the naked eye and, unfortunately, the public may be disappointed with its display."

—SB Professor Roger Knacke



By Charles L. Keller

Scientists the world over will have one eye on Halley's comet this coming winter and spring when the celestial phenomenon arrives for its once-every-76-years visit. The other eye, at least part of the time, will be on Stony Brook.

University scientists will archive the most comprehensive collection of data the scientific world has ever known on one of six major aspects of Halley's comet. It's all part of the International Halley Watch, set up by the National Aeronautics and Space Administration (NASA) to encourage and coordinate efforts of professional and amateur Halley watchers.

A three-member team led by Dr. Roger F. Knacke, astronomer in Stony Brook's Department of Earth and Space Sciences, will collect and catalog data on its own as well as archive data collected by 120 scientists throughout the world.

"We want the most complete, cataloged data possible for scientists to have when Halley's comet comes again in 2061," said Knacke.

He has been joined by research associate Brian McGuinness, who earned his master's degree in astronomy at Stony Brook last spring. McGuinness is developing the computer programming necessary for archiving the data and for transmitting it to computers at the Jet Propulsion Laboratory (JPL) in Pasadena, CA. The third member of the team is Mildred O'Dowd, Knacke's administrative assistant.

The scientists participating in the International Halley Watch throughout the world have divided their work into eight "networks." Knacke's crew will collect information on the comet's infrared wave lengths, or heat rays. These data will allow scientists to determine the temperature, size and composition of dust particles released by the comet. Knacke is coordinating his efforts with Dr. Therese Encrenaz, a French researcher who is collecting the same kind of information in Europe.

When to look for comet

Amateur observers with small telescopes will be able to see Halley's comet this fall (astronomers have been observing it through huge telescopes since last spring.) Naked-eye viewing from dark-sky sites (away from city lights) should be possible by early 1986, probably in January and definitely by April.

"It won't be a really spectacular show as far as Halley's goes," said Knacke. "This time, the Earth will be on the opposite side of the Sun from the comet."

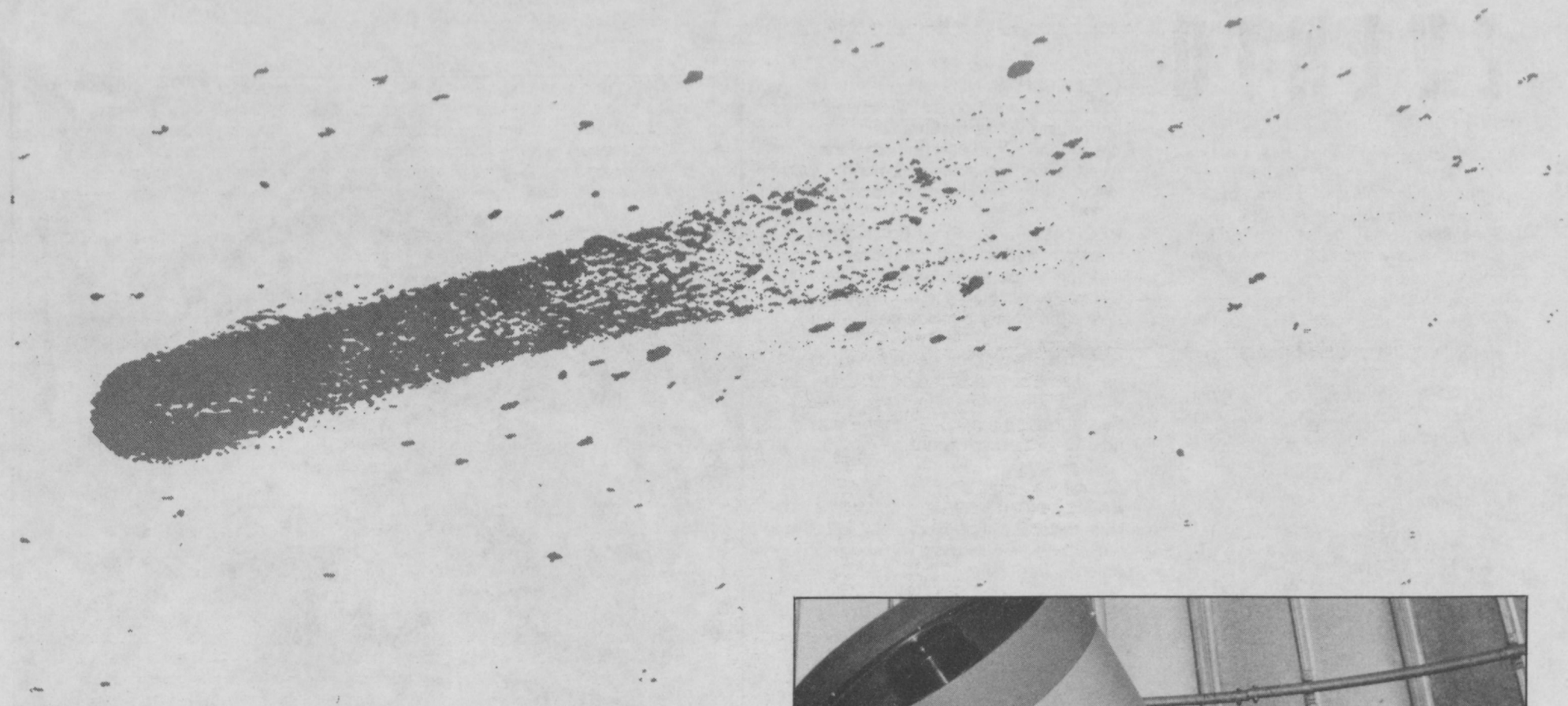
Because of that configuration—the Sun between the Earth and the comet—the Sun's glare will make Halley's difficult to see, Knacke explained. (The glare also prevents us from seeing stars during the daytime hours, he added.) According to Ray L. Newburn, a leader of the International Halley Watch in California, the 1986 appearance will offer the worst naked-eye viewing of the comet in the past 2,000 years.

Halley's comet has been seen every 76 years since 240 B.C., but it wasn't until 1682 that English scientist Edmund Halley figured out its pattern and predicted it would return in 1758. Until then, astronomers did not know they were seeing the same comet each time.

Despite its frequency of appearance, astronomers consider Halley's comet a "temporary phenomenon." "It's losing its mass of gas, dust and ice all the time," Knacke said. "It is down about 1 percent every trip." Scientists think the comet's core is made up of ice, covered with a kind of primeval material rich in complex, organic carbon-bearing molecules that give it a reddish color. Its core is only about 5 kilometers in diameter but its tail "is gigantic—perhaps 50 million kilometers long," Knacke said.

See Halley's at SB Dec. 6

Knacke will collect his own scientific data on Halley's at observatories in Hawaii, Arizona and Chile. However, he plans to give the public an opportunity to see the comet through telescopes here at Stony Brook, during one of the Department of Earth and Space Sciences' "Astronomy Open House Nights." "There will be an 'Open Night' Friday, Dec. 6 to try to view the comet, and we may schedule more," he said. "Even though Halley's won't be that visible this time around, many people still seem quite anxious to see it."



Astronomer Roger F. Knacke *leads a three-member Earth and Space Sciences team that will be compiling data collected by 120 scientists tracking Halley's comet throughout the world.*

Knacke Remembers First Infrared Observation of Halley's Comet

By Roger F. Knacke

The numbers were being printed out by the computer in the observation room of NASA's Infrared Telescope Facility on Mauna Kea mountain in Hawaii. Each number was part of a series, which, if positive, would show that our instrument at the focus of the telescope had measured light from Halley's comet.

Timothy Brooke, a graduate student at Stony Brook, and I were attempting to detect the comet on its journey to the inner solar system last February. Astronomers were beginning to make observations of Halley's comet, the first since 1910, when the comet last came near Earth. Most astronomers are used to being around big telescopes on

"The soldiers of the Battle of Hastings saw it in 1066 and took it as an ill omen (for the losers). It was probably the comet that appeared before the destruction of Jerusalem in 70 A.D."

remote mountaintops, but every astronomer I know keenly anticipated the results of new observations, as we did on this observing run.

The summit of Mauna Kea ("White Mountain" in Hawaiian because it is often snow covered) is at 13,796 feet, barren and inhospitable to life. Only an occasional insect, some moss and a few astronomers inhabit the cinder cones of this extinct volcano. The red, rocky landscape looks much like the pictures of the surface of Mars sent back by the Viking Lander a few years ago. But its high altitude, clear skies and cold, dry climate make it the best site on Earth for many kinds of astronomical observations. Astronomers come from around the world to observe with the telescopes here. We had been granted five nights of observing time on the Infrared Telescope Facility, a telescope with a mirror three meters in diameter, often used for solar system studies.

The thin air makes it impossible to do anything as mentally complicated as calculating a comet orbit. Brooke and I had carefully prepared our strategy before leaving Stony Brook. In February, Halley's comet was near the orbit of Jupiter, still too distant to see with a telescope even with the television monitors that are used instead of eyepieces in modern research telescopes. We had calculated the position and path of the invisible comet and planned to record the intensity of infrared light while the telescope tracked the path.

Storms and clouds swept across Mauna Kea on the first three nights of our observing run. Our plans were frustrated as we could not even open the telescope dome. Had we come all this way for nothing? But on the fourth night the weather cleared and everything was ready. We set the telescope on Halley's calculated track and accumulated a series of measurements; they suggested something was there. Now it was time to be skeptical; a difficult measurement like this has to be repeated before it can be believed. Again the telescope tracked the position. One after the other, the numbers came out positive and in agreement with the first series. We had detected light from Halley's comet.

This observation was the first in a study that we will continue through 1986 as the comet approaches the Sun (it will be nearest the Sun on Feb. 9, 1986), turns, and then heads back to the outer solar system. It was an exciting moment for us that followed years of planning and preparation. I think that seeing it will be exciting for everyone; Halley's comet is a part of history. It was the comet for which Edmund Halley in the 1680s used Issac Newton's newly developed mechanics to calculate the orbit and successfully predict its return in 1759. The soldiers of the Battle of Hastings saw it in 1066 and took it as an ill omen (for the losers). It was probably the comet that appeared before the destruction of Jerusalem in 70 A.D. There might even be a connection with Hawaii. A tradition has it that the famous King Kamehameda was born in a year that a comet appeared, although the exact date isn't known. It could have been the appearance of Halley's comet in 1759.

I can't remember being particularly concerned about comets as a child, but I do remember being fascinated by very old things, dinosaurs or pyramids for example. Comets are immensely older, probably the oldest objects in our solar system. The characteristic tails that give comets their names ("comet" is, roughly, "hairy star" in Greek) consist of gas and dust that evaporate from a nucleus. This is a kilometer-sized mass of ice and rocky material that probably formed at the same time as the Earth and the planets, about 4.6 billion years ago. The nucleus is aptly described as a dirty snowball. The nucleus of Halley's comet is close to 6 kilometers in diameter; a walk from Central Park to the Battery in Manhattan would give a good feeling for its dimensions.

The Earth, although 4.6 billion years old, has an active geology of volcanoes, earthquakes, erosion and continental drift. This activity churns the surface so that today no traces of the rocks of very early Earth remain. Unlike the Earth's, comet nuclei are inactive except for the brief periods when they are in the Sun's heat; the rest of the time they are in a deep-freeze storage in cold space far from the Sun. Thus, a major reason for the scientific interest in comets is that they transport very ancient material to the vicinity of the Earth. This material may contain indicators that existed at the time of the formation of the Earth, the Sun, and the planets—a record of the creation.

I began to think seriously of the research possibilities of the apparition of Halley's comet more than 10 years ago. Many plans were made by astronomers, not all of them successful. A major disappointment came in 1978,

"The nucleus of Halley's comet is close to 6 kilometers in diameter; a walk from Central Park to the Battery in Manhattan would give a good feeling for its dimensions."

when federal budget restraints forced NASA to abandon plans to send a spacecraft to Halley's comet for closeup studies. A consortium of European nations in the European Space Agency, the Soviet Union and Japan, however, are all sending such spacecraft. The European and Soviet missions are international projects involving scientists from many countries. The European spacecraft will pass within 500 kilometers of the nucleus in March 1986, and the Soviet ones within a few thousand. Halley's comet will appear unspectacular to the naked eye and, unfortunately, the public may be disappointed with its display. The spacecraft, however, will send back closeup pictures, completely unprecedented views of a comet that will quite possibly be as spectacular as the first spacecraft views of the planets were. The spacecraft have been launched and all appears well with the instruments. Bon voyage.

Although lacking a Halley mission, NASA is actively supporting comet research. It sponsored the recent, very successful Comet Giacobini-Zinner flyby, designated a space shuttle mission to carry ultraviolet cameras to observe Halley's comet, and is sponsoring the International Halley Watch (see story).

With all this preparation and expectation, it was gratifying to see Halley's comet for the first time, even if our "eyes" on Mauna Kea were an infrared radiation detector. We learned one interesting thing from the observation. The infrared colors of the comet suggest that much of its material is reddish and very dark, as dark as soot or tar. Evidently, we detected the "dirt" in the dirty snowball, although the analogy isn't completely pleasing. We don't know exactly what the material is, but there is a strong possibility that it could be similar to tar, that is, it contains organic chemical compounds. (Organic compounds are chemical materials incorporating carbon. They are found in both living and nonliving material and their presence does not necessarily imply life processes.)

Halley's comet is now being observed by hundreds of astronomers around the world. It will take several years to accumulate and interpret the data. At the end, we'll know much more about comets and, perhaps, more about the evolution of the ancient Earth and the solar system.

Roger F. Knacke is a professor of earth and space sciences at Stony Brook. His account of this astronomical observation first appeared in Newsday's *Oct. 15 "Discovery" section.*

EVENTS

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Campus Currents *lists events of general, campus-wide interest. Submissions may be sent to: Editor,* Campus Currents, *121 Central Hall 2760.*

•MONDAY, NOV. 25-WEDNESDAY, DEC. 4
PHOTOS: "Senator Javits and World Leaders" (photo exhibit); Frank Melville, Jr. Memorial Library, Dept. of Special Collections, East Wing, Second Floor; 9 a.m. to 5 p.m. weekdays. Open to the public, no charge for admission.

•MONDAY, NOV. 25
RECITAL: Oboeist Rebecca Nagel performing works by Britten, Telemann, Saint-Saens and others. Fine Arts Center Recital Hall, 12 noon. Open to the public, no charge for admission.

READING: *The Old Man and the Room,* a new play by Ali Wadud, Fine Arts Center Theatre I, 5:30 p.m. For more information, call Glenda Dickerson, Dept. of Theatre Arts at (24)6-7708.

DANCE: Israeli folk dancing, Stony Brook Union Ballroom, 8-10 p.m. New dances will be taught. Beginners welcome.

•TUESDAY, NOV. 26-FRIDAY, JAN. 10
EXHIBIT: "Abstract Painting Redefined," Fine Arts Center Art Gallery, Tuesdays through Saturdays 1-5 p.m. and before some Main Stage performances. Open to the public, no charge for admission.

•TUESDAY, NOV. 26
FILM: *Paris, Texas;* Stony Brook Union Auditorium; 7 and 9:30 p.m. Admission .50 with SUSB ID, $1 without. Tickets available at the Stony Brook Union Box Office and at the door.

LECTURE: "Photographic Variations on the Landscape Theme," Harvey Weber, former director of photography at *Newsday;* Social and Behavioral Sciences Building Room S328; 7:30 p.m. Admission is $5 payable at the door.

FILM: Screening of a Soviet propaganda film on Jews and Zionism followed by a speaker from the Coalition to Free Soviet Jews. Javits Lecture Center Room 105, 7:30 p.m.

•WEDNESDAY, NOV. 27
RECITAL: Trombonist Kelly Young performing works by Strauss, Weckmann, Childs and others. Fine Arts Center Recital Hall, 12 noon. Open to the public, no charge for admission.

RECITAL: Percussionist Ed Nagel in a graduate student doctoral recital. Program to be announced. Fine Arts Center Recital Hall, 4 p.m. Open to the public, no charge for admission.

RECITAL: Trombonist Erik Salzwedel performing works by Adler, McCarthy, W. Ross and others. Fine Arts Center Recital Hall, 8 p.m. Open to the public, no charge for admission.

•MONDAY, DEC. 2
BAGELUNCH: Interfaith Lounge, Humanities Building Room 157, 12-2 p.m. For commuting students (and others.) Free.

MEETING: University Senate, Javits Lecture Center Room 109, 3:30 p.m.

•TUESDAY, DEC. 3
FILM: *Jonah Who Will Be 25 in the Year 2000,* Stony Brook Union Auditorium, 7 and 9:30 p.m. Admission .50 with SUSB ID, $1 without. Tickets available at the Stony Brook Union Box Office and at the door.

LECTURE: "Long Island Landscapes: One Artist's View," painter Joseph Reboli, Social and Behavioral Sciences Building Room S328, 7:30 p.m. Admission is $5 and payable at the door.

•WEDNESDAY, DEC. 4
THEATRE: *Stop...and Make Sense!* (children's musical about the five senses), Fine Arts Center Theatre II, 12 noon. Additional performances Saturday, Dec. 7 at 1 p.m. and Wednesday, Dec. 11 at 12 noon. For ticket information, call the Fine Arts Center Box Office at (24)6-5678.

MUSIC: Violist Madeleine Darmiento, Health Sciences Center Gallery on Level 3, noon. Cushions for seating are available, and attendees usually bring a bag lunch. Part of the "Music at Noon" series.

LECTURE: "Long Live Art: The Preservation Care of Works on Paper," Rhonda Cooper, Director of the Fine Arts Center Art Gallery, Fine Arts Center Art Gallery, 1 p.m.

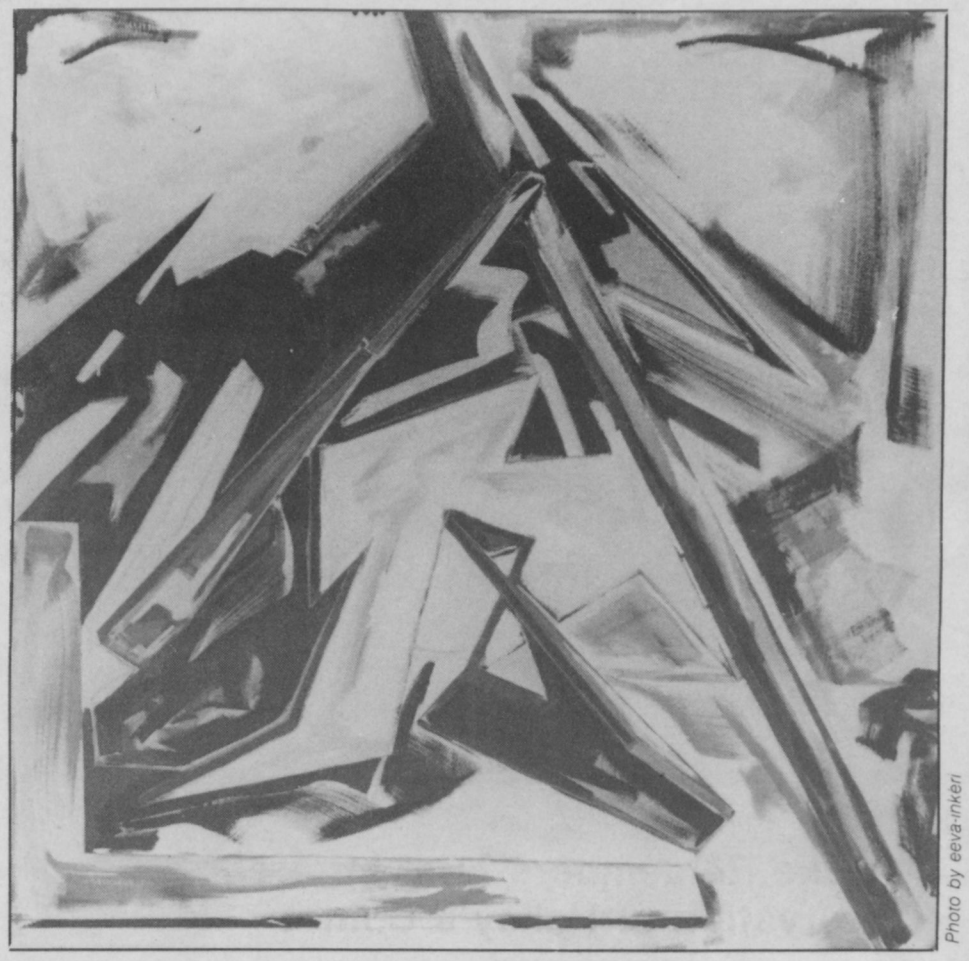

Photo by eeva-inkeri

Feeling Smashin *is the title of this mixed media on canvas by Dennis Ashbaugh. It's one of 21 abstract paintings on exhibit in the Fine Arts Center Art Gallery until Jan. 10.*

DINNER LECTURE: "Peace in the Jewish Tradition," Rabbi Phil Bentley, Roth Quad Dining Hall, Kosher Meal Plan Dining Room, 5:30 p.m. Kosher meal card, no extra charge; regular meal card, $1; no meal card, $5.

•THURSDAY, DEC. 5
FILM (DOUBLE FEATURE): *On the Waterfront* (7 p.m.), *A Streetcar Named Desire* (9 p.m.), Stony Brook Union Auditorium. Separate admission for each film: .50 with SUSB I.D., $1 without. Tickets available at the Stony Brook Union Box Office and at the door.

•FRIDAY, DEC. 6
ASSEMBLYMAN ON CAMPUS: New York State Assemblyman Robert Gaffney of the Fourth Assembly District (which includes Stony Brook) will hold satellite office hours in the Javits Conference Room on the second floor of the Frank Melville, Jr. Memorial Library; 2-5 p.m.

LECTURE: "Observing Comet Halley," Dr. Roger Knacke of SUSB's Dept. of Earth and Space Sciences, ESS Lecture Hall 001, 8 p.m. Weather permitting, a viewing session with the University's small telesopes will follow the lecture.

DINNER/MUSIC: annual "Tower Music" program fundraiser for Health Sciences Center student loan funds, Health Science Center Gallery on Level 3. Cocktail hour and buffet dinner at 6:30 p.m., concert at 8:30 p.m. Reservations are $30 per person. For more information call Carol Court at 44(12 on campus)4-2093.

•FRIDAY, DEC. 6-SATURDAY, DEC. 7
FILM: *Rambo—First Blood Part II,* Javits Lecture Center Room 100, 7 and 9:30 p.m. and 12 midnight. Admission .50 with SUSB I.D., $1 without. Tickets available at the Stony Brook Union Box Office and at the door.

•SATURDAY, DEC. 7
SCHMOOZ: Luncheon and discussion with a guest faculty member. For more information call the Hillel Office at (24)6-6842.

THEATRE: *Stop...and Make Sense!* See Dec. 4.

Taiwanese leader *Chiang Kai-shek greets U. S. Senator Jacob K. Javits in this photo from the exhibit "Senator Javits and World Leaders", currently on display in the Frank Melville, Jr. Memorial Library.*

•CATHOLIC MASSES: Masses are offered on campus at the Interfaith Center Lounge, Humanities Building Room 157, on Mondays and Wednesdays at 5 p.m. and at noon on Tuesdays and Thursdays. Mass also is held each weekday at noon in the University Hospital Chapel (Level 5 of the Hospital.) Sunday masses are 11 a.m., 5 p.m. and 7 p.m. in the Arms Control, Disarmament and Peace Studies Resource Center (Old Chemistry Building) and 9:30 a.m. in the Hospital Chapel. For more information, call the Interfaith Center at (24)6-6844.

Correction

In an earlier edition of *Campus Currents,* new faculty member Tae Park was incorrectly identified as a member of the Department of Radiology. Dr. Park is a member of the Department of Radiation Oncology.