

"Overwhelmingly positive response"

Administration, faculty respond to Cranch selection

by Phil Czapl

The selection of Dr. Edmund T. Cranch as the next president of W.P.I. has been met with an overwhelmingly positive response by a number of administration and faculty members interviewed this week.

Foremost among the administration, Vice President and Dean of the Faculty, Ray E. Bolz felt that Dr. Cranch was an outstanding choice. Cranch's background in education, industry and his experience as Dean of Engineering at Cornell would make him ideal as a leader and spokesman for W.P.I. according to Bolz. Bolz further pointed out that Cranch's past role in raising money from alumni, foundations, and industry for Cornell would be significant to W.P.I.'s own effort in fund raising, helping to insure the financial stability of the college at a time when most private institutions are suffering declining enrollment and funding.

In addition, Bolz believes that Dr. Cranch's work in chairing studies evaluating the quality of the undergraduate

program at Cornell will give him fresh insight into presiding over our own undergraduate program.

Since Cranch will be taking office over the summer during term E, Bolz expects that the transition of presidents will be smooth, and that Dr. Cranch will be fully acclimated to the workings of the campus by the time school begins again this fall.

Romeo L. Moruzzi, Professor of Electrical Engineering, a member of the Presidential Search Committee, stated that the choice of Dr. Cranch was unanimous among the committee. Moruzzi cited Dr. Cranch's academic background, administrative ability, undergraduate interest, and fund raising abilities as key factors in the decision.

Moruzzi sees Cranch's experience in dealing with trustees, faculty and administrative areas as valuable assets to his new role at W.P.I.

When asked whether the choice of Dr. Cranch was influenced by the fact that he came from a prestigious private university vs. the less known and public institution of

Dean Gross, Moruzzi replied that the question had never been raised among the committee but certainly could have been on the minds of individual members.

William D. Grogan, Dean of Undergraduate Studies, also a participant in the selection process, felt that Dr. Cranch's opportunities will insure maintaining the momentum gained at W.P.I. through the Plan era; a period that has seen W.P.I. grow from a small unknown college to a nationally respected institution.

Grogan praised Dr. Cranch's involvement in planning and evaluation committees at Cornell, in particular noting that two of the committees on which Cranch has served have dealt with the topics of athletics and the future of fraternities — both areas which are vital issues here at W.P.I.

John S. Brandon, Director of Admissions, believed that the Search Committee has certainly done "their homework" in the selection process, and came out with an excellent choice.

From his brief encounter with Dr. Cranch, Brandon sensed that Cranch was

very knowledgeable and informed about the area of admissions, and is supportive of the present admissions system.

An interesting viewpoint on the choice of Dr. Cranch was voiced by A. Frank Tamasy, Director of Personnel Services. Looking at Cranch's impressive credentials, Tamasy has high hopes that he will be an effective administrator. Tamasy stressed that while W.P.I. has become innovative in its academic areas, it has not yet extended these concepts to the general service administration.

From his standpoint in personnel administration of employees at W.P.I., Tamasy hopes that Dr. Cranch will look more toward the faculty and staff for ideas, because they are the ones that make the plan and the whole educational process work.

Tamasy would like to see Dr. Cranch giving more recognition to the day to day hourly paid people. All too often, he feels that these people — the secretaries, office

continued on page 6

Newspeak

The student newspaper of Worcester Polytechnic Institute

Volume 6, Number 3

Tuesday, February 14, 1978

Special Double Storm Issue

Seven-point proposal

Committee recommends football continue

by Barry Aranson

Last Saturday Raymond Forkey, chairman of the WPI Trustees Committee formed to study the future of the football program, announced that their report recommending the continuation of football was accepted and approved by President George Hazzard and the Trustees Executive Committee. The committee's recommendations must still be voted on by all of the trustees at the February meeting. When asked if the trustees would approve the recommendations President Hazzard said, "There should be no problem."

Forkey and the five other members of the committee (Richard A. Davis, Howard G. Freeman, Robert J. Whipple, and Leonard H. White) deliberated for seven weeks before making their decision and drafting a list of seven recommendations they suggested be adopted by the Trustees and the Administration of the College. The recommendations to WPI are: 1) employ a qualified football coach; 2) reject the practice of tenure for future football coaches and accord a three-year contract to the new football coach (at the end of which time his performance will be reviewed); 3) upgrade football to be more consistent with the accomplishments of the WPI Plan; 4) remain in NCAA Division III while avoiding New England's strongest teams and possibly scheduling one or two outside New England; 5) follow the recommendations of the 1975 Trustees Committee Report on Athletics with respect to financial aid for student-athletes; 6) emphasize recruiting to a greater degree; 7) seek greater co-operation between the college administration and the football program.

One of the major problems with the football program is that many of the



[L-R] George Hazzard, Raymond Forkey, Robert Pritchard at Saturday's press conference.

—Mark Hecker

football players who qualify for financial aid do not receive the amount of aid suggested they be given by the 1975 trustee's report on athletics at WPI. In the '75 report the trustees said that quality football players who meet WPI academic standards should be given approximately 10 per cent more financial aid than they would otherwise, which also holds true for any outstanding student.

Forkey said that the committee supports the recommendations made in the 1975 report regarding financial aid. He went on to say, "It (financial aid) has been on the short side for football players."

When asked what measures would be used to insure that a football player gets financial aid they deserve he replied, "The new coach. If the new coach does a good job of recruiting and comes up with a list of top quality student athletes, they will get the financial aid they deserve."

Many qualified football players who are interested in WPI will not get their full financial need met, including the 10 per cent increase suggested in the '75 report. When asked how WPI would compete with schools who are able to grant their football players full need President Hazzard replied, "I think WPI can offer a better education

than the schools we will be competing with."

Recruiting has been a major problem for WPI. In the past Mel Massucco, who resigned as head coach in December, was the only one allowed to recruit, which he had to do in between his classes.

"Our new coach will be given more time to recruit than they have had in the past," said Bob Pritchard, who retires as Athletic Director in June.

When Forkey asked what influenced the committee's decision the most he replied, "My own feeling is that the open meeting with students and faculty and the student petition might have been the greatest influence."

The open meeting was held last December and was attended by an estimated 500 students and faculty. Of those that spoke at the meeting, and there were many, not one spoke in favour of discontinuing football. At the same meeting a petition calling for the continuation of the football program was submitted to the committee. The petition which had been circulated for only two weeks, was signed by 1400 students.

"There'd better be the same support there was at the open meeting at the football games next fall," said President Hazzard.

Gargantuan Gangue Gone

Geological Genius Grabs Gam's Granite

by Ken Mandile

The Fiji Rock, for decades the pride of Phi Gamma Delta fraternity, has been stolen. In the wee morning hours of December 27, 1977 three young criminals committed the caper of the year. Not since the disappearance of the Arm and Hammer weathervane from atop the Washburn Shops has a crime stirred so much interest.

Upon hearing of the disappearance, Newspeak formed a Special Rock Investigation Unit, the R Team. The R Team has succeeded in locating the missing stone and has visited the site in southern Connecticut where it now sits. The R Team located the rock with the aid of an informant who claims to be responsible for removing the rock from its home in Institute Park.

The R Team's informant said he and two friends stole the rock as a dare. According to his account of the heist it was quite a daring feat.

The three conspirators arrived in Worcester at approximately three a.m. on December 27. They had driven from Connecticut in two vehicles. One vehicle was a two ton truck with a ten ton winch. The other vehicle was a passenger automobile. The thieves had been told by informed sources that Fiji's house would be empty, but upon arrival they found that this was not the case. There were six cars in the driveway and several lights on inside the house. This would make the theft more daring. They had to snatch the rock from under the protective noses in the Fiji house.

continued on page 6



—Mark Hecker

Top to bottom, R. J. O'Connor, Fiji Rock.

Index:

Editorials	2
Op-Ed	3
Entertainment	6
Storm Special	11-13
Sports	20-23

Editorials: Football findings

The findings of the Trustees Committee on Football are both encouraging and frightening at the same time.

On the one hand, they have made some sound recommendations as to what should be done in the future. A schedule of teams whose schools are in similar athletic situations to ours should go a long way towards ending one sided games at Alumni Field. Giving the coach a series of three year contracts, instead of allowing him to become a tenured faculty member should also lead to a more competitive team. In this respect, I believe that the committee came to the right decisions.

I never for a moment thought that football should be dropped. There is obviously strong interest among team members. Look at the masterful job of organizing that went into their "Save Football" drive in B term. Any group who can manage to get 500 people to show up for anything on this campus deserves a well done from this paper.

On the other hand, a dangerous line of thought has arisen from this mess. Chairman Ray Forkey, at Saturday's press conference, expressed hope that the Financial Aid Office would work more closely with the football program in fulfilling the financial need of the players, mainly in the form of scholarships.

I might remind Mr. Forkey that we're talking about WPI here, and NOT Ohio State. We are classified as an NCAA Division III school and, as such (if I'm interpreting what I've read correctly) we aren't supposed to give out athletic scholarships. Even if I'm wrong about this, I still think that it's unreasonable to give out athletic-based grants.

My basic reasoning on the matter is this: What singles football players out for special aid consideration? Why not do the same thing for basketball, baseball, and wrestling? Why don't Student Government officers, club leaders, fraternity presidents, and, yes, newspaper editors get extra help?

Where is this extra financial need money going to come from? Every year, we're told that there just isn't enough to go around and fill everybody's need. All I can guess is that we'll have to take a little cut. Let me speak for one editor and say that this stinks in spades.

Football is like any other extra-curricular activity on this campus: people take part in it because they enjoy it. During the controversy, several team members said flatly that they would leave the school if football were dropped. Does that mean that the football program is only attracting a narrow group of people who see no other redeeming values in this institution? If so, then there certainly was a need to reevaluate the program.

Frankly, I hope that just half of the people who did all the shouting in these past few months go to the games next fall. This alone would raise attendance by 100%, and should do wonders for team morale. I also hope that, if this newspaper should ever find itself in need of support, we would receive the same support.

What I'm getting at is that football isn't the matter of life and death to this campus that it's been made out to be. It plays a supporting role but, as such, is on an equal footing with a lot of other things that don't tend to get priorities.

Although the Committee didn't drop back into punt formation, they did, in effect, waste a time-out, and then run the same play against a stacked defense. The bigger questions remain unanswered.

Tom Daniels

It's about time

I take this space this week to commend the school officials responsible for the closing of school for three days last week. They have at last reacted responsibly to the needs of the students, to whom their jobs should be dedicated. It is a glad sign that the feelings of some authorities are changing.

In the past there has been a ridiculous tradition that WPI does not cancel classes due to snow. (The only other recorded closing was in tribute to John F. Kennedy, following his assassination.) At a school where nearly 50 per cent of the students are classified as commuters, it makes no sense to hold classes when such a large segment of the student body is not likely to attend. Worse, yet, are the instances where students brave the fury of winter only to find that their instructors have not. These wasted days are simply thrown away from a short-enough 7 week term.

I hope that the governor's declaration of a state-of-emergency was not the only factor that was involved in the decision to close school. The operation of many student related services during the emergency, notably the office of Student Affairs, seems to negate that possibility. If, however, that was the case, maybe that's what we needed to abolish the old point of view. In any event, let's hope that last week's decision was the start of a new tradition.

Mark Hecker

Letters: King needs help

To the Editor:

The Committee to Elect Ed King for Governor has been actively recruiting volunteers for the past few weeks. To maintain a strong, cohesive campaign organization, we find it necessary to have people representing us at the various college campuses across the state. As with most political campaigns, students and young people form the largest single group of workers — this should be especially true in Mr. King's situation.

King, the former head of the Massachusetts Port Authority and former executive director of the New England Council, is opposing Governor Dukakis for the Democratic nomination, with a platform of issues emphasizing economic revitalization. During nearly three years of Dukakis rule, state spending has increased a staggering 47% and is now set at \$4.3 billion annually. Similarly, income and sales taxes have increased dramatically, as have taxes on meals, alcoholic beverages, cigarettes, and

gasoline. Also under the Dukakis Administration, auto insurance rates and property taxes have continued to climb; state borrowing has practically doubled, while over 160,000 people are still unemployed.

If you feel, as I do, that it is now time to end this vicious circle of economic stagnation and lost opportunity, why not organize a campus association for Ed King? Both Mr. King and members of his campaign staff will be more than happy to visit your campus to speak with students interested in generating support. I am located at Holy Cross College and look forward to assisting you in any possible way. If you are interested in volunteering, please contact me.

Karen Gnecco
Student Coordinator,
Ed King for Governor Campaign
PO 1132, Holy Cross College
Worc. MA, 01610
617-793-1549

Spring at PIRG

To the Editor:

I would like to inform the readers of *Newspeak* about the spring activities of the Massachusetts Public Interest Research Group (Mass PIRG). Mass PIRG is a statewide, student-supported organization (with a chapter on the W.P.I. campus) which seeks to teach students how to gain control over those public decisions that affect their lives. It is particularly active in consumer affairs, environmental issues, health and nutrition.

First, PIRG has proposed eleven different IQP's through the projects office. The projects include:

- establishing a lobbying network to pass the Telephone Consumers Action Group (TELCAG) bill. PIRG students gathered over 87,000 signatures in support of this bill during the fall. It is now before the legislature for a vote.
- a survey of beverage retailers to determine whether no-deposit containers increase the cost of beverages.
- helping to co-ordinate SUN-DAY activities in the Worcester area. This day has been planned as a national day of promoting interest in and utilization of solar power, other alternative energy sources, and conservation techniques.
- informing students about the nutritional value of foods served on campus, and seeking ways to improve campus nutrition. Also, producing public

service announcements on health and nutrition, for airing on local TV and radio.

— establishing a viable on-campus recycling program.

— studying the safeguards currently employed in shipment of radioactive wastes.

— instructing local auto mechanics how to avoid hazardous exposure to asbestos fibers when repairs of asbestos-lined brakes are being performed.

— working as a counsellor in PIRG's Small Claims Court Advisory Service.

Second, PIRG is looking for interested students to work on a debate between opponents and proponents of nuclear power, to be held later this semester. Top-notch speakers are available on both sides.

Finally, PIRG will be offering and expanded series of the public interest skills workshops that were first offered during Intersession 1978. The workshops include lobbying, how to run a meeting, public speaking, media, and assertiveness. The workshops have been well-received at a number of other Massachusetts colleges and universities.

Any students who wish to learn more about Mass PIRG should come by the office on the third floor of Washburn. The phone is 754-6971.

Sincerely,
Charles Harak

Newspeak

The student newspaper of Worcester Polytechnic Institute

Box 2472, WPI, Worcester, Massachusetts 01609

Phone (617) 753-1411 ext. 468

editor-in-chief
Thomas A. Daniels
853-5556

news-features editor
Kenneth Mandile

business manager
Michael Auger
752-9371

advertising manager
Mark Diluglio
753-9513

circulation manager
Larry Rheault
752-9371

faculty advisor
Patrick P. Dunn
753-1411, x-584

staff
Don Calawa
Philip Czapl
Maureen Higgins
Jean Martin
J. Gordon Gregory
Tom Rockwood
Larry Savage
David Thompson
John Walsh
Kevin Donahue
Tina Cotler
Tom Polito
Amy Somers
Rich Dobson

graphics editor
David Potter

photography editor
Mark B. Hecker
753-9843

associate photography editor
Ann-Marie Robinson

photography staff
Andy Gelbert
Steve Kimotek

sports editor
Barry Aronson
753-9843

associate editors
Rory J. O'Connor
Craig Vickery

art director
Alwyn Fitzgerald

Newspeak of Worcester Polytechnic Institute, formerly the *Tech News*, has been published weekly during the academic year, except during college vacations, since 1909. The editorial opinions expressed herein are the opinions of the person whose name appears at the end of the editorial, and are not necessarily those of the editorial board or WPI. Editorial and Business offices are located in room 01, Sanford Riley Hall, at WPI. Deadline for copy submission is noon of the Saturday preceding publication. Printing done by *Ware River News, Inc.*, 4 Church St., Ware, Ma. Second class postage paid at Worcester, Ma. Subscription Rate — \$5.00 per school year; single copies 20 cents. Make all checks payable to *WPI Newspeak*.

Project Planning Day Is Coming Feb. 22

Stu. gov't.

The Student Government meeting of December 14, 1977 was called to order by President Tom Panek at 4:00 p.m. in the Office of Student Affairs. The roll was taken. The minutes were read and accepted.

At this time the meeting was turned over to the Social Committee Chairman, Peter Kent. Peter stated that there were many problems with the Social Committee and its attempt to provide entertainment for everybody. Because of a high turnover of manpower, there is a lack of continuity in the Social Committee. This also contributed to a breakdown in communication within the Committee. Where students had at one time donated their time, the Committee now has to pay them to work on staging, lighting, and cleanup. There have also been problems with agents.

These problems were all attacked in various ways. First there was the amendment to the Constitution setting qualifications for the Social Committee Chairman. Having the new Chairman elected in December will allow the old Chairman to act as an advisor to the new one. Another innovation was the setting up of four separate committees within the Social Committee. Each has its own function in the Committee. They are Planning, Production, Publicity, and a Treasury. The chairmen of these committees each have one vote in the Social Committee meetings and they can overrule the Chairman.

Discussion

Do we perpetuate this system? It seems viable. However the problems faced today will not be the same tomorrow. Another suggestion was to make the Social Chairman accountable to the Student Government. Allow a new Chairman time to set up a plan and then the Student Government can accept or reject it. There was a suggestion that perhaps every standing committee should also be accountable to the Student Government.

WELCOME BACK ... THE DOCTORS HAVE BEEN EXPECTING YOU



SAB minutes

S.A.B. Meeting, December 21, 1977

The meeting was called to order at 7:10 p.m. by Tina Tuttle. Attendance was taken.

Proposed amendments to the By-Laws were discussed and voted upon. The following amendments were passed:

I.D. A quorum shall be constituted by fifty-one per cent (51 per cent) of the active members of the S.A.B.

II. H. All unexpended money as of June 30 will be deposited into the Student Activity Reserve Fund. Any bills dated after June 15 will be deducted from the following fiscal year's monies. The Office of Student Affairs Representative must receive notice of any expenditures between May 15 and June 15.

III. B. has been deleted. (If approved by the S.A.B., the request for funds will be brought before the Student Government of the Institute).

IV. B. All original invoices and receipts must accompany the withdrawal slips.

V. C. A club will lose voting privileges and be fined five per cent (5 per cent) of their S.A.B. grant or \$10, whichever is greater, when it fails to be represented at two (2) consecutive S.A.B. meetings. Voting privileges will be restored upon representation at two (2) consecutive S.A.B. meetings.

This amendment shall take effect upon publication in *Newspeak*.

V. D. A club seeking admission must receive 50 per cent of all possible affirmative votes of the S.A.B.

V. E. The club will be eligible to receive funds twelve (12) months following the date of its acceptance.

Vii. C. has been deleted. (The S.A.B. will then refer the organization in question to the Student Government for examination. The Student Government will vote on the expulsion according to its own by-laws).

The S.A.B. members upheld their decision to lease a new van despite a \$34 increase in insurance. The Social Committee will be paying one-quarter of the cost of the new van, until the old van is sold. It was mentioned that someone was needed to assume responsibility for the maintenance of the van(s). It was recommended that someone with some knowledge of cars volunteer for the job. No one did.

A motion was made and passed to increase the fee per mile for the new van to 15 cents.

Newspeak had requested the return of disputed funds from their 1976-77 budget. It was decided to return one-half of the disputed amount which comes to \$887.87.

The newly formed Cycling Club requested admission to the S.A.B. As there were not enough members present for a decision, the proposed admission will be voted upon at the next meeting.

A motion was passed to limit Mark Hecker's driving suspension to two months.

The meeting was adjourned at 8:35 p.m.

The next SAB meeting will be held on February 15. Check student affairs for details.

Respectfully submitted,
Eugenia Fernandez

Brooke proposes tuition tax break

In a country where so much emphasis is placed on attaining a college diploma, it is difficult to believe that we place such heavy financial burdens on families to properly educate their children. For anyone who has attempted to put a son and daughter through college in recent years, it comes as no surprise that the average family is being priced right out of the classroom.

According to a recent study by the College Entrance Examination Board, the annual costs of an education in a public university increased by more than 40 per cent in the last five years, from \$1,782 to \$2,906. Moreover, annual costs at private universities climbed more than 35 per cent, from \$2,793 to \$4,811. Considering the fact that 85 per cent of the families with college-aged children earn less than \$25,000 a year, it is no wonder college enrollments have dropped substantially in the last six years.

Traditionally, it is the middle-income family who must bear the greatest burden, for the simple reason that they are at a financial disadvantage when compared to the very wealthy who can afford tuition costs and the poor who qualify for financial aid programs. Statistics clearly show that the existing federal aid programs are not enough. And, since many programs are designed specifically for low-income families, ones whose incomes are at or below the poverty level, middle-income families are once again out-priced. Because of this, many middle-income families must turn to Guaranteed Loan programs. However, studies indicate that these programs are not meeting the need and that the squeeze on middle-income families is getting worse. Indeed, unless we can

turn this inequitable situation around, only the very wealthy and the very poor will be able to get a college education.

With this in mind, it is clear that relief in the form of a tax credit for education expenses is sorely needed. I believe a tax credit is a good mechanism to help offset tuition costs because many people can benefit at relatively low administrative costs. However, it is of utmost importance that this tax credit be properly targeted so only deserving families will receive this tax relief.

In this session of Congress, I shall introduce a bill to do exactly that. My bill will impose tight restrictions on eligibility depending on the burden that a tuition expense places on a family's income. Unlike other measures which have recently been introduced in both houses of Congress, my bill would not call for an across-the-board tax credit for one fixed amount. Instead, the tax break would be determined on an individual basis, thus minimizing the impact on our national budget.

The need for a tuition tax credit is clear. In the next few months, attention will focus on the Senate and House Finance Committees, which are considering similar tuition relief bills. Opponents and advocates of this form of relief will wage intense battles over this matter. Though I strongly feel a tax credit is a necessity rather than a luxury, I will fight only for measures which carefully target relief, and which promise only a positive impact on our economy.

Education is the key to opening the door to a better job. And it is a necessity if we are to better the lives of our children, and our children's children.

Squeeze ahead?

Washington, D.C.-(I.P.) — "As I look ahead for all of education, I see nothing but a squeeze on our resources," asserts Dr. John D. Millett, senior vice president and director of management division, Academy for Educational Development. He noted that many mandated federal programs aimed at educational justice have been ordered without any realistic assessment of their cost.

"I encountered one weird instance in which a university's faculty censured its president because he did not bring back enough loot — enough appropriation from the legislature. So the president quit. So a presidential search was instituted, which continued for 12 months and cost the university \$300,000.

"Now its board of trustees has been sued because its selection wasn't black, or a woman, or both — with a cost of at least \$250,000. In fact, I'm told that the costs of going through a federal court in any case are about \$250,000.

"Columbia University has reported that its new personnel records system set up in response to an HEW edict has cost \$400,000 to install and will cost \$200,000 to maintain. President Hitchens of the University of California has asked his legislature for \$2.5 million just to respond to a request for records and information for a nine-campus system — but he's not getting it, and the cost will have to come out of the hide of the system."

WRITING RESOURCE CENTER

The Writing Resource Center will be open in C term every afternoon from 12 to 4, on the second floor of the Project Center. Students with any problems in writing course or project assignments — term papers, project proposals, project reports, and so on — can arrange for free tutorial help at the Center simply by making an appointment any afternoon. Handouts and audio-visual cassettes on basic writing and on organizing project proposals and reports are also available.

Pretty bitch

by Ken Mandile

Last week Mother Nature showed us who was The Boss. She belted us in the gut and there was no way to deflect her mighty fist. Our modern society which so often threatens Little Miss Nature had no way to even duck the punch. When the blow was struck we quietly fell, KO'd in the first round, but it was not the end. Once we fell, Mother Nature turned into a real bitch. She stepped on our faces and proceeded to try to crack our thick skulls.

We got a little too cocky believing that we were supreme because our modern machines and new-found knowledge

Op-Ed:

seemed to have the grips on everything, so this little old lady taught us the truth. We will never fool Mother Nature, only ourselves.

When the fight was over we remained on the floor for a while to regain what little senses we had. We got up, bandaged ourselves, and readied for the next fight.

Our opponent was happy about her victory. She smiled for several days after the fight to allow us to think about her power. She also wanted to show us her better side. Her clear blue complexion, bright sunny smile, and new white dress made us feel a little better, but it will be a while before the cuts and bruises heal. Mother Nature may be a bitch, but she's the best looking bitch I've ever seen.

I'M GLAD THE SNOWSTORM IS OVER, NOW EVERYTHING IS BACK TO NORMAL!



Nuclear power considered

Now, it's time to look at the promising prospects of nuclear power in helping to solve the problems of the energy crisis. In 1976, the United States had 55 large commercial power reactors in operation, totaling just under 40,000 mw. A total of almost 180,000 mw is currently under construction for 1985. The United States nuclear capacity is about 55 per cent of all world nuclear capacity. This percentage is projected to drop to 37.4 per cent by 1985. Thus, the outlook for nuclear power in the future looks bright, but a number of problems have or have had to be worked out in order for nuclear power to reach its full potential.

One problem that has essentially been overcome is in the area of fuel-performance in light water reactors. The mechanical performance of nuclear fuels in light water reactors (LWR's) has generally been good, but with various extremes ranging from

poor to excellent fuel performance. Occasional times of poor performance during the period of 1969 to 1972 have been traced to three major sources: hydriding of zirconium cladding due to extra moisture in UO₂ pellets during the fabrication of the fuel; cladding creep down and collapse when associated with densification of pellets; and pellet-clad interaction associated with some times of rapid power increase of the reactor or changes in the local power shape. The first two causes of fuel failure have been practically eliminated or made insignificant by design and process changes in the manufacturing of the fuel since 1972. The third problem is now kept under control by control of the rate of change of total power and local power shapes. Now, to give you an idea of the number of remedies that are available to help solve the problems of limited fuel performance, here is a chart:

FACTORS	REMEDIES
Hydriding of Zr	Elimination of moisture in fabrication
Scale deposition	Elimination of copper tubing from feed-water heaters
Enrichment errors	100 per cent rodsun
Clad collapse	Prepressurized cladding, stable pellets
Pellet densification	Stable structure
Other manufacturing and handling defects	5 per cent of defects
Clad corrosion or fretting	Rare; control of clad quality and cleaning; spacers
Clad growth and bowing	Tube tolerances; axial clearances; spacer design.
Channel bulging	Thicken wall; control of residual stress
Pellet-clad interaction and power increases	1. slow power rise 2. plus local power shape control 3. plus fuel design changes

Source: p. 106, *Annual Review of Energy*, ed., Jack M. Hollandar, assoc. ed., Melvin K. Simmons (Annual Reviews Inc., Palo Alto; 1976)

Probably the largest cause of fuel failure has been hydriding, due to the entrance of excesses of hydrogen into the zirconium cladding with the consequences of the cladding getting brittle or blistering. A fraction of some 10 to 20 per cent of hydrogen produced by corrosion of zirconium in water enters the zirconium metal and diffuses away. When the amount of

hydrogen entering is too large, a zirconium hydride phase appears and since this is about 20 per cent less dense than zirconium metal, precipitation causes blisters and brittle regions in the cladding. These brittle regions can then crack and lead to the perforation of cladding.

The hydrogen on the inside of the fuel rod comes from moisture in the UO₂

pellets, which absorbs this moisture from the atmosphere. There are a number of things that can be done to remedy this problem. Moisture retention by the pellets can be eliminated by putting them in a dry environment during cooldown, or by vacuum-degassing pellets at elevated temperatures. A larger margin of safety than a moisture content of 1 ppm. can be obtained by incorporating a getter (material introduced into vacuum tubes and ignited after sealing to chemically remove any residual gases) in the plenum (space filled with muffer) region of the fuel rod. The getter is chosen from a class of alloys that form unstable, incoherent oxide films and has a high rate of reaction with moisture and—or hydrogen many times more than the rate of reaction of hydrogen with the cladding itself.

Energy

Other mechanisms other than the presence of moisture have been believed to account for or contribute to the occurrence of hydriding. For example, chloride, iodine, or fluoride ion can accelerate the entry of hydrogen into zirconium, possibly by reducing its resistance of the oxide film to the entry of hydrogen. Also, the condition of the surface of the cladding has been believed to influence the occurrence of hydriding. However, none of these hypotheses has been substantiated under normal operating conditions.

Another cause of fuel failure has been pellet densification and cladding creep-down. The creepdown and collapse of under the action of external coolant pressure was observed in about 7-10 per cent of the fuel rods in areas of two reactors (Beznavi in Europe and Ginna in New York). Extensive research and irradiation testing programs found that some microstructures of the UO₂ pellets were subject densification at lower temperatures in reactor operation despite the fact that these pellets had been sintered at a higher temperature (about 1650 degrees C) during manufacturing. Also, another problem that was observed is the creepdown of cladding (reduction in diameter under the influence of both external pressure and radiation-induced nonthermal creep) in the PWR (pressurized water reactors) fuels. If the cladding was prepressurized during manufacture to about several hundred psi of helium this would reduce the collapsing stress and rate

of cladding creepdown. Thus, for both of these problems, the remedies are readily ascertainable and applied.

The third major problem associated with poor mechanical performance of fuels is pellet-clad interaction. These pellet-clad interaction cause localized elastic and plastic deformation of the cladding. Thermally induced distortion of the pellet generates local stress concentrations in the cladding tube. This combination of these stresses augmented sometimes by chemical action from the chemical environment of interior of the rod, can result in pellet-clad interaction (PCI) failures. However, PCI is now controlled mainly through accepting limitations on the rate of power increases. Unfortunately, this method is expensive in terms of a lost output ranging from three per cent to 60 per cent levels before 1976. Probably, in the future these restrictions should be reduced, but not entirely eliminated, by using more finely divided fuel permitting a lower—meur heat-generation rate while maintaining the same rate of power for the reactor.

Other problems associated with nuclear power reactors that had to be overcome are the defects in the fuel. These are observed as tiny, microscopic fissures in zirconium cladding, which will eventually get through the cladding wall and allow rare gas isotopes, mainly xenon and krypton, to escape to the reactor coolant. For boiling-water reactors (BWR's) xenon and krypton are removed from the circulating water through steam separators and go through the turbine with steam to the condenser and air ejector. The gas is then extracted from the condenser by the air ejector, is allowed to decay in the hold up line, and then passed over a charcoal absorber bed where they are permanently held up for decay of xenon and krypton. For the pressurized-water reactors (PWR's) the xenon and krypton build up in the primary coolant and are removed by the same procedure.

Another problem that has to be controlled below allowable license limits is the radiation from the plant, which is usually quite small. Usually, this is caused by a large number of defective rods, like 10 to 20 or more, or by leaks or an exceeding of allowable in-plant radiation levels. When this large number of leaks occur, one of the following remedies is often used to limit radioactivity of the coolant.

continued on page 22

Parking: the fix is on

by Tom Daniels

During the recent Presidential search here at WPI, most of the candidates seemed to feel that our most urgent problem was an overburdening of the faculty. Although I probably won't win any new friends among the professors by saying so, I think, no, I KNOW that they're 180 degrees off course.

Picture this: A student, let's call him Bill Quackenbarrel, leaves his home at 8:00 a.m. He doesn't have a class until ten, but there's something that he has to do first. He gets into his car and guns the engine, heading out into the wonderful world of potholes and Kelley Squares, and eventually arrives at the corner of Park Avenue and Institute Road. Unfortunately, time has run out for Quackenbarrel.

As he storms up the street, his vision begins to blur. He starts to swerve from side to side, barely missing other motorists and pedestrians. His hands are shaking; a cold sweat breaks out on his forehead.

The harshness of reality has caught up with Quackenbarrel.

A glance at his watch tells it all: a quarter to ten! He can't take it any more!

they start going on to bigger and better things, like going through stop signs, and not yielding at intersections. Then, you're dealing with a habit that has to be supported through other crimes."

"How's that?" I asked, not quite seeing the connection.

"A five dollar fine is nothing to these people. They pay it, and nobody's the wiser. When you start going \$15 a shot or more for a moving violation, though, it starts to add up. They turn to flinching anything they can get their hands on, and fencing it to pay for the fines."

"I see, but what are you doing about drying up the supply of illegal parking spaces in the Worcester area?"

"We've launched a simple, but effective program," Macadam replied. "Starting last December, we instructed the Street Department to leave at least six feet of snow bank on each curb. In this way, we hope to cut down the available illegal parking spaces in the city by 90 per cent."

"I see two possible problems with that plan," I replied. "In the first place, I'd like to see how effective it is in about the middle of July —

"We've got that angle covered," he cut in. "We also told them to go heavy on the sand during the winter. In two years, we'll have permanent sand dunes that will have the same effect."

"All right, but the OTHER obvious point is that you're also taking away all the LEGAL parking spaces."

"Look, kid, if we go soft on illegal parking, we'll get flack from the bleeding heart liberals to let stores stay open on Sundays, and THEN....."

I got up and made it through the door before the poor guy broke into "America the Beautiful", but I saw his point. We had a genuine problem of the greatest magnitude here, so I decided to seek out the man on the WPI campus who usually has all the answers: You guessed it, Max P. Profit.

I found the ex-financial wizzard in the office of Chief Al Whitney, leader of that intrepid band of do-gooders, our own Campus Police Force. Here, I discovered that Profit indeed had a plan to outwit the

illegal parkers that rivaled the artificial sand dunes suggested by Macadam.

"I tell you, we've tried almost everything," he said in despair. "For years, now, the attitude of the administration has been, 'Let them do it anywhere but on campus.' That's why we have so few parking spaces. That worked, for awhile, but the illegally parked cars have been creeping closer to campus year by year until, just yesterday, Sarge Campbell caught one of the wild-eyed fiends trying to leave his Pinto in the Electronics Lab."

"That is bad," I said, for once in complete agreement with the man who brought

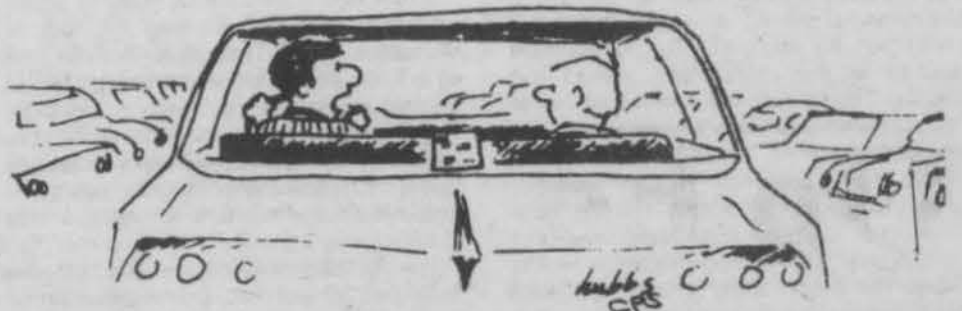
he'd have to get a space 'on the Market.' "

"No!!!" I screamed. "Not George Hazzard!!!"

"I'm afraid so, kid. You seen those flashy ties he wears? Those were the recognition signal to his 'source.' One day last June, though, his wife, who was at a luncheon on campus, caught him moving a fake palm tree in back of Salisbury, and that was curtains for him. She made him promise to go straight, which, of course, meant no more WPI."

The poor guy," I mumbled, still in shock. "I guess you just can't tell."

"Right you are. So, like I was saying, I've



WELL, ACTUALLY, IT'S A SIX YEAR PROGRAM — FOUR YEARS OF COURSES, TWO YEARS TRYING TO FIND A PLACE TO PARK!

us hockey games in the parking lots.

"That's only the tip of the iceberg," he continued in a low, secretive voice. "Keep this under your hat, and I'll let you in on the 'Untold Story' of the year."

"I'm all ears," I whispered, pulling up the collar of my trench coat.

"Remember when the President said he was resigning last summer? Well, the real reason was that he couldn't park on campus any more. He tried everything, including buying one of those tiny sub-compacts, but no dice. It got so bad that

got, if you'll pardon the expression, 'a Plan.' Meters. Thousands and thousands of them, on every square inch of asphalt and bare ground on the Hill. Let 'em park in fire lanes, in snowbanks, and on sidewalks. Let 'em not bother to even try to get parking stickers. Let every Freshman on campus have a car in the lot, even more than have them now. Now we'll bleed them dry, a quarter at a time, gradually, so that they won't realize it until there aren't anymore

continued on page 18

Satire:

Suddenly, he sees relief. A small, dark man, wearing a dirty trench coat with the collar pulled up around his face, beckens to him from an alleyway. He has recognized the dazed look of utter despair on Quackenbarrel's face; he's seen it hundreds of times a day. He slithers over to where Quackenbarrel's car sits, in the middle of Dean Street. He motions for Quackenbarrel to roll down his window, sensing an easy mark.

"Heyyyyy, mahn, you looks like you gots problems," he says to Quackenbarrel. "Mahn, I tink I got something dat youse could really get off on!"

"I don't need what you got, creep!" blurts Quackenbarrel from his stupor. "I can handle it myself!"

"Hookay, mahn, but dis is de GOOD stuff!"

Hesitating a little, Quackenbarrel ventures, "Yeah, I bet! I've heard that line too many times!" Suddenly, he is hit with a series of convulsions. As he struggles to regain his breath, he gasps, "ALL RIGHT, YOU WIN! PLEASE, JUST LET ME HAVE IT!!!!!"

A smile crosses the small man's face. He knew this would happen; it always does. At first, they delude themselves with the idea that they can kick "the habit" at will, but, in the end, they always come back for "just one more." Pocketing Quackenbarrel's money, he takes a few steps toward a snowbank in the middle of the parking lot. He reaches down and tugs at something and, after a little work, pulls aside a white colored canvas structure that had blended into the snowbank. He beams with delight.

"Jus like I say, mahn, de good stuff! Feelthy, rotten, open pavement!"

Like a man possessed, Quackenbarrel pulls into the space, grabs his books, and bolts from the car. His mask of fear has been replaced by a far off smile. He's ready, now, to face another day.

Bill Quackenbarrel is a parking space junkie, a castoff of our modern society.

In this permissive age, there are those who argue that parking space addiction is a victimless crime, and that the use of illegal parking spaces should be decriminalized. Legislation that would accomplish this is now pending before the House Subcommittee on UnAmerican Parking Activities. A recent Harris poll indicates that over 65 per cent of the American public has, at one time or another during their lives, experimented with illegal parking spaces.

To get the police stand on illegal parking, I spoke with Lieutenant Anthony Macadam of the Worcester Police Department's Parking Impact Squad. He told me that one of his units problems was trying to stop the illegal parker's habit before he or she went on to the "big time" of moving violations.

"I tell you, it's a thankless job," he said forelornely. "The average illegal parker starts young. He sees his friends doing it, and he wants to be "in", so he'll try it, just to be cool. What they don't understand is that each time, it gets a little easier to leave their car in that fire lane, or on that narrow street. Pretty soon, he doesn't even need an excuse. It's only a matter of time until

The SAB meeting will be on Feb. 15.
Consult Student Affairs for details.

SOPHOMORES! IS THERE LIFE AFTER COLLEGE?

You're aiming for a college degree. And with that in hand you'll be looking for a job offer. You may find it won't be automatic. For that reason it's important for you, as a sophomore, to make the most of your last two years in college. Whatever your career choice, you'll want to become competitive and marketable. It won't be easy but you'll find yourself better prepared if you look ahead. Now.

Arm yourself with the "Life After College" packet on the job outlook, the job search, career statistics. Learn what increases your career potential. Sophomore, you can do something about your life after college.

Stop by the Army ROTC Department for this informative packet.

Room 28,
Harrington

ARMY ROTC. THE TWO YEAR PROGRAM.

THAT'S YOUR DECISION. NOW.

Rock . . .

The thieves decided it would be best to wrap the rock with the necessary chains before moving the truck into place. While carrying the chains across Salisbury Street one set of links fell, ringing loudly as it hit the pavement, breaking the early Winter morning silence. The thieves froze, waiting for rifle barrels to emerge from the windows of Phi Gamma Delta. When none appeared they continued with their death defying feat with a surgeon's cautiousness.

The Gam granite was wrapped with the chains. Now it was time to move the truck into place. The conspirators drove around to West Street and down Salisbury Street to the red, purple and aluminum gem. Backing up, the truck's back-up alarm rang like cathedral chimes, ding-ding-ding, but it could not be stopped. The winch was hooked to the chains and started the process that was to move a stone "monument" that hadn't been moved for decades.

The chains tightened, twisted, creaked, always threatening to save the Fiji rock from the thieves. The rock was not budging, yet the winch continued to reel in cable. The three daring young men suddenly noticed the front of the truck, now almost three feet off the ground. The Fiji Rock was frozen to the dirt that had supported it through all of its glorious history.

The thieves' first thought was to smash the rock with the front of the truck, but they opted for prying the rock from one corner. When they believed the rock was ready to be lifted, the winch was again hooked to the chains and started to wind the cable. The rock was not going anywhere. The front of the truck was two feet off the pavement. Suddenly, the rock snapped from the earth and the two ton truck smashed down on Salisbury Street's cold, hard, black surface. The sound of the impact rung hard in the ears of the thieves, yet the few brothers in Fiji continued with their pleasant dreams of purple mountains.

The rainbow boulder was loaded onto the truck and began rolling towards its destination: Guilford, Connecticut. An

elderly toll keeper at the entrance to the Massachusetts Turnpike was quoted as saying "What the hell are they doing with a red and purple and silver rock at three o'clock in the morning?" The reply was, "Lady, it's a long story."

Upon reaching Howard Johnson's on the Pike, the gem grabbers phoned Phi Gamma Delta to inform them of their dastardly deed. The response to the phone call will not be printed in this dignified newspaper.

The rock was unloaded along Route 1 in Guilford, which is a few miles east of New Haven. The thieves said the rock will remain there, unharmed, until someone decides to return it to Institute Park.

The R Team called a local rigger to get an estimated cost for returning the rock to Worcester. The R Team described the rock as a 5,600 pound stone monument, about six feet in diameter, and three feet high. The rigger said that because the stone is so far away they would have to rent a crane to load it onto their truck. The estimate given to the R Team for return of the rock was \$1,000.

The R Team also phoned Mr. Edward Strukus, Worcester Commissioner of Parks. Strukus was familiar with the rock. He said the rock has been painted since the early 1930's. He was unaware that the rock was gone. If it is gone, Strukus said, it will probably be replaced in the Spring.

When asked by an R Team reporter if Fiji knew where the rock was, Fiji President Dave Wilson said they had "some ideas." He also said there were rumors that Theta Chi took the rock, but the R Team has found this rumor to be false. When asked if Fiji plans to retaliate against the persons that took the rock Wilson said, "We never plan to retaliate."

Some doubt has been raised as to whether Fiji really wants their rock back. One Gammite was overheard saying, "Frankly, we don't give a hoot."

A special video program has been produced by the R Team. The program includes footage of the Fiji Rock in Connecticut. This program will be aired at various times this week.

Cranch . . .

personnel, custodians, grounds crew, etc. have been ignored as to their potential in saying how things are done. They do not have any representation in the academic or physical affairs of the college, where their ideas could be tremendously valuable.

Tamasy mentioned several examples that illustrate the devotion and tremendous

dedication of staff to their jobs and to the image of W.P.I., work which is not often recognized. Thus, he hopes that Dr. Cranch does not begin his administration delving into fund-raising, public relations, the Plan, etc. and neglect the internal organization of W.P.I. and its "working people."

Av. tuition up 6.7%

(CPS) — The median student bill for one year's attendance at one of the nation's major public universities will rise another 6.7 per cent this academic year. However, tuition and fees increased in percentages from 7.3 to 14.2, while room and board went up an average of 2.7 per cent.

This information was collected by the National Association of State Universities and Land-Grant Colleges from survey responses received from 154 campuses nationwide. The average charge for a year's tuition, fees, room and board, they reported, went from \$2,108 for 1977-78 compared to \$1,976 for 1976-77.

For tuition and fees alone, the increase is more dramatic. For state residents, they went up 7.3 per cent from a median of \$647 to \$694. For non-residents, there was a jump of 11.1 per cent, from \$1,474 to \$1,637.

Tuition and fees for students attending graduate and professional schools of state universities rose much more than at the undergraduate level. Double digit percentage increases were reported for both resident and non-resident students attending schools of medicine and veterinary medicine, and for non-resident dental and graduate students, the association said.

More than half of the survey respondents cited inflation for the increases, while better than one-third of them cited the necessity to maintain program quality. Other reasons given included lack of any other source of revenue, inadequate state appropriation help and the need to make faculty and staff salary increases.

Despite the rampant rises, there were 32 campuses of those surveyed which completely held the line on undergraduate fees from the year before. In 1976-77, there were only 15 campuses which did not raise any charges.

WCUW boosts power

Worcester, MA — WCUW, 91.3 FM, has been awarded a grant of \$27,342 by the HEW Educational Broadcasting Facilities Program to increase its power and to install a new antenna on the roof of the Mechanics National Tower in downtown Worcester. General Manager George Sard announced today. According to HEW Project Officer Stuart Hallock, the grant to WCUW-FM was the only one made to a Massachusetts radio station in the current round of the annual funding program.

"We are deeply gratified to have received this grant for two reasons," Sard says. "First, it will allow WCUW-FM to raise its power to 300 watts, enough to reach more than 500,000 people in Worcester County. Second, it demonstrates the importance that Washington attaches to WCUW's diversified program service because HEW passed over many other applications from Massachusetts radio stations to support the development of community radio in Worcester."

Worcester Center Associates has offered WCUW-FM space to install a transmitter and antenna in the Mechanics Tower. "We

have already ordered the equipment, and we'll begin indoor construction immediately and outdoor construction as soon as the snow melts," said Peter H. Sohn, WCUW's chief engineer. "The whole project should be completed by late summer." Plans also call for WCUW's broadcast signal to be sent via microwave relay from the noncommercial station's studios on the campus of Clark University to the Mechanics Tower, and transmitted from there. "This state-of-the-art equipment will give WCUW crystal-clear coverage throughout Worcester and the surrounding towns," Sohn notes.

The HEW grant is a three-to-one matching award. "WCUW must raise just over \$9,000 to complete the power increase, which will cost more than \$36,000," Sard says. "We will be asking our listeners to contribute the additional money we need during an on-the-air fund-raising marathon that will begin April 3rd," he explains. "We are confident that ten- and twenty-dollar donations from our listeners and friends will put us over the top."

EPS

An innovative design for almost any practical application of polystyrene foam may win a university student a Scholarship Award of up to \$1,000, according to an announcement today from The Society of the Plastics Industry, Inc.

In a brochure mailed to several hundred colleges and universities across the country, The Society of the Plastics Industry describes the new EPS Scholarship Awards Competition as a means to widen the application of polystyrene foam. Margaret Shallcross, Administrator for the Expanded Polystyrene Division of the Society, said that the program invites future executives, designers, engineers and architects to submit original and useful new product concepts for Expanded Polystyrene.

"As packaging for delicate merchandise, or in the familiar form of the hot-cold foam cup, the material is well-known," Ms. Shallcross said. "But the qualities of EPS are uniquely useful in many less obvious ways, and there still exists great opportunity for imaginative new applications." Over 30 EPS manufacturers are sponsoring the Scholarship Awards

program and will provide material and assistance to competition entrants.

Five cash awards from \$100 to \$1000 are offered in the annual competition which is open to any student registered at a college or university. The EPS Awards Competition brochure gives further information on the advantages and properties of EPS, contest rules and entry blank. The Financial Aid office has a supply of brochures or you can write to The Society of the Plastics Industry, 3150 Des Plaines Avenue, Des Plaines, Illinois 60018.

YOU'D BETTER BELIEVE IT
IS THERE LIFE AFTER COLLEGE?

WOMEN. YOU'RE EQUAL IN THE AIR FORCE.

Women start out on the same footing as men in Air Force ROTC. Women wear the same insignia and hold the same cadet positions in AFROTC, just as they do later on as Air Force officers.

And the same AFROTC scholarship can be yours as a woman. If you qualify, you can have your tuition, book costs and lab fees paid by the Air Force, and receive \$100 a month for other expenses. It helps free you to concentrate on your education. And that's important.

As an Air Force officer, you'll be expected to use your training and education, and be a leader managing people and complex systems. You'll be handed executive responsibility starting with your first job.

It's a great way to be equal, and a great way to serve your country. Check into the AFROTC program at your campus. Be sure to ask about AFROTC scholarships — you may be helping yourself earn an exciting new lifestyle.

Contact: LT. COL. KRAUS
Telephone: HOLY CROSS
793-3344

AIR FORCE ROTC
Gateway to a great way of life.

NUCLEAR POWER INC.

STOCKHOLDERS, OUR \$100 MILLION PROGRAM IS DESIGNED TO ELIMINATE ANY VULNERABILITY TO GROWING CRITICISMS OF REACTOR SAFETY STANDARDS.

IT PROVIDES FOR \$3 MILLION TO REINFORCE THE COOLING SYSTEM PIPE MECHANISM...

\$5 MILLION TO INCREASE THE HEAT RESISTANCE OF THE REACTOR VESSEL...

AND \$92 MILLION IN PUBLIC RELATIONS ADVERTISING

MARGULIES

CPS

HIGHLAND PHARMACY

104 HIGHLAND STREET WORCESTER, MASS.

PHONE 756-0594

10% DISCOUNT
on most drug store needs with WPI I.D.

Entertainment: Worc. Orchestra

by Craig Vickery

There is definitely something about being there. For those who have never experienced a symphony or other classical work except perhaps on the radio, a golden opportunity exists in the Worcester Orchestra's 1978 series of concerts.

Last Tuesday the Worcester Orchestra opened its 1978 season at Mechanic's Hall. Mechanic's Hall is a very beautiful building of which Worcester can be proud, but it is not necessary to shove it down our throats. The introduction before the concert referring to the "acoustically perfect Mechanic's Hall" and the "Marvelous Worcester Orchestra" was hardly necessary. The music should be able to speak for itself. Which it did.

The Orchestra began the night with only the string sections on stage for Vaughn William's Fantasia on a Theme by Thomas Tallis. The full Orchestra came on stage for Mozart's Symphony No. 35 in D major. This is a rather light-hearted work, especially the minuet movement, but still containing the imagination that is associated with Mozart. A very appreciative audience called conductor David Epstein back to the stage twice with sustained applause at the conclusion of the work. The evening was

capped by Santiago Rodriguez' performance of Schumann's Piano Concerto in A minor, opus 54. Rodriguez, who had appeared earlier in the day on WGBH radio, is a prize holder in ten national competitions, and the first prize winner in the Maryland International Competition. His smooth and flowing performance was rewarded with warm applause, calling him back on stage three times. Worcester audiences are certainly some of the best.

One woman said, "The conductor (Epstein) was brilliant. He possessed all the magnetism and charm that one would expect."

"Epstein is a very good conductor," agreed Professor Thomas Keil of the W.P.I. Physics department. Keil also had his son Seth, a Mozart fan, with him. Keil noted that the orchestra was much improved over the past years and was more together than it had been.

The Worcester Orchestra will give its next performance February 28 at Mechanic's Hall. Rossini's Overture to La Cenerentola, Dvorak's Serenade for Strings opus 22, Falla's Seven Spanish Songs and Ravel's Tombeau de Couperin are on the billet.

Movie reviews

by Maureen Higgins

The movie industry took a definite dive around Christmas. That's obvious when all that's playing in the half dozen nearby theatres are *Close Encounters*, *Saturday Night Fever*, *Pete's Dragon*, assorted reruns, and various combinations thereof. The first two, well I don't know. Try to criticize *Close Encounters* and one is overwhelmed with rebuttals and defenses of one over hyped, but visually astounding film. And how about the AM — theme song that wasn't even in the movie? *Saturday Night Fever* is the magic word in the discos nationwide and even here in Worcester. Admittedly, the dancing was excellent even if the plot was tacky.

Post-Christmas the picture brightened. *Which Way Is Up?* starring Richard Pryor is the unconventionally funny story of a farm worker from southern California who moves up through the ranks through sheer luck, but in the process, loses sight of his values — hence the title. Yet another

loveable movie is out, this time it's entitled *The Goodbye Girl*. The story of a woman and her ten year old daughter after her boyfriend of several years dumps them is good. Highly recommended as an ice breaker for a first date, it could warm even the least romantic soul. The brilliantly witty, non stop one-liners are what makes the flick so entertaining. The precocious little girl could prove to be another child star in the style of Tatum O'Neal and Jody Foster, way out of Shirley Temple's league.

And if you still don't like the sound of what's happening there's always Mel Brook's new film, *High Anxiety*, to yearn for. On another tact, Worcester Art Museum shows films open to the general public for a nominal admission fee on Tuesday evenings and Saturday afternoons. These are the masterpieces and—or innovative efforts of actors and directors you are not likely to catch at the Showcase. Look around, there's a lot more going on than meets the eye.

Mixing purposes

by Maureen Higgins

What's a good mixer? First, let us determine the purpose(s) of a mixer — to generate revenue for the sponsor, entertain, and provide an atmosphere conducive to mixing betwixt the sexes. The means to accomplish these are limited — a band to which one can dance and a few kegs of beer. "American Standard" certainly was danceable and seem to be very popular on this campus and outlying areas. Which is to say at the outset of the

evening, Aiden Hall was packed. Since the mixer was held on a school night, the crowd thinned at a reasonable hour, but not long before midnight. At the close of the evening, enough of an audience was left to induce the band into an encore. Personally, the musical highlight was the between set take of Wet Willie's *Manorisms*. As for the second half of the means for mixing, the beer, it was cheap and well, beer is beer. In summary, much of the campus spent their first night of the new term mixing it up.

Drawing exhibit

A selection of anatomical drawings and manuscripts by George Stubbs (1724-1806), one of the greatest animal painters of all times, will be placed on view February 7 at the Worcester Art Museum. Owned by the Worcester Public Library, the works are part of a collection of 125 Stubbs drawings whose possible sale has recently attracted considerable attention in Worcester.

Perhaps best known for his paintings of famous race horses, Stubbs also depicted more exotic species and had a passionate interest in anatomy. The drawings on display are studies from his huge, unfinished anatomical treatise: *A Comparative Anatomical Exposition of the Structure of the Human Body with that of a Tiger and a Common Fowl*.

The drawings fall primarily into three categories: a series of large rendering of various anatomical layers and views of the

three animals; a group of smaller drawings intended as supplementary illustrations, or as studies for the larger works; and a few miscellaneous drawings which do not seem to fit the scheme of *Comparative Anatomy*.

Although Darwin's theory of evolution was over half a century away when Stubbs began work on his volume, his drawings do reflect a consciousness of similarities between human and animal anatomy. With what might be called "artistic license," Stubbs has actually emphasized the parallels in some cases. The human skeleton is occasionally depicted in postures similar to animals in motion, and one image of a *Plucked Bird* bears a peculiar resemblance to a *Homo sapien*.

The Stubbs collection has been on long-term loan to the Art Museum since its discovery at the Library in 1957. The current exhibit will remain on view through March 19.

BOSKONE 15, the 15th annual New England Science Fiction Association regional science fiction convention, will be held at the Sheraton-Boston Hotel, February 17-19, 1978. Registration begins 6 p.m. Friday, February 17; registration fee is \$10, payable at the door. Guest of honor John Brunner, Science Speaker Marvin Minsky, program participants include Ben Bova, Lester Del Rey, Gordon R. Dickson, Frank Herbert, and many others. There will also be a science fiction art show, hucksters, folksinging, and more. For information, write NESFA, Box G, MIT Branch Post Office, Cambridge, MA 02139.

Bored of education?

by Maureen Higgins

It's ironic how dissatisfying those longed-for vacations spent in your hometown can be. There's no place to go, actually there are the same places as before, but they're lacking now that you're out of the high school scene. You find yourself frequently sporting events at the high school even though you've always loathed them, simply in hopes of running into kids you know. You see so many bad movies the ole eyeballs ache. Even the visits with the relatives don't seem so bad. And the inevitable questions are asked, "So how's school?", "How long do you have off for vacation?", and the dreaded, "How were your grades?". This forces you to elaborate on the plan and its unique grading system. Mention intersession and your friends naively ask you what intercourses you're taking.

I was fortunate or so everyone said to have not only one but two jobs to occupy

me over vacation. The worst of it is, all your friends seem housebound which is different than snowbound because where I live we don't get much snow, just rain.

Allow me to relate one particularly humiliating experience. I was at work in the local record store and one male acquaintance came in with his younger siblings. The talk revolves around school and our mutually boring vacations. I get the not so brilliant idea to call him after I get off work, y'know perhaps we could do something together. What a mistake. He doesn't immediately recognize who I am. PANIC. Do I have the right number? Is suicide the answer? But wait, the kind soul came back to his senses and this led to such fun winter activities as ice skating on the same lake where only months before we'd waterskied.

Back at school now all the conversations start with "So how was your vacation?". If you only knew....

WPI READING COURSE

TERM C

RECOMMENDED FOR

Anyone wanting to sharpen reading and study skills; anyone interested in applied epistemology.

DURATION LOCATION

The course will meet consecutive weekdays beginning Wednesday, February 15, and ending Thursday, March 9, a total of seventeen meetings. Classes will run from 4:30 p.m. to 5:30 p.m. in Alwater Kent, Room 117, the large EE lecture hall.

CREDIT HOMEWORK

None.

COST

\$5.00. RA's, Graduate Students, Faculty and Staff receive a professional discount.

PURPOSE, OUTCOME

The course offers students the means to extend the skills of understanding college-level written material. It is difficult to forecast the range and quality of individual reading improvement; one very rough indicator is that the last time the course was given (Term B '77), the average reading speed of the class as a whole more than doubled.

REGISTRATION, INQUIRIES

Registration will be taken in the Office of Student Affairs, and at class meetings during the first few sessions. The instructor is Roy Astley, Office of Counselling Services (Stoddard C, Phone extension 540).

AUTO TOWNE, INC.

746 Grafton St.

repairs of foreign and domestic automobiles

752-9091

10% Discount

with this ad
and WPI ID.

BERGER'S ARMY & NAVY UNIFORMS

148 MAIN ST. (Near Lincoln Sq.) 753-2684

CHINOS PERM PRESS 8 Colors 8 ⁹⁵	COTTON TURTLENECK JERSEYS 8 Colors 3 ⁹⁵	Levi's DENIMS & CORDS 12 ⁹⁵
FLANNEL SPORT & WORK SHIRTS HEAVYWEIGHT & PERM PRESS 3 ⁹⁵	GENUINE U.S. NAVY DUNGAREES 10 ⁹⁵	THERMAL LINED ZIPPER HOODED SWEAT SHIRT 1 COLOR for boys & girls 9 ⁹⁵
GENUINE ARMY FATIGUES Olive, Navy, Tan, Brown & Maroon Lt. Blue, Black 8 ⁹⁵	Lee DENIM JEANS Straight or boot cut 12 ⁹⁵	Lee WESTERN DENIM JACKET 15 ⁹⁵
YELLOW PARKA HIP LENGTH 7 ⁹⁵ Yellow, rubber outer shell over fabric Full zipper fly front	Boys & Girls FARMERS JEANS Blue or white 16 ⁹⁵	PAINTERS PANTS Heavy duty denim in blue or white 8 ⁹⁵

AN ADDITIONAL **10% OFF** ANY CASH PURCHASE WITH THIS AD * Offer Expires March 25, 1978

WPI group in Capital



Attached is a photograph of the students and faculty involved with the 1977 Term A Washington Project Center activities. The picture is with Senator Brooke, a 1964 WPI Honorary Degree recipient, and the students on the steps of the Capitol Building. The picture was taken on

October 4 when Senator Brooke met with the students and then explained the position he was going to take on the vote on the Gas Deregulation Bill approximately 15 minutes later. He then invited the students to see the full Senate in action on this very important bill.

Landmark

Worcester's latest National Historical Landmark is now the home of the Worcester office of the Massachusetts Association for the Blind. Whitcomb Hall was built in 1881 at the corner of Harvard and Highland Streets for Mr. George Whitcomb and family. It was proclaimed a National Historical Landmark this past fall.

The Massachusetts Association for the Blind is located on the first floor of Whitcomb Hall at 51 Harvard Street. It will continue to provide the same services to visually handicapped people of the Worcester County area. Whitcomb Hall also houses Memorial Homes for the Blind as it has done for over fifty years.

The Worcester office of the Massachusetts Association for the Blind was established in 1961 with offices on Main Street. Memorial Homes for the Blind will continue to provide financial support for the operation of the offices.

The Massachusetts Association for the Blind's office number, 791-8237, and its telephone tape number, 791-6911, remain the same. The house number for Whitcomb Hall, 752-5975, and the office number for Memorial Homes for the Blind, 755-4107, also remain the same.

The largest selection of hard aluminum MEASURING TOOLS in the country!

FAIRGATE

STRAIGHT EDGES/T-SQUARES
METRIC RULES/L-SQUARES
CENTERING RULES
TRIANGLES/CURVE STICKS
INKING RULES
and many others...

See them at your Bookstore!



ATTENTION SCIENCE AND ENGINEERING MAJORS!

The Air Force has openings for young men and women majoring in selected science and engineering fields. Like Aeronautical, Aerospace, General and Electrical Engineering, Mathematics, Physics and Computer Technology.

To help prepare for one of these, Air Force ROTC offers two and four-year programs of study which will defray some of your college costs.

After completion of the AFROTC requirement, and upon your graduation, you'll be commissioned an officer in the Air Force. Then comes responsibility, experience in your specialty with some of the best people and facilities in the world, and a mission with a purpose. You'll get excellent starting salary, medical and dental care, 30 days of paid vacation beginning your first year, and more.

Look into the Air Force ROTC program right away. See what's in it for you. See how you can serve your country in return. You'll be glad you put your major to work on a job that really counts.

Contact: CAPTAIN MYERS
Telephone: HOLY CROSS
793-3343

AIR FORCE

ROTC

Gateway to a great way of life.

ID SCHEDULE

Feb. 13-16 8:00-9:00 EVENING SCHOOL
Weekly Thursdays 12:00-1:00
Basement Alden Hall



Some interesting facts you should know about computer careers

(or how to earn your wings)

In the past decade, the computer industry has evolved from one concerned only with the storing and transmission of data to one that actually answers specific business problems through control and planning, financial analysis, market research, and statistical analysis.

As one of the few companies in the world capable of exploiting the full potential of today's most sophisticated computer hardware and software systems, National CSS has consistently shown itself to be a leader in Total Information Processing. Our operations include the largest IBM based computer system in commercial timesharing, and we will soon be adding a state-of-the-art line of minicomputer systems.

As for Research and Development, National CSS ranks Number 1 among all U.S. computer companies in R&D dollars spent per employee... and 8th among all publicly held companies in the U.S.

As a National CSS professional, you will be deeply involved in a multi-project

Systems Development Department, working in a stimulating environment conducive to career growth, in the following systems programming areas:

- Developing distributed data base technology
- Developing sophisticated high performance time-sharing operating systems utilizing virtual memory and paging techniques
- Simulation of OS and VS access methods and supervisory services in a time-sharing environment
- Minicomputer software for expansion of our international packet switch communications network
- Interactive software for program debugging and text editing
- User oriented problem solving in a state-of-the-art minicomputer systems environment

If you have a BS or MS degree, are motivated by challenge and opportunities for significant accomplishments, National CSS is for you.

For further information, see our Recruiter on campus.

Wednesday, February 8, 1978

Contact your Career Placement Office to arrange an appointment.

An Equal Opportunity Employer M/F

National CSS
... answers for business & industry

Computer: who is leading whom?

by Amy Somers

Long after classes have ended for the day, at an hour approaching midnight, an anonymous graduate student sits alone in a dimly lit room poring intently over a computer terminal. A sporadic flow of questions and answers alternates between human head and hands and electronic microcircuits. The nature of the communication is deeply rooted in psychological theory. The atmosphere is more akin to that of a patient and his analyst seated in the psychologist's office than to that of a man operating a mere machine in a computer science laboratory.

Abruptly the student rises, his face a contorted mass of horror. Unconsciously his white-knuckled hands open a series of switches ending the interaction. He reels from the room, leaving behind him a forgotten printout bearing the words: Severe mental abnormalities — Will gradually lose the capacity for productive thought.

Such a fictitious scene helps to illustrate the growing concern felt by Professor Joseph Weizenbaum, of the Computer Science Laboratory at M.I.T., author of *Computer Power and Human Reason* and the famous "Doctor" program, about the power of the artificial intelligence of computers over the human mind. Prof.

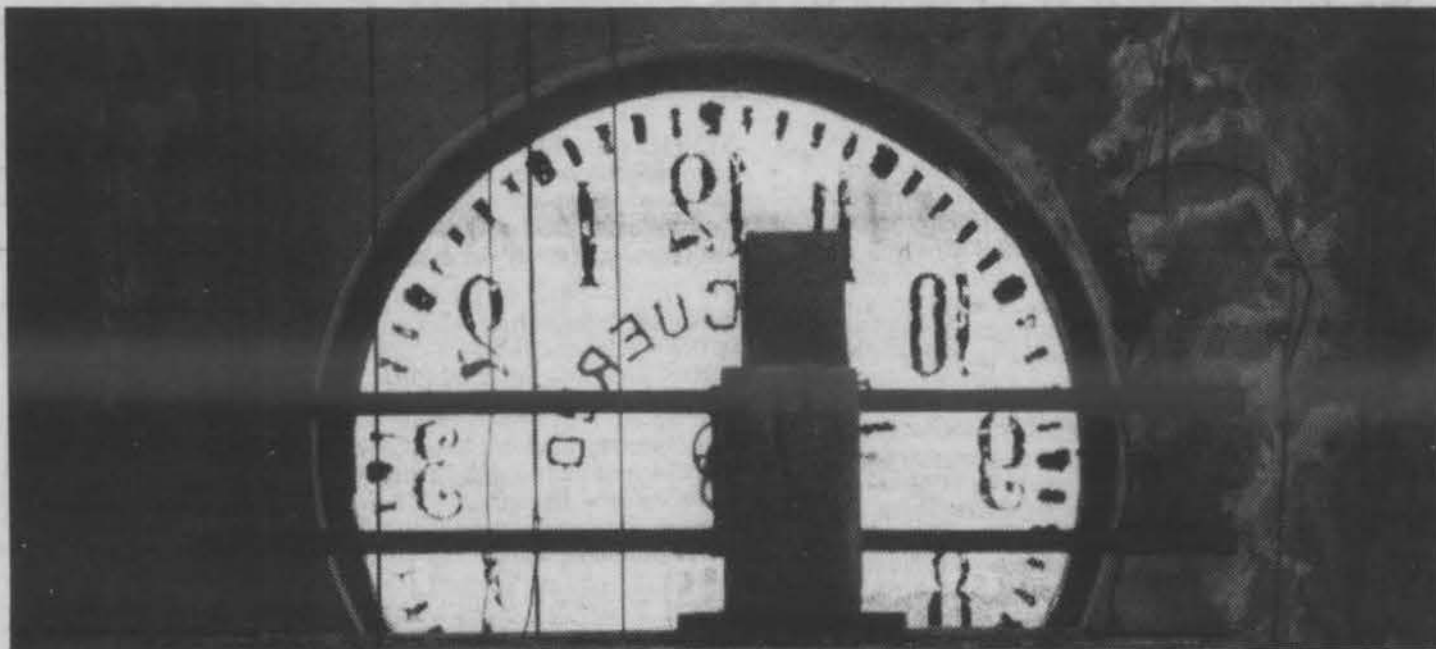
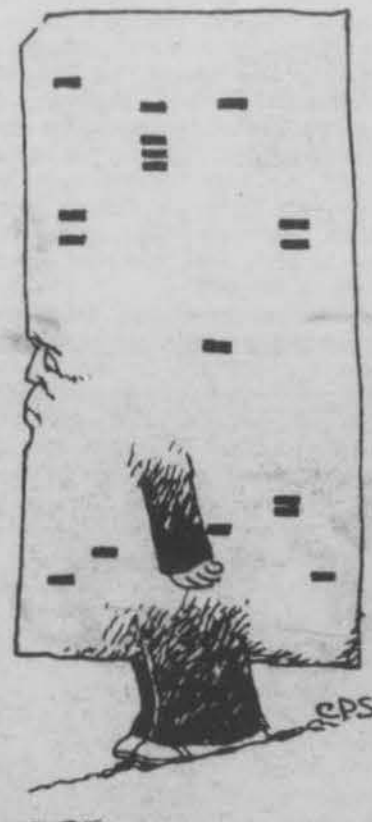
Weizenbaum cautions that we must restrain the "imperialism of instrumental reason", for the computer is a powerful metaphor capable of changing the way people think. He cites examples of the reactions of his own graduate students to a computer "therapy" program and raises questions about the ethics of running such programs if they are misused or misunderstood. Prof. Weizenbaum speaks of the dangers of computer dominance and the tendency of some computer scientists to so anthropomorphize the traits and capabilities of the computer that they develop a kind of computer cult or computer worship.

Prof. Weizenbaum will discuss his findings on the influence of the computer over its human coworker during the upcoming Hull Memorial Lecture: THE SOCIAL IMPACT OF THE COMPUTER: WHO IS LEADING WHOM?, on March 2, 1978 at 3:30 in Kinnicutt Hall, to be televised into two additional classrooms as well. Two W.P.I. faculty members, Prof. Robert Solomon and Prof. Greg Scragg will give additional viewpoints on the ethical values of the computer revolution, followed by Prof. Sherry Turkle, a sociologist from M.I.T., who will present some findings from her field work in human/computer relations. The discussion will then be

opened to questions and comments from the audience.

The program will last two hours — from 3:30 to 5:30, with an informal half-hour reception following. For students and faculty members interested in further discussion with the panel members, a dutch treat dinner has been planned for 6:00 at Higgins House. Tickets will be \$2.50 for students and \$5.00 for faculty members and may be obtained from Prof. John Wilkes, Dept. of Social Science and Policy Studies, (telephone: 753-1411, ext. 578 or 296). Of the sixty-four reservations available for the dinner, there are now some thirty remaining and interested persons are advised to contact Prof. Wilkes as soon as possible to insure a place at the dinner.

The Chess Club will meet
this and every Wednesday
night at 7 p.m. in Goddard
012. All are welcome.



Time stands still at our distillery where we still make Cuervo Gold by hand.

**For centuries we've wound
our clock by hand.
And for centuries we've
made Cuervo Gold by hand.**

*At the Cuervo distillery it's almost as if time has stood still.
Our Blue Magueys are nurtured by hand, picked by hand,
and carried to the ovens by hand, as they have been since 1795.
It is this continuing dedication to tradition that makes
Cuervo Gold special. Any way you drink it Cuervo Gold will
bring you back to a time when quality ruled the world.*

Cuervo. The Gold standard since 1795.



CUERVO ESPECIAL® TEQUILA. 80 PROOF. IMPORTED AND BOTTLED BY © 1977 HEUBLEIN, INC., HARTFORD, CONN.

DST no more

On Friday, Dec. 16, 1977, the Delta Sigma Tau Fraternity became a colony of Alpha Chi Rho. Brothers and pledges were sworn in by Ken Hedges, the Alpha Chi Rho Expansion Director. Beginning this term our pledges will be wearing the Alpha Chi Rho pledge pin. In joining this national Fraternity, we also obtained our new faculty advisor, Richard V. "Ollie" Olson of the Math Department. The brothers are anxious to work with this new national fraternity on campus.

The brothers have also been busy drinking Miller the past two terms, and have won the Miller Beer Contest. We took the \$500 prize, and with it, we purchased a new tap system. We will first use this tap system on Thursday, February 16, when we launched our second semester rush as a colony of Alpha Chi Rho. Anyone interested in becoming a part of our new and growing fraternity is very much welcome to this party. So come on down and see what we're like. You will have the opportunity to meet the brothers and also to speak with people from the national, and with our new advisor, Professor Olson.

House elections were held last term. The officers were elected as follows: Tim Bamford, President; John Pardo, Vice-President; Steve Duso, Secretary; Jason Tuell, Treasurer; David Giusto, Social Chairman; Robert Picchione, Keeper of the Annals; George Tobin, Member at Large.

Congratulations to our new officers and many thanks to our old officers for the fine job they did in the past year. We also had a Christmas party for the orphans from Friendly House last term. That went over well with the house receiving little damage.

Filmmaking taught

The Gray Film Atelier, a non-profit, New York State production center, is offering a most unusual and creative opportunity to undergraduate or graduate students interested in filmmaking. The Atelier is accepting applications from students with little or no experience in filmmaking, but who have exhibited strong interest in either literature or creative writing, social sciences, and/or in the fine arts. The film program was designed for young persons who have a lot on their minds and who have always wanted the opportunity to express themselves in film.

This alternative apprentice-study program, now in its seventh year, includes a number of unique features. It is an intensive, full-time, one-year program devoted entirely to the study of filmmaking. Many leading universities have granted full credit for study undertaken at the Atelier, meaning that students need not interrupt their university careers. This program has filled a void for many schools which have had to cut back their media programs for economic reasons.

The Gray Film Atelier is organized as a professional production company modeled after the film studio of yesteryear. Student apprentices gain actual experience in each studio unit. For example, more than 30 student-apprentices have participated over the past two years in the production of the Atelier's feature film, EVERYMAN. EVERYMAN, a full-length film, is a con-

temporary version of the medieval morality play and is intended for national distribution. The apprentices filled all crew positions from Production Manager, to Assistant Director, to Cinematographer, to Gaffer and Grip. EVERYMAN was sponsored by a seed grant from the National Endowment for the Arts. Other Atelier films have represented the United States in major international film festivals at Grenoble, France and Trieste, Italy.

The formal classes at the Atelier are taught by its director, Paul Gray, who is both a film director and a teacher. During the 1960's, Gray was the Head of the Drama and Film Department at Bennington College in Vermont. The Atelier was started in 1971 in Brussels, Belgium and is now located in the village of Hoosick Falls, N.Y., equidistant between the Capital District of New York State and the Vermont border. The Atelier apprentice program represents a unique opportunity for women students since they share the functioning of all creative, technical, and producing roles. The Atelier is authorized to accept students from abroad, provided they have good command of the English language.

Students interested in obtaining additional information or application procedures should contact Ms. Judy Reynolds, Administrative Assistant, The Gray Film Atelier, P.O. Box 70, Hoosick Falls, N.Y. 12090. The program accepts a limited number of candidates each year.

THE SALES EXECUTIVES CLUB OF GREATER WORCESTER ANNOUNCES A ONE-DAY INTERNSHIP AND COMPETITIVE SCHOLARSHIP PROGRAM

Applicants have the opportunity of choosing the type of business industry, or service organization they would eventually like to work in and have the chance to experience this real world out in the Worcester Community for one full day. A chance to win a \$500 Scholarship is also offered any Worcester Area College student.

Application forms and further information about the program are available from William Trask, placement officer, Washburn.

- Deadline for all applications: "First come - first served" February 15, 1978.
- One Day Internships during: March.
- Deadline for essays: April 15, 1978.
- Scholarship Award Dinner: Nick's Colonial Restaurant, April 24, 1978.

Students and advisors should know that one need not be in a business or management program to apply. All that is necessary is an interest in the possibility of a career in marketing and sales.



WHAT'S AN NSA CAREER?

It's different things to different people.

Of course, all employees at the National Security Agency have certain things in common: they are civilian employees of the Department of Defense; they are engaged in technical projects vital to our nation's communications security or a foreign intelligence production mission; and they all enjoy the benefits that accompany Federal employment. However, the differences between our career opportunities are just as interesting as their similarities. For example...

TO THE ELECTRONIC ENGINEER (BS/MS): An NSA career means delving into unique projects which can span every phase of the R&D cycle. An engineer may design, develop, test and manage contracts on communications, recording, and information storage devices and systems whose capacities and speeds are still considered futuristic in most quarters.

TO THE COMPUTER SCIENTIST (BS/MS): It means applying his or her knowledge in a wide range of sub-disciplines such as systems design, systems programming, operating systems, computer applications analysis, and retrieval systems.

TO THE MATHEMATICIAN (MS): A career means defining, formulating, and solving complex communications-related problems. Statistical mathematics, matrix algebra and combinatorial analysis are just a few of the tools applied by the NSA mathematician.

Interested in learning more about the difference in an NSA career? Schedule an interview with us through your Student Placement Office today. If we do not recruit on your campus, send a resume to the address given below.

U.S. citizenship is required.



NATIONAL SECURITY AGENCY
Attn: M321
Fort George G. Meade, Maryland 20755
An Equal Opportunity Employer m/f.