

Newspeak

The student newspaper of Worcester Polytechnic Institute

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How the pie is sliced

Where does your tuition go??

by Ken Mandile

After having my tuition to WPI raised by 25% I began to wonder how this money is being spent. The question of what my tuition is spent on did not seem to be very complicated; someone must keep track of things like this. I went to David E. Lloyd, Vice President for Business Affairs and Treasurer of the Corporation, for answers to my question. It turned out that answering it required a bit of work by Mr. Lloyd.

It was impossible to figure out where the money goes because it is only one of several sources of revenue for WPI. In the 1976-77 Budget tuition and fees accounted for only 48.2 per cent of the \$16,409,000 revenue for the school. Over 2800 full and part-time students paid \$7,910,000 to WPI. There are many other revenue sources at the school. Money made on investments, received for research, dormitory charges, the bookstore, and for students grants aid are only a few of these sources. The following is a very general breakdown of revenue sources:

ENDOWMENTS from INVESTMENTS
Worcester Polytechnic Institute now has \$20,000,000 in investments (assets). These investments have been donated to the school over many years to serve as a source of revenue. In 1976-77 WPI received a total of \$1,425,000 on its investments. This accounted for 8.6 per cent of the total revenue in the budget.

RESEARCH and SPECIAL PROGRAMS
The government, various foundations, corporations, and schools grant WPI and its Alien Research Labs to do research.

Alien Research Labs is a company wholly owned by WPI, though it is run as a separate entity. Aiden has its own regular staff, but this staff is supplemented with WPI professors and students. WPI also provides grants to do research on campus.

The Computer Center is another source of revenue for the school. Outside organizations are charged for the use of VACC facilities.

AUXILIARY OPERATIONS

Auxiliary Operations include the Dining Hall, the dormitories, the bookstore, and several other operations on campus. In the 1976-77 Budget \$2,100,000 in revenue was received from Auxiliary Operations. This accounted for 12.8 per cent of the budget.

STUDENT AID

Students aid is received from many sources for the school to use for the sole purpose of decreasing the costs for some of its students. The total of all outside sources of student aid was \$1,180,000 in 1976-77.

Endowments for use as scholarships totaled \$310,000. State and Federal grant programs, State Scholarships, Basic Educational Opportunity Grants, and other state and federal programs gave \$500,000 for student aid. Corporations, and "friends" gave \$60,000. Clubs, Organizations, and Corporations gave \$180,000 designated to go to certain students. Work Study programs accounted for \$90,000 of the student aid revenue.

MISCELLANEOUS

There are several sources that could not be put under any category. When WPI has cash on hand, such as the date that tuition is due, the money is put into a savings account to collect interest.

The school is sometimes reimbursed for administrative overhead costs when carrying out research. This is money separate from a research grant.

Money received by renting out school facilities such as the auditorium is included in the Miscellaneous category. Miscellaneous revenue, which totaled \$736,000, accounted for 4.5 per cent of the revenue income for WPI.

DISTRIBUTION of REVENUES

Where does the \$16,409,000 in revenues go? Outline below is a breakdown of the distribution of revenues into several general categories.

Instruction and Library

This is \$4,771,000 used for all faculty costs in all departments and for operation of the Library. This accounts for 28.7 per cent of all expenditures and is the largest category of expenditures.

1976-77 Budget		
SOURCES OF REVENUES		Per Cent
Tuition and Fees	\$7,910,000	48.2
Endowment (from Invest.)	1,425,000	8.6
Miscellaneous	736,000	4.5
Research and Special Prog.	3,058,000	18.6
Auxiliary Operations	2,100,000	12.8
Student Aid	1,180,000	7.3
Total	\$16,409,000	100.0
DISTRIBUTION OF REVENUES		
		Per Cent
Instruction and Library	\$4,771,000	28.7
Admin. and Student Serv.	1,587,000	9.5
Operation and Main.	1,343,000	8.1
Insurance, Ben., and Gen.	1,447,000	8.7
Research & Special Prog.	3,266,000	19.6
Auxiliary Operations	2,100,000	12.6
Student Aid	2,131,000	12.8
Total	\$16,645,000	100.0
Deficit Before Unrestricted Gifts to Operations — \$236,000		

Administrative and Students Services

Administrative and Student Services costs are such things as the President's salary, the Accounting Office, University Relations, Students Affairs, and Health Services expenses and personnel salaries. The \$1,587,000 in this category is 9.5 per cent of the total Distribution.

Operation and Maintenance of Plant

The costs for custodians' and tradesmen's salaries and costs such as fuel and electricity was 8.1 per cent of the expenditures or \$1,343,000.

Insurance, Benefits, and General

\$1,447,000 or 8.7 per cent was paid for services such as telephones and mail and to pay for employee benefits such as insurance.

Research and Special Programs

\$3,266,000 was spent on research and special programs described under the sources. This was 19.6 per cent of the total expenditures.

Auxiliary Operations

Auxiliary Operations are budgeted so as to pay for themselves, thus \$2,100,000 was spent on these operations.

Student Aid

At 12.8 per cent Student Aid is the third largest category of expenditures. In 1976-77 \$2,131,000 was given to students. This is \$751,000 more student aid given out than was received.

The school decides how much Student Aid is needed, deducts the amounts received from outside sources, and makes up the difference from its own funds. WPI's contribution to the Student Aid category was 35 per cent of the total aid given out.

Total expenditures in the budget were \$16,645,000, which leaves a deficit of \$236,000. This deficit will be made up with unrestricted gifts.

The numbers that Mr. Lloyd supplied me with were only to give a general idea of where the money comes from and goes to. You could probably find places where one plus one does not equal two, so do not be too picky about the amounts and the breakdown of the revenues. The categories in which the revenues have been broken into are very general so you should not draw any conclusions from them.

Students to attend conference

by Prof. L. H. Berka

WPI will be represented by 19 students giving 18 papers at the 31st Annual Eastern Colleges Science Conference to be held at Fairleigh Dickinson University, Rutherford, New Jersey on April 14-16, 1977. The ECSC provides a meeting place where undergraduates doing research in the natural, applied, and social sciences can submit papers and give talks on their work and become acquainted with the research of other undergraduates. WPI, which has been attending these conferences since 1969, served as Host Institution in 1974.

Students whose project work will be presented include Annette Bodley, David Bolin, Kenneth Bradford, William Cronin, co-authors Domenic Grasso, George Harding, and John Osowski, John Greaney, Robert Hyland, Steven Kovner, co-authors Barry Livingston and Theodore Tamburro, John Major, Bruce Minsky (3 papers), Christopher Owen, Catherine Seymour, Martin Wai, George Whitwell, and Gary Wnek.

Subjects of the WPI papers range from "The Effect of Divalent Cations on the Fragility of the Human Erythrocyte Membrane" (MQP Project) to "Instructional Learning Packages for Deaf Engineering Students" (IQP project). Project advisors include Profs. Beall, Bjorklund, Crusberg, Goloski, Hobey, Hoskins, Khararjian, Ma, McQuarrie, Pavlik, Perry, Sand, and K. Scott, as well as other off-campus personnel.

The Conference will also be attended by Prof. Berka, WPI's ECSC Faculty Coordinator, and Prof. Khararjian. A total of 10 different departments at WPI will be represented.

The Conference includes social functions, such as a banquet, at which awards for the best written papers will be announced. Through Prof. Berka, WPI will also be presenting an amendment to the ECSC Constitution at the Conference's business meeting. The WPI amendment seeks to ensure the financial accountability of future Host institutions.

WPI class of 1978 SPRING WEEKEND 1977 April 22-23, 1977

Classes of '66-'76 join the class of '78 at its spring weekend!

FRIDAY
7:30-9 p.m.
Dinner with Edmonds & Curley
Dancing with The Great Estate
Harrington Auditorium
Tickets: \$3 — Reserved Seating Only

SATURDAY
Craft Fair on the Quad
10 a.m.-5 p.m.
Food, games, music, crafts
for sale, chariot race

FRIDAY NIGHT
Concert
8:15-11:45 a.m.
Dining Room
\$2 per person
Tickets available at the door.

SATURDAY NIGHT
Concert 9 p.m.
Pousette-Dart Band
and
Melanie
Harrington Auditorium
Tickets: \$6, \$4 WPI students (2 each)

Melanie, the very popular vocalist of the late 60's will be appearing at WPI for her only New England performance. We hope you can make it! Tickets on sale in Daniels on Wednesday, April 13, 11-4, other days posted later. Ticket information available from the Office of Student Affairs 753-1411 x 598.

Editorials: Score one for slipshod

In the past few issues, I've been hitting some of the low points on the campus. It was my intention to start this new term on a positive note, but recent developments on the political front have given me yet another gem to rave about.

On Tuesday, March 22, Tom Panek was elected Student Body President by the absolutely overwhelming total of 116 votes! Yes, sports fans, on this campus of the country's leading educator of engineers who take an interest in society, 269 out of 2950 students (that's just about 10 per cent for all of those whose batteries are run down) voted in the election. An even sadder commentary on the situation is that, for once, I'm going to take the side of those people who said "To hell with this" and didn't vote. Before you start calling me a hypocrite, let's take a look at the facts.

According to the March 15 issue of *Newspeak*, a list of the candidates would be posted outside the Student Affairs office in Daniels, on or before that Friday. When I went over to check on this promised list late Friday afternoon, all I found was four pieces of tape left on the outside of the ticket office window. Obviously, some engineer hadn't thought of putting the list on the inside. Since no replacement list appeared before Tuesday, people had to wait for *Newspeak* to find out who the candidates were. This gave the WPI voters all of four hours to decide who to vote for!

Throwing my better judgement to the wind, I stood near the polling place, and asked several people waiting to vote if they could name the candidates. None of those I asked in a period of ten minutes could tell me one single name. "I'm waiting to see the ballot" was what they told me.

This farcical way of handling things has got to stop. Having an election on the next to the last day of a term is totally useless. Many had already left for home by noon on Tuesday. The fact that Daniel the

Big George strikes again

One would think that the president of a somewhat prestigious private institution would have better things to do with his time than to pick on the Wedge dwellers at WPI. Most of the Wedge Dwellers are commuters of some sort or another. They either live at home or in apartments. But President Hazzard saw fit last week to further persecute an already persecuted group. It seems that President Hazzard objects to the degree of squalor that the tables in the Wedge near the snack bar are in. So he had them moved down to the lower part of the Wedge. This is no great disaster but it is a symptom. President Hazzard did not ask where all the tables in the Wedge disappear to nor did he complain when the heat and lights were off in the Wedge in the winter. But now he complains because the tables are messy. Maybe he has more important things to do than decide where students can sit in the Wedge.

S. B. Fine

Spaniel and I each got one vote for Secretary tells one a lot about the outcome. Tom Panek and Paul Wrabel could be George Washington and Tom Jefferson, but I still can't condone the sham on hold-the-mickey mouse election. In looking at some of the things I've said in editorials, I must offer an apology to John Nyquist. In retrospect, see that he was exactly the type of President that this school deserves. If we're lucky, Tom Panek will take pity on us, and try to lift our school government's performance above that of the Nixon White House.

Tom D...

Letters: Pub renovations

To the Student Body:

The Goat's Head Pub closed voluntarily last week to conduct repairs, renovations and cleaning requested by City Health officials.

Most of the work will not be apparent to Pub customers since almost all of it was concentrated in the manager's office area. Old paint and plaster had to be stripped from the walls, the walls patched and then papered. Woodwork was painted and the entire Pub received a Spring cleaning. The health officials asked for the removal of unused equipment remaining from the days when the area housed the snack bar.

Many of the repairs were planned for the

summer, but the agents wanted carried out right away.

The Pub Board of Directors regrets inconvenience to Pub patrons and like to thank all the Pub employees pitched in to complete the work. Directors would especially like to thank students and staff who volunteered their time.

Dan Pouliot, Mike Helman, Kurt Dave West, John Fitzgerald, Steven Nolly, Frank Martin, Dan Funk, Joe Eric Hertz, Scott Farrell, Jim De Chuck Fallon, Cathy McDermott, Linehan, Beth Driscoll, Karen Joan Bolduc, Diane McConnell, Palumbo and Laura Mattick.

Meal taxes

An open letter to college students:

I have filed a bill in the Massachusetts legislature which could save you between \$60 and \$80 a year. It also involves an important matter of principle.

The bill would exempt the meals you eat on campus in students dining facilities from the 8 per cent Massachusetts meals tax. This tax is being unfairly administered. While it is being levied on all college students in Massachusetts, some public institutions are simply refusing to collect it.

The tax is unfair in principle as well. A meal eaten in a college dining hall is

analogous to a meal eaten at home, necessity not a luxury. The original the meals tax was that it was to be the luxury of eating in a restaurant.

If you agree, would you please urge your state legislators to urge them for my bill, House 2479. Although obviously in your own self interest, your letter will have an important impact on the ultimate outcome and could be a real injustice besides.

Francis W. Har...

Income taxes

Dear Editor:

As we approach another Tax Day (April 15), there are a couple of bills pending in the House of Representatives which will be of interest to many students and faculty of Worcester Polytechnic Institute.

Some 54 million Americans are hit with an income tax penalty of up to 20 per cent because they are single, or because they are married with both partners working. The committee of Single Taxpayers (COST) has been working for several years to eliminate this inequity. To accomplish this goal, Rep. Ed Koch has again introduced HR 850 in the House Ways and Means Committee.

Also pending in Ways and Means 84, introduced by Rep. Herb Harris, would make a beginning toward income equality for renters, similar to what so long been available to homeowners.

Anyone interested in more information about these bills is urged to send a self-addressed stamped envelope to the address below, mentioning the letter was read in Tech News. This

Arlington, Virginia

IFC Corner: SAE

by Jim Miller

The brothers of Sigma Pi Epsilon are looking forward to the usually busy D-term. Every weekend seems to be filled with social events and community service projects including Spring Weekend. Jp co-chairmen Frank Pulaski and Toby Gouker and the committee have planned a great weekend. The brothers have organized a leadership school for the ten SAE chapters in New England on April 15, 16, and 17. Brian Kelly the school coordinator says he expects 50 brothers from such colleges and Universities as MIT, Harvard, UNH, etc. Our chapter was the first in the nation to organize a regional leadership school modeled after the National Leadership school that is held in Evanston Ill. every year. The SAE Car Rally for the United Way is going to be held on Saturday, April 30. Entries will be welcome from faculty, staff, students, and alumni of all the Consortium schools. Details and entry blanks will be in a coming *Newspeak*. The annual Easter party for underprivileged children was held Easter Weekend and on another community note, keep your eyes on Institute Park next month.

As you know we have decided not to enter into the Miller Pick-up contest

because it doesn't give points toward IFC sports trophy. We are just collecting aluminum for recycling and will sell to a private recycler.

The brothers of SAE held their annual Parent's Day recently. A hour with several members of the and administration was followed by banquet at the Castle Restaurant in Leicester. We would also like to thank the Pledge Sisters of Phi Sigma Sigma party we had with them last Tuesday.

On the sports scene, congratulations due to Bob Stack and Barry Linn. Bob had four great years of basketball. His unselfish performance and hustle helped the basketball team strong this year. Barry swam his first at WPI with guts and determination. finished with two school swimming records. In intramurals, SAE has softball teams and four ping-pong. The A-team in softball is showing another great season and our B-team has a chance for the playoffs. This is out for a good time. SAE will be represented in the lead swimming this week.

Finally, the Brothers would like to see the whole WPI community happy

Newspeak

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Energy Geothermal energy

by Mark Kelsey

Geothermal energy has the promise of becoming one of our more abundant forms of energy for the future. This source of energy can be used to generate electric power, desalinate water, provide heat for industry and homes, and to help recover minerals, as well.

The extent of geothermal resources are abundant that DE White, an authority on geothermal energy, estimated that there is about 3×10^{26} calories in the outer 10 km. of the earth's crust of heat. In the United States alone, he estimated that there is about 6×10^{24} calories of heat in the outer 10 kilometers of the earth's crust. This resource is the equivalent to the heat of 8×10^{14} metric tons of coal, or about 5×10^{18} kilowatt hours, representing about 100,000 times the projected amount of total electric power production in the United States in 1985. However, the geothermal resource in this outer layer of the earth's crust is diffuse to be used on a worldwide basis.

Also, the reservoirs of geothermal energy must have certain characteristics to be suitable for electric power production. These characteristics are listed by DE White to be reservoirs with a fluid temperature of more than 180 degrees C, a depth of less than 3 kilometers, and a volume more than 5 km^3 , and adequate permeability to obtain a high enough productivity at reasonable flow rates. Unfortunately, resource with these characteristics have been located at only a few places in the world at the present time.

Also, there are various types of geothermal resources. There are formations that could be described as wet or dry and according to their temperature. The wet formations are generally convective geothermal systems. The reservoir which is easiest to use is the vapor dominated geothermal reservoir because steam is produced with little or no water. The dry type of wet formation is the liquid-dominated hydrothermal reservoir, which is suitable to use for electric power generation because it requires flashing of water and separation of steam to drive a turbine. Unfortunately, these liquid-dominated hydrothermal systems are estimated to be much more abundant than vapor-dominated systems. The third

type of wet formation which has not yet been developed for commercial use is the geopressed resource. This type of resource is water trapped in large, deep sedimentary basins with temperatures ranging from 150 degree C to 180 degrees C and wellhead pressures ranging from 4,000 psi to 6000 psi. There could be used a dual energy source by installing wells that would obtain the water as well as natural gas for energy uses.

The second type of formation in geothermal resources is the dry formation. These formations include impermeable hot rock and magmatic deposits. Currently, methods are being studied to extract this geothermal energy using artificial circulation systems.

Finally, the problem of utilizing the geothermal resources is being solved in a number of ways. The main was of utilizing this resource is for generation of electric

Op-Ed:

power by low-pressure steam turbines. There are a number of electric power systems currently under development for energy utilization. Research is underway to develop multi-flash steam turbines, single-stage and multiple-stage binary cycle systems, hybrid systems combining the multiple-flash and single and multiple-stage systems, and many total-flow systems. One of the more interesting systems under development is the binary fluid power plant. In this process, geofluid flows through a heat exchanger where the exchanger heats a suitable working fluid with a lower boiling point. Then, the super heated vapor is expanded in a turbogenerator. The vapor is condensed using cooling water and recycled through the heat exchanger, and then the geofluid is reinjected into the ground. This system has a number of different advantages, one of the more important being its ability to use geothermal fluids of relatively low temperature. The disadvantage of this binary cycle is mainly added capital costs of the plant and the pumping requirements.

National Wildlife Week

by David Drevinsky

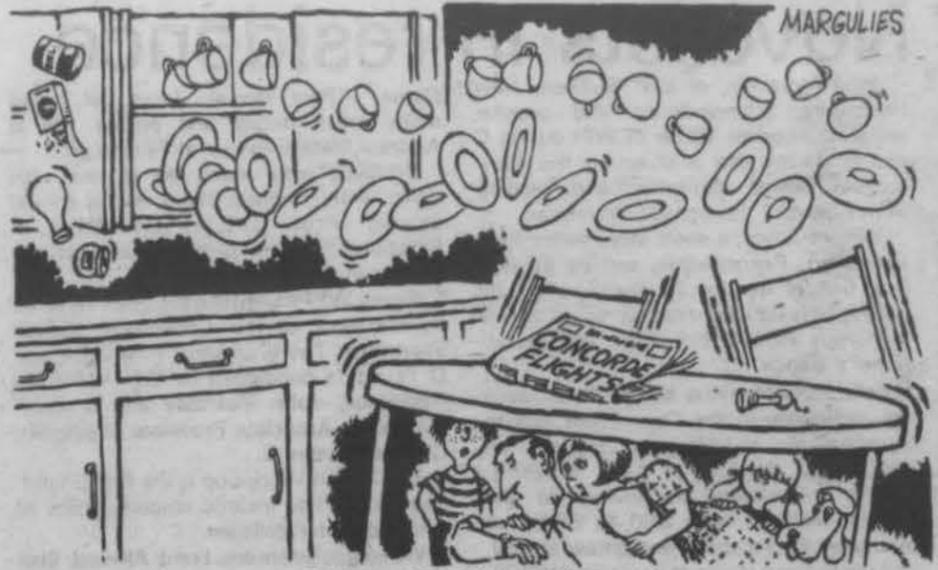
In 1938 President Franklin Delano Roosevelt proclaimed the first "National Wildlife Week." It was a beginning of an organization which was to bring a new awareness of the environment to all Americans. This year National Wildlife is celebrating their fortieth anniversary and recently held a week-long observation that is now called "National Wildlife Week." The NWF (National Wildlife Federation) is now the largest conservation organization in the country with 25 million members. The Federation celebrated National Wildlife week from April 20 thru 26 of this year.

In 1954 the theme for National Wildlife Week was "Clean Water for All America," in 1960 it was "Water: Key to Your Survival," in 1965, "Fight Dirty Water." This year the Federation has again chosen water as the theme with "We ALL Need Clean Water." This year's poster shows three brown bears, a sow and two cubs, fighting the battle for cleaner water. The National Wildlife Federation has many accomplishments. Some are as follows: First, it has challenged the cities of New York and Philadelphia. The Environmental Protection Agency has, however, ordered a phase out of the United States Corps of Engineers permits for needless dredging of coastal marshes and flood plains which serve as water purifiers. Third, it has filed law suits to prevent federal river channelization and impoundment of waters affecting water quality. Lastly, the Federation advanced suits to require the United States Coast Guard to issue stricter regulations covering the design and operation of oil tankers in the United States waters. This is especially significant in Massachusetts residents who have been hit with a series of spills over the last few years.

Industries discharging wastes into navigable waters. Also, under amendments to the 1972 Federal Water Pollution Control Act the nation's waters must be clean enough by 1983 for swimming, boating and protection of wildlife and by 1985 the law would prevent the dumping of any pollutants into waterways. They also established the EQI (Environmental Quality Index) which indicates where we stand on our move toward a cleaner environment. Eric Hall, who directs EPA's river effort in New England, says that the 1985 goal - Zero Discharge Day - may be stricken entirely. Hall has his doubts about the feasibility of zero discharge by 1985 but recognizes the importance of striving for it. "Americans must insist that this goal be kept," he says. "They want clean water and they can get it."

According to PIRG (Public Interest Research Group), pollution abatement in Massachusetts has been hampered by "passive watch dog efforts by WPC (Water Pollution Control) and EPA" as well as a disturbing tendency on the parts of both agencies to allow "forceful pro-industry arguments for 'tolerance' and 'moderation' to overcome their own concern for enforcing existing regulations, cleaning our nation's water, and protecting the interests of an often unrepresented public." It is clear that the agencies lack political influence and that this falling is one of circumstance rather than choice.

Thus, it seems obvious that clean water depends on public involvement. I think that we are fortunate to have an organization like the NWF dealing with a movement toward a better world. With the issue being directed towards energy alternatives, I believe that our environment is equally important. As Russel Train puts it, "It is pollution - not its control - that limits growth." Whether or not Americans win the fight against water pollution depends entirely on their ability and desire to make their system work. SOURCE: Notes from The National Wildlife Federation.



"THERE GOES THE 9:35"

Also, there are a number of different systems other than the binary cycle of interest. Innovative conversion systems in small powerplants involved a total flow concept where both thermal and kinetic energy of the geofluids are used for production of electricity. The impulse turbine converts thermal energy to kinetic energy using a converging-diverging nozzle. Another concept being researched is the helical rotary screw expander, which can continuously expand vapor from hot saturated liquids during pressure reduction and thus, in essence, creates an infinite series of flushing stages. A third concept is the bladeless turbine, which involves a series of closely spaced circular disks on a shaft, these disks are used to provide narrow channels, with the interjection of geofluids through a nozzle.

There is currently a project being undertaken at the Los Alamos Scientific Laboratory involving the drilling of an injection well for the passage of water into underground rock formations. Then, the water is pumped down the injection well to induce fractures. This type of hydraulic fracturing is continued until rock permeability exceeds the pumping capacity.

Thus, geothermal energy appears to be an important resource that should be developed for use in the future. While it must be emphasized that geothermal energy cannot be used to take care of all our energy needs, it can be used to help alleviate the problems that will be encountered in the energy crises. Therefore, I must conclude that R & D on geothermal energy should be continued to promote development of this promising energy resource.

Sources: Annual Review of Energy, Ed. Jack M. Hollander, assoc. ed. Melvin K. Simmons (Paulo Alto, Cal.: Annual Reviews Inc., 1976) pp. 159-161, 169-171. Energy, Volume II, editors: S.S. Penner and L. Icerman C. Reading, Mass.: Addison-Wesley Publishing Co., 1975 pp. 522-529.

Another important area is thermal energy utilization. It has been estimated that 40 per cent of the energy consumed in the United States is in the form that could be supplied by geothermal energy. One of the most promising areas in this field is that of obtaining geothermal energy from dry wells.

Hash bash happenings

by Glenn Cooley

Having traveled west during the spring break, I arrived at the University of Michigan just in time for the Sixth Annual Ann Arbor Hash Bash. The event is held every April 1st (this year unofficially and despite administration attempts to squash it) on the UMich diag (the equivalent of the quad).

For those of you who haven't heard about it, the Hash Bash is not when they serve corn beef hash in all the campus cafeterias. It is something like our spree day with a few differences.

The first thing you notice is that there are about ten times as many people. Since it is always held on the same day, about half the people are from high schools and elsewhere. Because of all the outsiders, the university has guards posted at the entrances to all the school buildings. As you

get closer you smell the pungent odor of something burning, and it's not draft cards either.

And then, right in the middle of the crowd is something WPI hasn't thought of having yet, that is twenty riot equipped police. All day long the event was marked by these law enforcers hauling off participants. Still, they hauled more the few people drinking beer (Michigan state law prohibits the consumption of alcoholic beverages and whereas possession of marijuana is only a five dollar fine).

Finally to record the event, flocks of people had their 35mms as well as camera crews from three television stations, taking pictures of such local attractions as Diag Dave, a self-proclaimed politician in his thirties, speaking to anyone who will listen from the top of an over-turned trash can. All in all it was a high flying time.



WORCESTER POLYTECHNIC INSTITUTE
Presents
Dr. Evelyn Murphy
Secretary of Environmental Affairs for Massachusetts
speaking on
**Massachusetts Environment:
The Use of Scientific Knowledge in Policy Decisions**

Wednesday, April 13, 1977 4 PM
Gordon Library Seminar Room Refreshments at 3:45 PM

For further information: Prof. Leonard Goodwin, Head
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Worcester Polytechnic Institute
753-1411 ext. 563

Novelists in residence

John Morressy, of East Sullivan, New Hampshire, science-fiction and popular writer, is Resident Writer at WPI during C and D Terms. He is directing the Consortium Fiction Workshop and reading from his work throughout Worcester.

William Joyce, a short story writer from Lewisburg, Pennsylvania, will be at WPI from 6 April through 20 April and will be visiting classes and reading some of his humorous stories, including "My Grandfather's Bones."

Both John Morressy and William Joyce will participate in the Consortium Fiction Symposium at Higgins House on Wednesday, the 13th of April. Students, faculty and guests are invited to the student readings from 3:00 to 5:00 that afternoon, the reception and dinner at 5:30, and the evening readings beginning at 7:30. (No tickets are needed for the readings, but reservations for dinner should be made at the Humanities office. 753-1411, Ext. 246).

John Morressy has published ten novels and numerous short stories and poems. Some of these are on display in the Gordon Library; several of his novels are available at the WPI Bookstore. He has held fellowships at both the Bread Loaf and the University of Colorado Writers' Conferences. Presently he is Professor of English at Franklin Pierce College.

William Joyce is the author of "The Day the Dog Came to Confession," "Mrs. Bowles Lover," "Rats," "The Lacrosse

Game," "Post Mortem for a Car," and many other stories and poems. He is Andrew Mellon Fellow at Pittsburgh.

Students who would like to talk with either writer or show them stories should contact Prof. Charles Heventhal in Salisbury 18, who is coordinator of the Writers-in-Residence Program.

Seven WPI students have been selected as members of the Consortium Fiction Workshop. The Workshop, meeting C and D Terms, is conducted by WPI Writer-in-Residence, John Morressy and is coordinated by Associate Professor of English, Charles Heventhal.

The Fiction Workshop is the first English class at WPI to include students from all five Worcester colleges.

WPI participants are: Frank Alberto, Blair Hawley, Phil Hendrickson, Arthur Hyde, Eugene Jakubowski, John Petze, and Alan Turniansky.

Colin Mahoney and Herve Richer have registered from the Workshop from Assumption College; Ira Miller and Katy Ramsay from Clark University; Elena Vera and Mary Aube from Holy Cross; and Ron Durost and Doreen Pendergast from Worcester State College.

Anyone who is interested in hearing what some of the most creative Worcester student writers are inventing should come to Higgins House on Wednesday, April 13th, from 3:00 p.m. to 5:00 p.m., during the FICTION SYMPOSIUM.

From the World of Science Fiction John Morressy
The Sexual Uses of Electrical Tape William Joyce
Other Outrageous Fiction WPI and Consortium Students

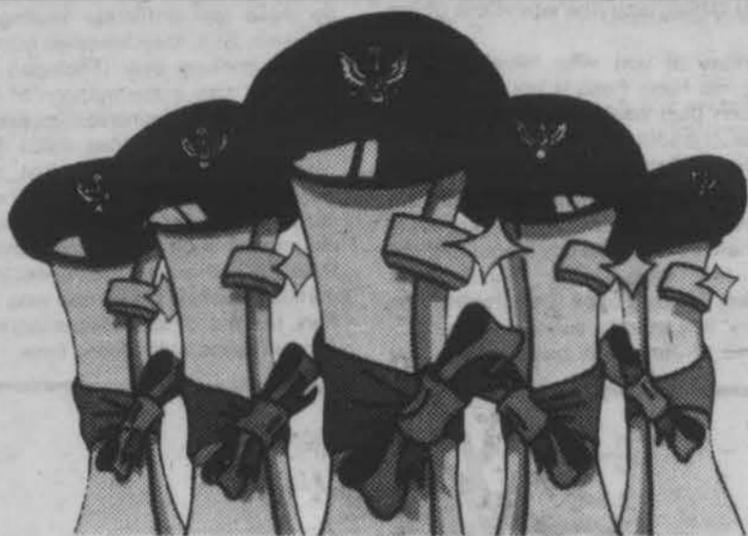
Wednesday, 13 April 1977

**LIVE PERFORMANCES AT HIGGINS HOUSE
WORCESTER POLYTECHNIC INSTITUTE
3:00, 4:00 and 7:30**

FICTION SYMPOSIUM

- 3:00 — WPI and Consortium students reading their stories; Morressy and Joyce provide professional comment.
- 5:00 — Reception for students, faculty and visiting writers.
- 6:30 — Dinner (Call 753-1411, Ext. 246 for reservations).
- 7:30 — William Joyce and John Morressy reading from their own novels and short stories.

The FICTION SYMPOSIUM is part of the Worcester Consortium Writers in Residence Program made possible by a grant from the National Endowment for the Arts and the local colleges with the cooperation of the Worcester County Poetry Association. Associate Professor of English, Charles Heventhal, is the WPI coordinator.



We need certain college majors to become Air Force lieutenants.

Mechanical and civil engineering majors ... aerospace and aeronautical engineering majors ... electronics ... computer science ... mathematics majors. The Air Force is looking for young men and women with academic majors such as these. If you're majoring in one of these areas, you may be eligible for either the two-year or the four-year Air Force ROTC program. And to help with the college bills, two, three, and four-year scholarships are available. These scholarships

pay tuition, textbooks, lab fees, and \$100 tax-free dollars a month. The Air Force ROTC program leads to an Air Force commission, an excellent starting salary, challenging work (with some of the finest equipment in the world), promotions, responsibility, graduate education and much more.

Find out today about an Air Force ROTC scholarship. It's a great way to serve your country and to help pay for your college education.

Contact: AFROTC, Holy Cross College, Worcester, Mass. 01601, 617-793-3343.

Air Force ROTC - Gateway to a Great Way of Life

Two Career marriages

Marriage is a time for decisions, and college is the time when students should consider just what they want from a marriage. Both have to adjust to a changing life pattern, in which both have an equal say!

Professor Judith Hodge, Humanities Department, will moderate a panel on Two Career Marriage, April 14, Thurs. evening, 7:30-9 p.m. in the Library Seminar Room. Two Alumni Couples Mr. and Mrs. Jeff McLean and Mr. and Mrs. John Zorabedian will be on the panel to discuss some of the problems they have faced, and some of their private feelings on the problems of living with two careers.

More and more women today are using their talents to follow professional careers. Wives are shedding thoughts of domesticity, if they ever had any, and are reaching out for serious careers of their own and their long lost identities. Keeping the soup hot for their man has now become a problem of logistics. Simply figuring out who should keep the soup on for whom. Or

who picks the kids up from nursery school? Or cook? Or Shop? Which is most important when a choice has to be made, career or hers. What makes it possible for couples to lead dual lives, and why women want it, are just some of the questions that will be discussed.

In this kind of equal relationship a couple can find great enrichment through mutual interests and a new kind of respect for each other's accomplishments professionally and personally. With complicated lives they can get more out of each other, their friends, their children, their marriage, their vacations, the time they spend together, the whole tapestry of their lives.

The key which makes every day possible for them seems, ironically, to be with the husband. It's his attitude that counts. If he learns to live equally with his wife, in every sense, then it works. If not, it's one direction of the future. Eileen J. Cooney, Coordinator

Police blotter

On Monday, March 14, 1977 at 8:45 a.m., received a call re machine shop had been entered — nothing known to be taken at this time. A check revealed that a room in Higgins Labs had also been entered. This occurred sometime from Saturday afternoon till Monday morning. Value of

articles taken from room was \$680.25. On Saturday, March 19, 1977 a car called in re his motor bike was vandally parked in back of Higgins Labs. Tire seat were slashed and handle damaged.

Game show

COLLEGE BOWL, the intercollegiate quiz games that helped make eggheads as popular as football heroes, is springing back with renewed vigor on campuses all across the country.

The game, which was a popular national radio and television feature for more than seventeen years, now enjoys the collaboration of The Reader's Digest, which serves as the official authenticator of all COLLEGE BOWL questions. Reader's Digest also is a source for many of the questions, which are drawn from the magazine and from a variety of reference books published by the Digest. COLLEGE BOWL operates in cooperation with the Association of College Juniors — International.

Since it left national television in 1970, COLLEGE BOWL has continued to be an important feature of campus life in many colleges, and the game is still being televised in twelve foreign countries. Because of the continued activity and the urging of college students, Don Reid, the creator of the COLLEGE BOWL game, in association with ACU-1, has re-organized competition on both intramural and intercollegiate levels.

COLLEGE BOWL is played between two

teams of four players each. The score points for correct answers to questions asked by a moderator. The paced game tests students' knowledge of a wide range of subjects, including many other undergraduate studies and events. The questions, which are searched by the COLLEGE BOWL authenticator by The Reader's Digest, are closely guarded and known only to a handful of officially designated people to the game.

COLLEGE BOWL can be played on an intramural basis, with teams competing within a given school, or on an intercollegiate level, with teams vying "conference" with schools in their areas or other parts of the country. At the end of the official school year, the teams play against each other to determine the intercollegiate champion.

Complete information about setting up COLLEGE BOWL competition on campus is contained in the official COLLEGE BOWL Guidebook, which is available along with registration forms from The College Bowl Company, Dept. RD, Suite 4517, 60 42nd Street, New York, N. Y. 10017.

ASME student papers

The ASME Student Papers Contest was held on Thursday, March 10th, here at WPI. The five contestants who participated and the results are as follows:

- Bradford Prouty (first place) — "Electric Hybrid Utility Van."
- John Carvie (second place) — "Stimulating a Loca in Light Water Nuclear Reactors."
- Glenn Guglietta (third place) — "Breathing Performance of Air Flow Regulators."
- Stephen Suba — "Windmills."
- Torid Ahmad — "Torque Wrench."

Brad Prouty will represent WPI at the Region I ASME STUDENT PAPER CONTEST at the University of Connecticut on April 23rd.

NOW meeting

The Worcester Area Chapter of the National Organization for Women (NOW) will hold its monthly meeting on Monday, April 18 at the Hogan Campus Center, Room 314, at Holy Cross College. The meeting will begin at 8 p.m.

The evening's speaker will be Anna Kane, S.S.J., Assistant Chaplain of Holy Cross College and a member of the

Governor's Commission on the Status of Women. The topic of discussion is "Stopping Violence Against Women." Included in the discussion will be battered women and rape victims.

Coffee will be served from 7:30 to 8:00 p.m. Chapter President June Coolidge will preside. For further information, contact Ms. Filsinger at 844-9089. The meeting is open to the public.

STUDENT GOVERNMENT:

There will be a meeting of the Executive Council of the Student Government on Thursday, April 14th at 7:00 p.m. in the Conference Room of the Student Affairs Office.

Urban affairs program

WORCESTER, Mass. — Clark University and Dynamy, a Worcester-based organization specializing in urban field experience education, will offer a new program for earning college credit through internships. Open to college students and recent secondary school graduates, the program will begin next fall and run through the academic year.

Internships in the 1977-78 Dynamy-Clark Urban Institute will be integrated with coursework in urban affairs, communications, and related subjects. Successful completion of the nine-month program will earn a student 32 semester hours of college credit. Up to 40 students will be accepted in the program.

Dynamy, located at 57 Cedar Street in Worcester, is committed to fostering learning and growth through first-hand involvement in the working world. Clark's co-sponsorship of the program will be administered by the College of Professional and Continuing Education (COPACE) in collaboration with the School of Geography.

With an interdisciplinary focus on urban affairs, academic courses of the Urban Institute will be presented in seminars and workshops integrated with field experience. Field research projects will involve teams of students acting as consultants to agencies and businesses.

The institute is a unique program for recent high school graduates who seek an alternative way of beginning their college

education, and for college students who want a "different year — i.e., the domestic equivalent of a year abroad," says Richard L. Hopkins, dean of COPACE.

"Another unique characteristic of the Urban Institute is its joint sponsorship by a major university and a specialized educational institution dedicated to the development and supervision of internships in the practical world of work," adds Dean Hopkins. "By combining these resources with the educational possibilities of a large metropolitan area, the Urban Institute is able to offer a rich program of opportunity for intellectual and personal growth. Worcester is a fascinating community in which to study and live — it's large enough to possess all the problems and possibilities of urban America, yet small enough to be comprehensible and workable."

Among the more than 150 businesses, agencies, organizations, and individuals that have agreed to serve as internship sponsors is the City of Worcester.

Dynamy and Clark also collaborate in offering a Summer Urban Institute, a seven-week internship-based urban studies program carrying 12 semester hours of college credit. Dates for the summer program this year will be June 27 through August 12.

Further information about the academic year or the summer program may be obtained from S. Paul Reville, Director, Dynamy-Clark Urban Institute, 57 Cedar Street, Worcester, MA 01609.

Mass PIRG vrs. health board

Wake up this morning feeling lousy — headache, nausea, indigestion? Could be the flu or could be botulism salmonella or ptomaine — food poisoning from lunch in the corner deli.

Article 10 of the state Sanitary Code sets the hygiene standards for restaurants and puts the responsibility for policing restaurant compliance with the code on local health departments. However, the law does not mandate a uniform statewide inspection system, therefore, each city or town has its own method for inspecting restaurant sanitation. Some health departments rotate inspectors, others do not; some departments use a standard inspection checklist and scoring system,

others use handwritten narrative reports; some departments provide for making sanitation violations public, others do not.

The inspection problem is two problems; making sure thorough inspections take place and making sure the evidence discovered is made public and is acted upon. The first step in evaluating a local restaurant inspection system is to collect data on the present inspection program to determine whether it is carrying out its basic function and the place to begin is an interview with the head of the inspection division. Mass PIRG has a project designed both to collect this data and to teach basic interviewing skills. Want to get involved? Contact: Peter Rider at the IQP Center on Thursday, April 14 between 10:30 and 1:30.

EE profs receive grant

WORCESTER, Mass. — Worcester Science Foundation has given two Worcester Polytechnic Institute electrical engineering professors a grant of \$9,150 to supervise six students this summer in scientific research on ten to 12 week summer projects. Students will receive stipends of up to \$900 each.

The students will be part of 1500 college students to participate at 148 colleges and universities in 45 states and Puerto Rico. NSF grants will total \$2.5 million to support 181 undergraduate research projects. The primary objective is to provide promising

students with first hand experience in the research process. In expanding the students' knowledge it will assist them to develop a degree of creativity essential to scientific inquiry, NSF says.

At WPI, Dr. H. Peter D. Lanyon will supervise students working with Sprague Electric Co., Worcester, as the industrial sponsor, on "integrated circuit development and characterization." Dr. Alexander E. Emanuel will supervise students working with High Voltage Power Corp., Westboro, as industrial sponsor, on "computer simulation of high voltage shunt reactors."

Local teachers receive award

Two area teachers have received an award of \$250 from the National Science Teachers Association for innovations in elementary and secondary school teaching, following a conference in Cincinnati.

They are Dr. Ladislav H. Berka of 14 Walbridge Road, Paxton, associate professor in chemistry at Worcester Polytechnic Institute, and Mrs. Judith Martin of 9 Sun Valley Dr., Worcester, a science and math resource teacher at the

Paxton Center School. Their combined entry described the use of future scientists and engineers in the teaching of elementary school science.

Dr. Berka has been an advisor to WPI students working on projects in which they served as science teacher aides in the Paxton school system.

Mrs. Martin also is an adjunct instructor at WPI where she also is a project co-advisor.

Worcester Polytechnic Institute

Memorandum

To: Faculty, Staff, Students and Friends
From: Harriet Kay

IT'S TIME TO PLAN INTERSESSION 1978!

Please help us decide what courses to offer in 1978. Did you like the course you gave (or took part in) this year? Would you like to do it again? Or would you rather try something new? The choice is up to you. NOTE: If you would like to do a course but are looking for help, let me know and I will try to get you together with someone willing to give you a hand.

Please fill out this form and return it by Friday, April 22 so planning can begin for Intercession '88.

RETURN TO HARRIET KAY BY FRIDAY, APRIL 22

Name _____ Department _____

I would like to offer the following course(s) during Intercession 78:

Title	Would Coordinate	Would Help With

PLEASE NOTE: NEW EXTENSION NUMBER IS 581 or 592.

A number of software development MQP projects are available with GENRAD of Concord, MA. GENRAD is one of the world's largest producers of digital test equipment and has an extensive Computer Science Department. Project areas include:

1. Text Editor Development and Improvements
2. Word Processing
3. Higher Level Language Debugging Aids
4. Development of Utility Programs
5. System Back-Up Programs — Incremental Disk to Tape Utility
6. Microprocessor Cross — Assemblers for the PDP-11

Please see Prof. Sondak if you are interested in any of these project opportunities.

Competency Exam Results for March, 1977

Department	AD	AC	NR	Total
Chemical Engineering	1	9	6	16
Chemistry	0	1	1	2
Civil Engineering	3	13	5	21
Computer Science	2	8	2	12
Electrical Engineering	3	14	3	20
Humanities	0	1	0	1
Interdisciplinary				0
Life Sciences	0	0	1	1
Mathematics	2	5	4	11
Management Engineering	1	2	0	3
Mechanical Engineering	3	26	10	39
Physics	2	2	1	5
	17	81	33	131
	13%	62%	25%	

75%

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Committee for Protection of Human Subjects meets on

TUESDAY, APRIL 12th.

All projects and research for D term should please be ready for review. See Dr. Beschle or Hoskins or a committee member if you have any questions.

INTERSESSION REGISTRATION RESULTS

	1972	1973	1974	1974	1976	1977
# of courses offered	136	180	152	125	131	125
Total registration (courses x students)	3285	4276	3659	2919	2927	2904
Earned credit	1375 (42%)	842 (20%)	552 (15%)	435 (15%)	497 (17%)	394 (13%)
Earned attended	1548 (47%)	2336 (55%)	1998 (55%)	1550 (53%)	1559 (53%)	1585 (55%)
Earned absent	362 (11%)	1098 (25%)	1109 (30%)	934 (32%)	871 (30%)	925 (32%)
Total # students	1311	1442	1090	1144	1136	1127
Total # students (as of C term)	742	752	532	582	552	512
<u>Outside Student Participation</u>						
	168	407	311	177	186	264
<u>WPI Attendance By Class</u>						
Seniors					522	542
Juniors					572	502
Sophomores					532	502
Freshmen					592	532

New regulations

WPI housing policy 1977-78

This proposal applies to A Term 1977 only. Anyone entering after A Term will be housed on a space available basis, preference will be given to freshmen. Only students registered at WPI will be allowed to reside in WPI's residence centers. All students who entered C & D terms, freshmen and transfers, to secure on-campus housing for next year must enter the lottery.

1. Freshmen

All incoming freshmen who wish to reside in WPI residence halls are guaranteed housing only if they indicate their desire for housing by returning by June 1st the Housing Preference Sheet they receive in early May.

2. Women

Guaranteed housing for upperclass women will be phased out starting with the class entering in the fall of 1977. (After that, school housing will be reserved for women in proportion to their numbers in the student body.) Although we are presently guaranteeing women housing, each woman who desires on-campus housing must enter the lottery in order to secure same. Women will be housed in (either) Daniels, Ellsworth & Fuller, Riley or Stoddard. They will be provided two half floors, in Daniels (2nd and 3rd floors), one floor in Stoddard B (3rd floor), and one full floor (2nd floor) and two co-ed floors in Riley (3rd and 4th floors).

3. Men

Upperclass men will be housed in Daniels, Ellsworth & Fuller, Morgan, Riley, Stoddard, 28 Trowbridge Road, 25 Trowbridge Road, and 16 Elbridge Street. The second floor of Stoddard B will be set aside for upperclassmen if there is enough interest in an all upperclass floor.

4. Spaces Blocked-Out

A certain number of spaces will be "blocked-out" for both upperclass and freshmen men in Daniels, Morgan, Riley, Stoddard, 25 and 28 Trowbridge, and 16 Elbridge Street. A certain number of spaces will be "blocked-out" for both upperclass and freshmen women in Daniels, Riley, and Stoddard. The exact number shall be determined by the Office of Student Affairs (OSA) because of the difficulty in determining the size of the incoming freshman class.

5. Lotteries

There will be three draws to be held in succession, on April 21, 1977 in The Wedge. There will be a \$10.00 entry fee for the lottery which will be credited to the student's A Term bill. The first will be a draw for Ellsworth and Fuller apartment assignments at 6:30 p.m. The second draw for women's housing will be at 7:30 p.m. The third draw for men's housing will begin at 8:15 p.m.

6. Women's Draw

All candidates for lottery numbers in the women's draw will enter individually. You should state your first three residence hall preferences on the card and your roommate choice, if any. Cards drawing the lowest priority number (for example, 1, 2, 3) are the best priority numbers and will be assigned room choices first. If your first choice has been filled we will give you your second choice and so on until all women are housed. In any group of potential roommates, the group member with the best priority number will be the priority number for the whole group. For example, if the woman with number 1 preference card and the woman with number 50 mutually indicate each other as roommates, their common preference card will be number 1. Singles will be assigned by priority numbers.

7. Men's Draw

All candidates for lottery numbers in the men's draw will enter individually. You should state your first four dorm choices. Rooms and roommates will be assigned the same way as in the women's draw. Since only a portion of the men will be assigned rooms, a waiting list according to priority number, will be maintained by the OSA. As rooms become available, students will be notified by the OSA of vacancies. Students on the waiting list who secure off-campus housing should notify the OSA as soon as possible.

8. Ellsworth and Fuller

All groups entering the draw for Ellsworth and Fuller must staple their individually completed cards together. Individuals who wish to enter as a single to be put with a group for an apartment may do so; however, these individuals will have last priority in the draw. If there are fewer groups than apartments available for each classification, the draw will simply determine apartment preference.

The least number of students allowed to enter the draw to command an apartment will be six students for a seven-man apartment, four students for a five-man apartment, three for a three-man apartment and two for a two-man apartment.

Full seven and five-man lottery groups have priority over six and four-man lottery groups respectively. Seven-man apartments will be drawn first, followed by five-man, six-man, four-man, three-man, two-man apartments.

Anyone not receiving an apartment may enter as a single in the women's or men's residence hall draw if indicated on their lottery card. When the general draw has been completed, the results will be available. Students who have high priority numbers as a result of the general draw, and are interested in a single space in an apartment or an entire apartment, if available, with appropriate number of

students should so indicate to the OSA by April 26th. Any available apartments will be filled on a first come, first serve basis. Available apartments will be announced on April 22nd.

Ellsworth and Fuller Apartments

The development of the Ellsworth and Fuller policies governing maximum occupancy are a result of the increased housing demand, the continual difficulties in maintaining occupancy levels, and of past abuses of the lottery system by students who have used "dummy" registrants or non-returning students as a means of securing, for example, a seven person apartment for only four persons.

Since the demand for on-campus housing is great, particularly at the end of this term and the end of next B term, students should have little difficulty in securing additional apartment-mates should the need arise. As indicated in the following policies, if the OSA is notified of intended vacancies by the specified dates, students should be able to be selective in their own search for additional persons to live with. All students who are looking for on-campus apartment living will also be able to list their interest with the OSA.

Lottery Draw and Apartment Selection

The Ellsworth and Fuller lottery draw and apartment selection will be held on April 21st at 6:30 p.m. in the Wedge. A representative and/or apartment group should be present to indicate apartment selection. If a group or representative from an apartment is not present, random apartment assignment will be made.

APARTMENT CONFIRMATION DEPOSIT: All apartment residents in order to hold their apartments will be required to make a \$50.00 per person Apartment Confirmation Deposit (ACD) at the signing of their individual contracts. Contracts and Deposits for the Ellsworth and Fuller Apartments will be made on May 12 and 13 from 1:00-5:00 p.m. at the ticket window of the Office of Student Affairs in Daniels Hall.

REFUNDS: The \$50.00 ACD will be credited toward the A & B term rent, but will be refunded to students not returning to WPI for A & B terms, if the Office of Student Affairs is notified in writing by August 1st; otherwise it is non-refundable. Refunds will be made after the beginning of A term. In special cases exceptions will be considered by the OSA. Should a vacancy occur, the OSA will notify the apartment spokesman of the vacancy.

In the event that any member of an apartment does not sign his contract on May 12 or 13 and make the \$50.00 ACD, the remaining members of the apartment have the following options:

Is it cheaper?

E/F cost of living

Is living in an Ellsworth-Fuller apartment really less expensive than living in any other campus housing? To answer this question the Internal Residence Halls Committee conducted a survey during the month of February. The following are the figures which were obtained. These figures were based on full occupancy of the apartments with 2, 3, 5, and 7 persons per apartment.

Food Cost
The average cost per week per person was approximately \$16.00.
2-Person \$19.50
3-Person \$15.00
5-Person \$14.50
7-Person \$17.50

A person thinking of moving into E-F should plan to spend about \$14.00 — \$16.00 per week on food.

Electricity Cost
Average cost per month per person was approximately \$8.50.
2-Person \$10.00
3-Person \$8.00
5-Person \$7.30
7-Person \$7.30

A person thinking of moving into E-F should plan to spend about \$7.50 — \$8.50

1. If the apartment was originally a 7 person, and drops to 6 or 4 respectively apartment can notify the OSA in writing by May 20th and indicate they will stay at the lower number and have their rates increased to the 6 or 4 man rates.

2. Apartments can fill their vacancies by May 20th. A signed contract and ACD must be made by May 20th in order to secure apartment.

3. By May 20th, the members of apartment can collectively insure apartment by payment of an additional \$50.00 ACD which would be refundable to them by WPI if another apartment member is found and pays the \$50.00 ACD to OSA. If another apartment member is found by August 1st, a random assignment of an apartment mate will be made by OSA.

4. The OSA will fill the vacancy randomly with any student who wants apartment accommodations after May 20th if none of the above options are indicated in writing to the OSA by May 20th. Designated apartment spokesman will be notified of the addition.

Should the situation arise that an intended apartment mate does not make ACD and sign his contract on May 12 or 13, the apartment should list the vacancy with the OSA. Students who would like to live in an apartment should also indicate their interest with the OSA.

Withdrawals

Students who live in the Ellsworth & Fuller Apartments and are planning to withdraw from WPI at the end of A term should notify the OSA in writing 4 weeks prior to their departure. Students who will be withdrawing at the end of term should notify the OSA in writing by December 1st, if possible or as soon as possible following December 1st.

The vacancy will then be listed in the OSA. Since many students are looking for housing for "C" term during December students should be able to fill the vacancy by December 23rd. Transfer students as well as current students, who desire campus housing, will be able to list their names with the OSA. Apartments looking for new apartment mates should check the list and make the necessary contacts.

Should apartments not fill their vacancies by December 23rd, the OSA will assign new occupants to maintain the normal occupancy level. If an apartment chooses to change from 7 to 6 or 5 to 4, they must notify the OSA in writing, and rates will be increased for C & D term according to rates established by the Business Office. Should an apartment or the OSA be unable to fill the vacancy the rates will remain the same. This will be unlikely, however, due to the demand for housing for C term.

Any student who has a signed contract for Ellsworth or Fuller and returns to WPI and does not live in the apartment is subject to payment of his A and B term rent.

per month on electricity. (E-F Apartments have electric heat.)

Telephone Costs
A \$50.00 deposit is required by the Phone Company. There is a \$32.50 installation charge. The monthly rate is about \$10 for one phone.

Rates per person for Ellsworth-Fuller academic year ('76-'77)
2-Person \$990.00
3-Person \$940.00
5-Person \$830.00
7-Person \$770.00

Approximate Range of Total Costs per Person
2-Person \$1605-\$1690
3-Person \$1530-\$1615
5-Person \$1400-\$1490
7-Person \$1340-\$1420

Present on Campus Rates for a Double Room with Board ('76-'77)
With 5-Day Meal Plan \$1618
With 7-Day Meal Plan \$1692

If anyone would like more information about the costs of living in Ellsworth-Fuller or would like to see the results of the survey, please contact Cindi Bouvier, WPI Box 968.

Number of Ellsworth & Fuller Apartments	
7 person — 12 apts.	
5 person — 17 apts.	
3 person — 5 apts.	
2 person — 6 apts.	

Seven Day Plan Mass. Meal Tax 8 per cent	\$
TOTAL	\$17
Five Day Plan Mass. Meal Tax 8 per cent	\$
TOTAL	\$

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Women's Sizes 4-11

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INSTRUCTIONS

ALL LOTTERY ENTRANTS MUST TAKE THE ATTACHED CARD TO THE ACCOUNTING OFFICE AND PAY THEIR \$10 LOTTERY FEE ON OR BEFORE 4:00 PM APRIL 19th. The \$10 deposit is credited to your bill for next year. ALL LOTTERY CARDS MUST BE STAMPED PAID BY THE ACCOUNTING OFFICE AND TURNED IN TO THE OFFICE OF STUDENT AFFAIRS BY 5:00 PM APRIL 19th. Accounting Office hours are 9-12 and 1-4 M-F. **NO CARDS WILL BE ACCEPTED AFTER 5:00 PM ON APRIL 19th.**

ELLSWORTH/FULLER DRAW: All cards for apartments in E/F must be completed and stapled together. All roommates must be listed on each of the entrants cards. Should entrants lose in the E/F draw and desire to enter the general draw, you must indicate your alternative choices by using a #1 in front of your first choice and a #2 in front of the second etc. You must indicate your roommate preference by circling their name on your card. (Please note \$50 Apartment Confirmation Deposit required per person at signing of E/F contracts May 12-13th).

GENERAL DRAW: Please indicate by using the #1 in front of your first choice. If you will accept no other housing but your first choice, do not indicate any additional choices on the card. Should other housing choices be acceptable to you, please indicate your 2nd choice by using a #2, etc. Should you have roommate preference, each entrant must indicate the other(s) on his card.

ADDITIONAL INFORMATION IS PROVIDED IN THE HOUSING POLICY GUIDELINES. IT IS ASSUMED THAT YOU HAVE READ ALL THE INFORMATION AND ARE FULLY AWARE OF THE POLICIES AND PROCEDURES.

- April 19th All lottery cards turned in to OSA by 5PM.
- April 21st 6:30 - Wedge - E/F Lottery & E/F Apartment Selection
7:30 - Wedge - Women's Draw
8:15 - Wedge - Men's Draw
- April 28th 6:30 - Wedge - Women's room selection
7:30 - Wedge - Men's room selection
- May 12 & 13 1-5 PM - Ticket Window Student Affairs - E/F pay \$50 ACD and sign contract.
- May 16 - 18 1-5 PM - Ticket Window Student Affairs - general draw sign contract.

4/77

4/77

WPI HOUSING LOTTERY APPLICATION 1977-78

NAME _____

SUMMER ADDRESS _____

S.S. # _____ P.O. BOX _____ M or F _____

ELLSWORTH/FULLER DRAW:

- _____ 7-person (@\$840) _____ 4-person (@\$1000)
- _____ 6-person (@\$940) _____ 3-person (@\$1010)
- _____ 5-person (@\$900) _____ 2-person (@\$1075)

Apartment preference #, if any _____
E/F entrants fill-out general draw only if you wish to enter general draw (see attached guidelines).

GENERAL DRAW: Indicate choice by using #1 in front of your first choice and #2 or #3 in front of 2nd & 3rd choices if you have any.

STODDARD:

- _____ Single (@\$50)
- _____ Double (@\$770)

_____ Building Preference

WILSON:

- _____ Single (@\$850)
- _____ Double (@\$770)
- _____ Triple (@\$610)
- _____ Quad (@\$610)

_____ Women's Floor
_____ Coed Floor

DANIELS:

- _____ Double (@\$770)

_____ Male Floor
_____ Coed Floor

MORGAN:

- _____ Single (@\$900)
- _____ Double (@\$770)

LIST ROOMMATES FOR ALL HOUSING CHOICES:

- 28 Trowbridge:
_____ Double (@\$770)

- 25 Trowbridge:
_____ Double (@\$770)

- 16 Elbridge:
_____ Single (@\$900)
_____ Double (@\$770)

E/F entrants indicate by * apartment spokesman.

Signature _____

Signature indicates that you have read all guidelines and are familiar with all housing regulations published.

HOUSING LOTTERY

1977-78

Date	Time	Place	Activity
April 11-19th		Office of Student Affairs/R.A.'s	Pick-up Lottery Cards
April 12-19th	9:00 - Noon 1:00 - 4:00 PM daily	Accounting Office	Pay \$10 Lottery Fee - Have Lottery Card Stamped - Card turned in Office of Student Affairs

ALL LOTTERY CARDS MUST BE TURNED IN BY 5:00 PM ON APRIL 19th AT THE OFFICE OF STUDENT AFFAIRS IN DANIELS HALL

NO LOTTERY CARDS WILL BE ACCEPTED AFTER 5:00 PM ON THE 19th

April 21st	6:30 PM	Wedge	Ellsworth & Fuller Draw and apartment selection
	7:30 PM	Wedge	Women's Draw
	8:15 PM	Wedge	Men's Draw
April 28th	6:30 PM	Wedge	Women's room selection
	7:30 PM	Wedge	Men's room selection
May 12-13th	1:00 - 5:00 PM	Ticket Window - Office of Student Affairs	Ellsworth & Fuller - Pay \$50 Apartment Confirmation Deposit and sign contracts
May 16-18th	1:00 - 5:00 PM	Ticket Window - Office of Student Affairs	Men and women sign individual contracts

All students must sign their contracts for residence halls prior to May 19th. Failure to sign contract will automatically result in room being given to the next person on the waiting list.

All Ellsworth & Fuller apartment residents must sign their contracts on May 12 & 13 and pay their \$50 Apartment Confirmation Deposit. All Ellsworth & Fuller apartment residents must be familiar with guidelines established by the Internal Residence Hall Committee.

TO: FACULTY, ADMINISTRATION, AND STUDENTS
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April 14, 1977

An opportunity for recent plan and non-plan graduates to share their reaction with you as they entered the world of work or graduate study.

The following schedule is planned:

- 11:00 a.m.-12:00 Noon — Panel of graduates and discussion with undergraduate students
- 1:00 p.m.-2:00 p.m. — Open House at CERD
- 2:00 p.m.-3:00 p.m. — Meeting with Committee on Academic Advising
- 3:00 p.m.-4:00 p.m. — Graduates visit departments
- 4:00 p.m.-5:00 p.m. — Panel of graduates and discussion with Faculty members

All events will take place at CERD (Washburn 300) except for visit to department.

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May do DNA work

Is Life Science changing?

by John Walsh

The March 1 issue of *Newspeak* carried a story entitled "Life Science Changing," which stated that some students were unhappy over being pushed into areas of the field in which they had no interest. Since that time, several people have expressed concern that the story was inaccurate. William D. Hoby, Associate Professor of Chemistry, charged, in a letter to the editor, that the story was, "unfair to both the faculty in Life Science and to the departments program." After further investigation into the matter, however, it appears that most readers have either misinterpreted or over reacted to some of the quotes used in the story.

According to Professor James F. Danielli, Head of the Life Science Department, the new emphasis on synthetic biology and biomedical engineering came about as a result of conditions in the present job market. "Of all fields that are likely to develop and provide jobs for the next twenty years, synthetic biology is likely to be the most promising and most exciting," said Danielli, who added that no students were being "pushed" into areas other than those of their own choice. Professor Richard Beschle said, however, that "it's (pushing people towards synthetic or biomed) defensible. People will probably benefit if we try not to be all things at once."

"At the moment," according to Professor Ronald Cheetham, "there is a slight shift in emphasis." "Any Life Science major who doesn't want synthetic biology really doesn't belong here," said Professor Beschle. On the other hand, Dr. Roy Widdus said, "I don't think they should be the only options given to students. We should allow the students a certain amount of academic freedom."

As the previous story stated, there is currently a shortage of teachers in the Life Science area. Speaking of a backlog of project work, Professor Theodore Crusberg said, "Until the school finds two or three more positions, students will have little choice." Dean Boltz, who said he was "ambitious to develop a first rate department," suggested that "prospects are pretty good" for the addition of another faculty member, something which should

"go a long way" towards solving the department's dilemma. Many departments besides Life Science are suffering from a manpower shortage, due, in part, to financial conditions which have put a no net increase rule into effect. In other words, only those positions which are vacated may currently be filled.

In keeping with the current trend towards synthetic biology, the department is discussing the possibility of conducting experiments in recombinant DNA. Such experiments, which have triggered recent public protests in Cambridge and Shrewsbury, require special facilities. These labs, which would consist of P2 and P3 containment facilities, may be constructed on the now vacant floor of Salisbury Labs. According to Dr. Widdus, the department is "in the process of drawing up plans, at the moment, to get the conversions done." Money, as always, will be a factor in determining if and when the special equipment will be installed. The estimated \$250,000.00 price tag would have to be picked up by an outside grant.

A P2 facility, which the Federal Government considers to be relatively low risk, would meet all requirements for the departments projected work, but there is a strong feeling among the researchers that it would be wiser to build a P3 facility, thereby providing extra security. There is, in fact, already a P2 facility on campus, although, as Dr. Widdus explained, "It isn't operating as a P2 at the moment, but all we would have to do to meet the P2 guidelines would be change the locks."

There is some indecision as to how the department should proceed with the DNA experiments. According to Professor Crusberg, "The department has a hunting license" from Dean Boltz, but Boltz denied any knowledge of the proposed work, saying, "If they're planning anything like that, I don't know anything about it." Apparently, Professor Thomas Shannon of the Humanities Department represented WPI at a recent meeting of the national Institute of Health, the federal agency which oversees regulations governing DNA experimentation. Professors Cheetham said that the department will go forward with this work while awaiting further developments.

Part one: the DNA dilemma

Recombinant DNA — yma

Editor's Note: The current controversy over whether or not synthetic biologists should be conducting recombinant DNA experiments, along with indications that WPI may possibly become involved with such work, has prompted us to launch a four part series on this subject. This week, we present an explanation, from a layman's view, of what recombinant DNA experiments are, as well as a look at WPI's future plans for such work. In future installments, we will review the recent controversy over recombinant DNA which took place in Cambridge, look at similar proceedings which are taking place now at the Worcester Foundation for Experimental Biology in Shrewsbury, and present the opinions of the WPI at large on the topic of science vs. morality.

T.A.D.

by Tom Daniels

"The main quest of a biologist is to understand how an egg can transform itself into a human being. To do this, we must study the basis of this phenomenon — the nucleic acid DNA."

Most of you have probably heard of the recent controversy over recombinant DNA experiments, but, due to the extremely technical nature of most of the explanations, you most likely don't know exactly what the trouble is. The local media has been of little help to those who are trying to get an accurate picture of the situation. One magazine began its article on the subject by linking recombinant DNA with the mythical Dr. Frankenstein and his monster. After reading this article, which, you should keep in mind, is being written by a freshman who has a hard time understanding calculus, you should, at least, be able to label such reporting as pure sensationalism.

"The main quest of the biologist," said one eminent doctor at a recent town meeting in Shrewsbury, "is to understand how an egg can transform itself into a human being. To do this, we must study the basis of this phenomenon — the nucleic acid DNA."

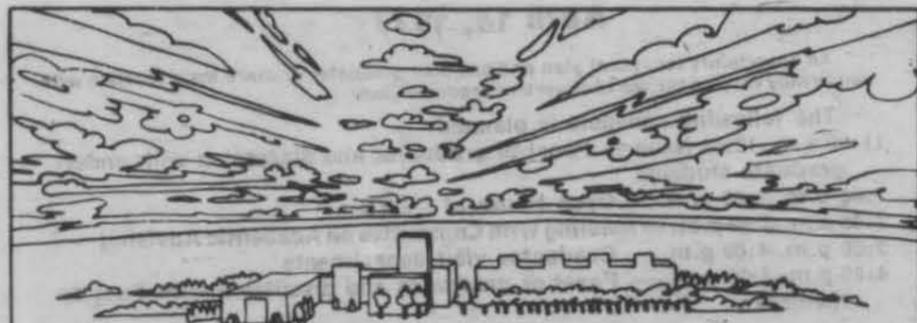
To study the DNA molecule, the researcher must, of course, have at his disposal a sufficient number of the genes to work with. When we have a large number of genes," the doctor continued, "our studies may be carried out in a more realistic environment. Thus, the purpose of the recombinant DNA experiments is to produce a specific gene in large enough quantities to carry out realistic research." An oversimplification, to be sure, of a complex issue, but this should put to rest the picture that many people have to some mutant life form crawling out of a test tube. "Genetic Engineering," said Dr. Fredrico Walsh of the Worcester Foundation for Experimental Biology, "is complete rubbish. We do not now possess even the slightest fraction of the knowledge that would have to be utilized for such a purpose."

There are four distinct steps that are used in recombinant DNA work: Breaking apart the DNA, joining together segments of two different DNA molecules, finding an organism that can reproduce the foreign DNA molecules, and, finally, introducing the new DNA molecule into a functional bacterial cell to study the results.

In 1967, enzymes were discovered that could effectively repair breaks in DNA, and under certain conditions, could join together the loose ends of strands of DNA that came from different organisms. Coupled with the previously known methods whereby DNA could be "sliced" into desired sections, subsequent research produced various experimental methods by which specific strands of DNA could be linked together. Next, methods were discovered which rendered the E. coli bacteria able to accept the reconstructed molecules of DNA. This step produces the DNA in quantity, since the E. coli goes about reproducing the new genes in exact duplicate.

Even though this extremely simple process above is relatively new, the investigative possibilities of the recombinant DNA research are already being pursued in many labs throughout the country. Gene manipulation opens the possibility of constructing bacteria which could be used to produce substances as hormones and antibiotics. It has been clear from the beginning that such experimentation that the construction of these new genes could be biologically hazardous. Some experiments, such as producing new toxins or antibiotic resistant organisms, and the introduction of tumor viruses as cancer into new hosts have been forbidden by both social conscience and federal regulation. Experiments which are proceeding utilize accepted levels of containment. Experiments proposed by the Worcester Foundation for Experimental Biology discussed by faculty members at

come under the P2, or low, level of containment. Such facilities, as discussed at the end of this article, offer no protection to both the researcher and the environment. Both the W.F.E.B. and WPI would, however, conduct all experiments of the P2 variety in P3 facilities, which have the added containment as well as surveillance to a leery public, who in general are afraid that some new germ will escape from the researchers lab. Other steps, such



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man's guide

along with the groundwork for a biohazards committee to oversee the work. The NIH can veto any proposal that does not meet their regulations. Since much of the money that supports the research comes from NIH grants, this, in effect, pulls the financial rug out from under the feet of those researchers who don't meet the standards.

Since many of the residents in attendance at the recent meeting in Shrewsbury expressed an interest in learning the exact equipment necessary to achieve P2 and P3 status, we conclude this introductory article with a detailed description from the *Federal Register* of July 7, 1976, of both containment facilities:

P2 Level (Low). A laboratory suitable for experiments involving recombinant DNA molecules requiring physical containment at the P2 level is similar in construction and design to the P1 laboratory. The P2 laboratory must have access to an autoclave within the building; it may have a Biological Safety Cabinet. Work which does not produce a considerable aerosol is conducted on the open bench. Although this laboratory is not separated from the general traffic patterns of the building, access to the laboratory is limited when experiments requiring P2 level physical containment are being conducted. Experiments of lesser biohazard potential can be carried out concurrently in carefully demarcated areas of the same laboratory.

The P2 laboratory is commonly used for experiments involving microorganisms of low biohazard such as those which have been classified by the Center for Disease Control as Class 2 agents (5).

The following practices shall apply to all experiments requiring P2 level physical containment: (i) Laboratory doors shall be kept closed while experiments are in progress. (ii) Only persons who have been advised of the potential biohazard shall enter the laboratory. (iii) Children under 12

wash their hands frequently and when they leave the laboratory. (x) An insect and rodent control program shall be provided. (xi) The use of laboratory gowns, coats, or uniforms is required. Such clothing shall not be worn to the lunch room or outside the building. (xii) Animals not related to the experiment shall not be permitted in the laboratory. (xiii) Biological Safety Cabinets and/or other physical containment equipment shall be used to minimize the hazard of aerosolization of recombinant DNA materials from operations or devices that produce a considerable aerosol (e.g., blender, lyophilizer, sonicator, shaking machine, etc.). (xiv) Use of the hypodermic needle and syringe shall be avoided when alternate methods are available.

P3 Level (Moderate). A laboratory suitable for experiments involving recombinant DNA molecules requiring physical containment at the P3 level has special engineering design features and physical containment equipment. The laboratory is separated from areas which are open to the general public. Separation is generally achieved by controlled access corridors, air locks, locker rooms or other double-doored facilities which are not available for use by the general public. Access to the laboratory is controlled. Biological Safety Cabinets are available within the controlled laboratory area. An autoclave shall be available within the building and preferably within the controlled laboratory area. The surfaces of walls, floors, bench tops, and ceilings are easily cleanable to facilitate housekeeping and space decontamination.

Directional air flow is provided within the controlled laboratory area. The ventilation system is balanced to provide for an inflow of supply air from the access corridor into the laboratory. The general exhaust air from the laboratory is discharged outdoors and so dispersed to the atmosphere as to prevent re-entry into the building. No recirculation of the exhaust air shall be permitted without appropriate treatment.

No work in open vessels involving hosts or vectors containing recombinant DNA molecules requiring P3 physical containment is conducted on the open bench. All such procedures are confined to Biological Safety Cabinets.

The following practices shall apply to all experiments requiring P3 level physical containment: (i) The universal biohazard sign is required on all laboratory access doors. Only persons whose entry into the laboratory is required on the basis of program or support needs shall be authorized to enter. Such persons shall be advised of the potential biohazards before entry and they shall comply with posted entry and exit procedures. Children under 12 years of age shall not enter the laboratory. (ii) Laboratory doors shall be kept closed while experiments are in progress. (iii) Biological Safety Cabinets and other physical containment equipment shall be used for all procedures that produce aerosols of recombinant DNA materials (e.g., pipetting, plating, flaming, transfer operations, grinding, blending, drying, sonicating, shaking, etc.). (iv) The work surfaces of Biological Safety Cabinets and other equipment shall be decontaminated following the completion of the experimental activity contained within them. (v) Liquid wastes containing recombinant DNA materials shall be decontaminated before disposal. Solid wastes contaminated with recombinant DNA materials shall be decontaminated or packaged in a durable leak-proof container before removal from the laboratory. Packaged material shall be sterilized before disposal. Contaminated materials that are to be processed and reused (i.e., glassware) shall be sterilized in the controlled laboratory area or placed in a durable leak-proof container before removal from the controlled laboratory area. This container shall be sterilized before the materials are processed. (vi) Pipetting by mouth is prohibited; mechanical pipetting devices shall be used. (vii) Eating, drinking, smoking, and storage of food are not permitted in the laboratory. (ix) Facilities to wash hands shall be available within the laboratory. Persons shall wash hands after experiments involving recombinant DNA materials and before leaving the laboratory. (x) In insect and rodent control program shall be provided. (xi) Laboratory clothing that protects street clothing (i.e., long



Safety hood in P2 facility.

sleeve solid-front or wrap-around gowns, no button or slipover jackets, etc.) shall be worn in the laboratory. FRONT-BUTTON LABORATORY COATS ARE UNSUITABLE. Gloves shall be worn when handling recombinant DNA materials. Provisions for laboratory shoes is recommended. Laboratory clothing shall not be worn outside the laboratory and shall be decontaminated before it is sent to

biohazard potential are to be conducted in the same laboratory concurrently with experiments requiring P3 level physical containment they shall be conducted only in accordance with all P3 level requirements. (xvii) Experiments requiring P3 level physical containment can be conducted in laboratories where the directional air flow and general exhaust air conditions described above cannot be

"Genetic Engineering is complete rubbish. We do not now possess even the slightest fraction of the knowledge that would have to be utilized for such a purpose."

— a leading biological researcher

the laundry. (xii) Raincoats, overcoats, topcoats, coats, hats, caps, and such street outerwear shall not be kept in the laboratory.

(xiii) Animals and plants not related to the experiment shall not be permitted in the laboratory. (xiv) Vacuum lines shall be protected by filters and liquid traps. (xv) Use of the hypodermic needle and syringe shall be avoided when alternate methods are available. (xvi) If experiments of lesser

achieved, provided that this work is conducted in accordance with all other requirements listed and is contained in a Biological Safety Cabinet with attached glove ports and gloves. All materials before removal from the Biological Safety Cabinet shall be sterilized or transferred to a non-breakable, sealed container, which is then removed from the cabinet through a chemical decontamination tank, autoclave, ultraviolet air lock, or after the entire cabinet has been decontaminated.



Photos by Mark Hecker.



Micro lab. an example of P1.

Director to speak at showing

Cinematech presents "Grey Gardens"

by Walter Goodman

On Oct. 22, 1971, at the urging of some annoyed townfolk, the Suffolk County police raided a house in East Hampton. There, in the house called Grey Gardens, they found two women, many cats, much litter and quite a few violations of local ordinances. What made the case more noteworthy than the usual reclude-in-messy-old-house story was the discovery that the inhabitants were related to Jacqueline Bouvier Kennedy Onassis. Seventy-seven-year-old Edith Bouvier Beale was the sister of Jackie's father, which naturally, made Mrs. Beale's daughter, 54-year-old Edie, Jackie's cousin.

Among those attracted to the incident, in a professional way, were Albert and David Maysles, exponents of *cinema verite*, or "direct cinema," as they prefer to call it, documentaries without a narrator or a musical score, filmed and recorded with lightweight portable equipment. The brothers Maysles had won a considerable reputation in recent years, especially with "Salesman," a generally admired study of four door-to-door Bible salesmen from Boston, and "Gimme Shelter," a controversial account of the Rolling Stone's 1969 tour of this country, which climaxed in a killing during a concert at the Altamont Speedway in California — a fortuitous denouement since it provided a climax for the movie. In 1973, they and three associates turned their talents upon the occupants of that rundown house in East Hampton. They made a film which is successful enough in their terms and distasteful enough in other terms to call their whole enterprise into question.

"Grey Gardens" consists of 94 minutes of almost non-stop, often simultaneous monologues by Mrs. Beale and Edie. Their talk runs on, meeting, crossing, diverging, breaking off now and then — once as they listen to a heartily inspirational radio sermon by Norman Vincent Peale — but never stopping for long. The talk is the blood of their relationship; while it flows, they seem not to feel so cut off from things.

The mother talks of her past happiness ("I had a perfect marriage, beautiful children, terribly successful marriage"); her singing career, remembered as brilliant, her

fine husband and her talented accompanist. In the bed she shares with her cats and the cans and cartons of several days of food for them and for herself, she raises her arms, flabby and creased, and preens a bit, puts on a large hat out of another era, and sings, in poignant semblance of the voice and style she once boasted, "Tea for Two."

The daughter talks about her present unhappiness, about Mrs. Beale's rejection of her last suitor, about being forced by her mother to return to Grey Gardens from New York City more than 20 years before, and her resolve to leave again. "I think my days at Grey Gardens are limited," she says by note. "My days are limited." She changed outfits, going from one odd costume to another. Her hair covered, her legs exposed well up the heavy thighs, she dances, much as she must have when she was a young girl with the prospect of entering Long Island society.

On the evidence of her scrapbook, Edie was a very attractive girl, and her mother, to whose portrait the camera keeps returning, was beautiful. Now, to judge from the film, their days are spent in incessant banter, sometimes querulous, sometimes kidding, about whatever comes to mind, Edie playing and overplaying to the outsiders, Mrs. Beale dry and sharp:

Edie: She made me leave the Barbizon.

Mrs. Beale: Well, I thought you'd been in New York long enough. You were getting lines in your face.

Edie: But I was getting my audition in 1952.

Mrs. Beale: Well, you didn't get it — you missed out.

Edie: I was just getting up what you call a little nerve when she said I had to come home. She started to high-pressure me to come back in March of 1952, and she kept it up until the end of July, and July 29th I checked out, got on the train and came back, and was never able to get back.

Mrs. Beale: It's very hot in New York on July 29th.

Why, in fact, did Edie return to her mother and to Grey Gardens? Why did she never marry or make any kind of career? What part did the long-gone Mr. Beale play in derailing these two lives? How did things



manage to turn out as they did? No answers are forthcoming. Their quarrel is a litany, carried on without rancor, almost without interest. They are not listening very hard, having heard themselves so many times before, yet not wishing perhaps to disappoint the ingratiating outsiders. They talk on, drifting together in a place where the mists of the past meet the fumes of the present. As Edie says, "It's very difficult to keep the line between the past and the present. You know what I mean? It's awfully difficult."

I found the film sad, of course; who can fail to be saddened by the remnants of two lives expiring in a haze? But I felt angry, too. Would anyone have bothered with these people had they not been related to Jackie Onassis? The Maysleses were not out to ridicule the Beales, but the film presents them as a pair of grotesques. Why

were they put on exhibition this way? Albert Maysles is quoted in publicity material as saying, "The essential thing about our work is not making believe but finding out." Although we see the women in pitiable circumstances and absurd poses, however, we find out remarkably little about how they got there. They have reached an accommodation; why not let them get by as well as they can now without this public display of their weaknesses, peculiarities, touches of wackiness?

To the practitioner of *cinema verite*, evidently, such considerations are not compelling. The Beales agreed to be photographed. The contracts are in order, the women having been represented by a family attorney. They were paid for their cooperation and are due to participate in any profits. They are fair game.

Glee Club hailed in Europe

by Charles Winters

While on tour in Europe during January they were asked to present encore performances many times. Heinrich Kreuzinger, the Minister of Education for the District of Meidling, Austria was enthralled by a concert he attended in Vienna. As he said in a telegram "... I permit myself to thank you most heartily for a brilliant concert which I consider a unique cultural experience. . ."

These two groups are none other than the Worcester Polytechnic Institute Glee club and the Regis College Choir. They will

perform for the second time since their European Tour at Notre Dame Church next to the Worcester Center on April 24, 1977 at 8:00 p.m. They will present Bach's Canata No. 4, "Christ Lay in Death's Grim Prison", "A Dirge for Two Veterans" by Holst, "Psalm 18" by Listz, and "Good Bye Old Paint" by Lou Spratlan of Amherst College. The instrumental accompaniment for the first three pieces is provided by a grant from the Music Performance Trust Fund. For further information call 753-1411 and ask for Professor Curran's office. This concert is free and open to the public.

"Thirsty Ear" on WICN

Thirsty Ear, a syndicated series, will present new artists of all musical backgrounds on a monthly basis. Singer-Songwriter Dean Friedman will be the first performer on the new series of radio concerts to be broadcast by WICN on April 16th at 10 p.m.

Thirsty Ear is the first show of its kind for non-commercial radio. In the struggle against rigid commercial playlists, Thirsty

Ear is a necessary relief for new artists to gain exposures.

Friedman, a young New Jersey resident, has just released his first album for Lifesong Records, which has generated an astonishing response in the short time it has been released.

With the auspicious start of Dean Friedman, Thirsty Ear will be carried in the New England area.

Piano concert

On Saturday April 16 at 8:00 p.m., the Worcester County Music Association will present pianist James Fields in concert with the Worcester Orchestra at the Worcester State College Auditorium. The program will include Rossini's Overture, THE ITALIAN GIRL IN ALGIERS, Copland's AP-PALACHIAN SPRING, Gershwin's RHAPSODY IN BLUE, and Dvorak's TWO SLAVONIC DANCES.

James Fields, artist student of master pianists Rudolf Serkin and Mieczyslaw

Horszowski, was a finalist in the prestigious Leventritt International Competition and has played extensively throughout North America, Europe, Central and South America. He has performed as soloist with many of the world's greatest orchestras, and is currently an RCA recording artist.

Student tickets at the special price of \$3.00 may be purchased in advance of the concert at Steinart's Music Store, or at the door on the evening of the performance.

Wednesday nite, April 13th, PIZZA SPECIAL at the snack bar.

BEER CHUGGING CONTEST for Spring Weekend.

Eligibility: Anyone
When: After the chariot races
Where: On the Quad
Cost: \$5 per team
Prize: Big shiny trophy.
Submit team rosters of five and a check for five dollars to IFC box 2461. Make checks payable to the IFC. Deadline for entry is April 21, 1977.

Albert Maysles, a distinguished director and one of the founders of the cinema verite school of documentary film-making, will be in Kinnicut Hall Tuesday evening, April 12, to talk about his work and his film, "Grey Gardens", which will be shown at 7:30 p.m.

BANNER CONTEST

For Junior Prom

ELIGIBILITY: All WPI Social, or Academic Organizations, or Groups.

OBJECTIVE: Construct a banner to hang in the gym J.P. nite.

DIMENSIONS:
6 ft. Long
4 ft. Wide
with wooden rod to hang it by.
(Please no BONANO SHEETS!)

PRIZES: Keg of Beer

THEME: Camelot
Judged on originality and pertinence to theme.
Must be completed and turned in at Student Affairs Office by April 18, 1977.

Any questions call
Ken Kummins T.K.E. 752-9946
or
Mark O'Hearne, M218 Ext. 496

"Doc" Hult to perform



"Doc" is a twenty-nine year old songwriter from the Midwest. He grew up in Chicago. During the early sixties folk era he began playing guitar and banjo, learning the songs and styles of the Chicago area musicians. Attending college in Iowa, he formed a trio which was well-known in the colleges and high schools of that state. Upon graduation he came East working at factories and offices while continuing to play at coffeehouses as a solo. For the past four years he has devoted his full time to music, playing colleges, resorts and pubs.

Besides his own songs, Doc's repertoire includes material by: Bob Dylan, Jim Croce, Jackson Browne, Jonathan Edwards, Gordon Lightfoot, Paul Simon, Joni Mitchell, Kenny Loggins, The Eagles, James Taylor, Jerry Jeff Walker and Earl Scruggs.

The Northern Renaissance

The second exhibition in the College Gallery project corresponds to courses in the Arts and English Literature in the Holy Cross Humanities Sequence program. The fifteenth and sixteenth centuries in northern Europe evolved from a richly expressive Gothic tradition. The familiar of the static and more intellectual forms of the Italian Renaissance was thus a gradual and selective process. Dürer's woodcut of *Samson Rending the Sun* still retains the nervous linearism, flattened picture plane and supercharged composition of the Gothic past. In contrast, *Christ in Limbo*, executed some thirteen years later, displays a more classical treatment of the nude and dramatic effects of light achieving a Renaissance spatial clarity. By the end of the sixteenth century, French artists of the school of Fontainebleau display the same elongated canon of proportions and erotic subject matter as their imported Italian masters, Rosso and Veronese.

Many of the artistic ideas of the exhibition, such as the revival of landscape painting, classical mythology, and the glorification of abstract qualities also appear in Renaissance literature. Maarten Heemskerck's print series, *The Cycle of Change in Human Affairs*, is based on the medieval concept of the wheel of fortune bringing down the haughty and exalting the humble. Heemskerck transformed the

theme by depicting a series of triumphal chariots in the Roman manner, each surrounded by the qualities associated with the triumph. War rides a weapon-laden chariot accompanied by figures personifying Hunger, Strife, Blasphemy, Destruction and Waste. Humility, a decorous woman holding her innocent heart in her hands, is flanked by Faith, Hope and Charity.

On April 2, at 7:30 in Saint Joseph's Chapel, the Holy Cross College Choir, directed by Prof. Bruce Miller in conjunction with Fr. T. Frank Kennedy, S.J., will present a Renaissance mass to correspond to the College Gallery exhibition. The *Quadrivium*, a professional group directed by Marleen Montgomery, will contribute additional music and the procession. Forming part of the Palm Sunday liturgy, the Mass is open to all students and the public.

You are reminded that students using the College Gallery will be admitted FREE OF CHARGE. Groups accompanied by a professor should register one week in advance with the Museum's Education Department. Individual students will be admitted through class lists kept at the Lancaster Street entrance. Contact Professor Raguin for further details or for a guided tour of the exhibition and related material on permanent exhibition in the Museum.

Docent training class

For the first time in several years the Worcester Art Museum is offering a course for interested men and women who wish to become Museum docents or tour guides. Applications will be accepted through April 10 for the year-long course which will begin October 5, 1977.

Docent training classes will be held on Wednesday mornings from 10 a.m. to noon for the duration of the academic year. Exceptions will be made for holidays and public school vacations.

Since the introduction of the Docent program in 1970 by then Curator of Education Richard C. Mühlberger, the program has proved one of the most popular and rewarding of the volunteer opportunities at the Museum. At present there are 55 active Museum docents. In exchange for their invaluable services to the entire community in provided free Museum tours, docents receive lectures and enrichment courses in art history without charge. The majority of tours are given to youngsters, although docents must feel comfortable speaking to adult groups as well.

The course is taught by Ellen R. Berezin, Associate Curator of Museum Education, who holds a master of arts degree in art history from the University of Michigan. Class instruction combines lecture and slide

presentations with gallery discussions. Training concentrates on art history and methods of visual communication and presentation. Participants are responsible for assigned readings, research projects and examinations.

During the summer months of 1978, docents-in-training will be asked to organize tours of the Museum. In the Fall, the class will reconvene to observe, discuss and evaluate these presentations.

Following completion of the course, the graduate must remain an active docent for at least two consecutive years by averaging at least two tours per month. Monthly docent meetings are held and refresher courses offered to veteran docents. Once every two years, docents are required to participate in an art or art history class.

Although no prior knowledge of art is required, it may be helpful since the course will be limited to the twenty most qualified applicants. Of greater importance than prior art training is a firm commitment to the program, a willingness to study, and an enthusiasm for the Museum and the docent program.

Persons interested in applying should contact the Museum's Education Division before April 30, 1977. Notices of acceptance into the program will be mailed by June 30.

The Massachusetts Open

For the first time in its history, the Worcester Art Museum will sponsor a state-wide competition open to all residents of the Commonwealth. Artists are invited to enter original works of art in five media categories to compete for cash prizes totalling \$4,250. A distinguished panel of three out-of-state art professionals will select the works to be on view in the special exhibition galleries June 11 through August 7, 1977. The jury will include Diana Johnson, Chief Curator, Museum of Art, Rhode Island School of Design, Providence, and Jill Kornblee, Director, Kornblee Gallery, New York.

Called "The Massachusetts Open," the exhibition continues a tradition of exhibitions dating from the early 1900s in which the Museum has recognized an obligation to the living area artist. The Worcester Area Exhibition was held biennially from 1960 to 1970 and was open only to residents of Worcester County and nearby towns. The exhibitions were disbanded with the introduction of the Museum's Sales and Rental Gallery, but with the closing of the Gallery in 1976, the Museum was anxious to provide area artists with a vehicle for exhibition. The Massachusetts Open continues that tradition but on a greatly expanded scale.

The majority of works on view are likely to be for sale with a Museum commission of 20 per cent.

Eligibility

Works eligible for consideration by the jury will include paintings, drawings, sculpture, prints and photographs. Entries must not have been previously shown at the Worcester Art Museum and may not exceed six feet in any dimension. Not more than two works by each artist may be submitted. Paintings, drawings and prints must be framed. All works on paper must be covered with glass or plexiglas.

Entries should be delivered to the Lancaster Street Entrance of the Museum between 8 a.m. and 4 p.m., Tuesday, May 24 through Saturday, May 28. A fee of \$4 per entry is required and must accompany the deliveries. The jury will review works submitted and artists will be notified promptly.

The exhibition will be the major summer showing at the Museum and will be on view in three fourth floor special exhibition galleries. Associate Curator James A. Welu will supervise the installation. Interested artists may obtain additional information by writing The Massachusetts Open, Worcester Art Museum, 55 Salisbury Street, Worcester, Massachusetts 01608.

Photo technology

A selection of 36 photographs demonstrating the technical advancements of photography is on view now through May 22 at the Worcester Art Museum. Stephen B. Jareckie, Registrar and Curator of Photography since the collection was initiated in 1962, organized the current showing entitled "Selections from the Photography Collection." The exhibition and the Museum collection include a variety of works demonstrating the diversity of the medium. The earliest photograph on view is an 1843 portrait study for an oil painting, while the most recent is colored with oil paints to augment its aesthetic expression.

In 1843, David O. White, a Scottish painter, worked with chemist Robert Adamson to make a calotype print of his subject for a commemorative painting. The process, invented the previous year, was one of the earliest in the development of photographic techniques.

Many of the collection's 19th-century photographs are albumen prints. The photographic paper, on the market from 1850 to 1895, was coated with egg white as an adhesive for light-sensitive silver nitrate. A print was made by exposing the negative in contact with the albumen paper to the sunlight for several hours. The photographer could check the positive print's development by periodically peeling back the paper.

Another advance in printing made later in the 19th century was the platinotype. Introduced by William Willis in 1890, the process involved paper coated with platinum rather than silver salts. Its advantage was extreme permanence and its range of grays. The platinotype disap-

peared from the market during World War I when platinum became too expensive for practical purposes. Examples by Frederick Evans and Gertrude Kasebier are included in the current exhibition.

In 1857, Frederick Scott Archer published the process known as the collodion or wet-plate negative, whereby a glass plate is covered with paper which is kept wet while sensitized, exposed and developed.

Although photographers have traditionally achieved their artistic statement within the photographic print, contemporary artists use the print as a base upon which to build. Peter de Lory's "Goodeale's Cutoff, Idaho," 1975, contains areas colored with oil paints which catch the viewer's attention. Works such as this one demonstrate the medium's limitless boundaries for aesthetic expression.

Depicted in this exhibition are a number of historically significant prints. Timothy O'Sullivan's pictures of the unexplored West of the 1880s as well as the 20th-century reportage work of Andre Kertesz and Cartier-Bresson again show the breadth of the Worcester Art Museum's collection.

Other works include Frank M. Sutcliffe's photographs of 19th-century English seaside life and Arnold Newman's portrayal of man and environment in his portrait of Max Ernst. The collection also boasts such artists as Paul Strand, Dorothea Lange and Ansel Adams.

The exhibition is one of a continuing series of exhibitions utilizing the collection. It is on view in the first floor galleries.

WPI HUMANITIES DEPARTMENT PRESENTS "A Full Moon in March", a play for dancers by W.B. Yeats May 3-7, Tuesday-Saturday at 8:30 p.m. in Alden Auditorium. Reservations should be made through the Humanities Dept. at 753-1411 ext. 385 or 246. A rite of passion — Not for Everybody.

Student Craftsmen!!

The Worcester Polytechnic Institute Class of '78 would like to invite you to participate in the Second Annual Tailgaters Craft Fair. It will take place Saturday, April 23, 1977 from 10:00 a.m. to 5:00 p.m. on the WPI Quadrangle.

Registration fee for the day will be \$10.00 which includes rental of 10x10 space. Only hand-made items will be accepted. No kits allowed.

Please fill out the registration form and return it with your \$10 fee to the Student Affairs office. Please make checks payable to WPI class of '78. For further information please contact, Sandy Hoyle (Box 874) or Eileen Weiss, Coordinator, Student Affairs Office.

REGISTRATION FORM

Name _____ Phone _____
 Address—box _____
 Art Form _____

WPI Lens & Lights Presents

Logan's Run

6:30 & 9 p.m.

Sunday

\$1 — Alden Hall

How many pancakes can you EAT?

THE PANCAKES ARE COMING!!!

The Chess Club will be signing up members on Wednesday night, April 13th at 7 p.m. in Goccard 012. All are welcome.



Photo by Mark Hecker

The Pub Board will interview students for the position of Bartender. Full time WPI students (preferably Classes of '79 and '80) may obtain application forms at the Pub or at the Bookstore. Applicants will be advised individually as to time and place of interviews. Deadline for applications is April 15th.

H.C. THOMPSON
Chairman, PUB

Off-campus MQP Project opportunities: HONEYWELL INFORMATION SYSTEMS TWO PROJECT OPPORTUNITIES

1. MUMPS Analysis and Development
The possibility to develop and implement MUMPS for a Honeywell Level 6 Minicomputer is to be examined. Two CS Majors are required.
2. GPSS (General Purpose Simulation System)
GPSS is to be examined to possible implementation on the Honeywell Level 6 Minicomputer.

Sperry Rand Laboratories — Sudbury, MA
Two projects are available; One concerning the new Univac Business oriented minicomputer and the second concerning studies of program flow for improved systems control. Two CS majors required for each.

Please see Prof. Sondak for more details.

WCUW-FM 91.3

LOBE LIGHTS

Program highlights for week of: 4-11-4-17

Mon., 4-11 — 10:00 a.m.

THE WOMAN'S VOICE: "Sally Priesand" — In this program, Sally Priesand, who became the first woman reform rabbi in 1972, discusses the changing role of women in Judaism.

Wed., 4-13 — 8:00 p.m.

RAPS AND RHETORIC: "Two Hundred Years of Minority Rights: Where do we Stand?" — Earlier this year, the Center for the Study of Constitutional Government at Worcester State College sponsored a conference to assess the status of minority rights. This program, produced by WCUW, presents the highlights of the conference.

Wed., 4-13 — 11:30 p.m.

CREATIVE LINEAGE: "Art of the Piano, Vol. I" — The important pianists of the 60's and 70's — Cecil Taylor, McCoy Tyner, Sun Ra, Don Pullen, and Muhal Richard Abrams — are featured. Included is a taped interview with Cecil Taylor.

Sat., 4-16 — 7:30 p.m.

SATURDAY NIGHT CONCERT: "Joan Armatrading" — In this September, '76 recording from the Cellar Door in Washington, D.C., Joan displays her dark voice, moody compositions, and on-stage personality.

Dance marathon held

by Mark Wright

The old dance marathon was revived for the benefit of Muscular Dystrophy during term break at the Worcester Center Galleria, and WPI was there. The Lens and Lights club, who normally perform technical service for shows on campus volunteered their time and equipment to the marathon, which netted over \$10,000 for muscular dystrophy research.

Most of the 24-hour marathon, the members of the club were perched atop sixteen feet of scaffolding in the center of the Galleria where their control equipment and spotlights were located. "WE had a nice view," commented Carl Gerstle, president of the club. "The only thing that never changed or moved during the twenty-five hours was the scaffolding. . .

you forgot it was Worcester Center," he said.

The club provided lights and sound for the various groups that provided dance music for the participants of the marathon. The 35 original couples, of whom 28 completed the marathon, obtained pledges from the community for money for each hour danced. In addition, passers-by in the Galleria contributed to the cause as they stopped to watch the spectacle.

"It was a lot of fun," said Rory O'Connor, another club member who participated in the activity. "A few of us were up for forty-one hours or so actually setting up and cleaning up afterwards, but most of us caught a couple of hours of shut-eye. It caught up with you around four or five in the morning, but we got our second wind when the sun rose."



There will be a meeting of faculty advisors and students interested in the IQP area of Environmental and Resources Issues (IQP No. 21) in Kaven 116 on Thursday, April 14, 1977 at 4:00 p.m. All interested students are invited to attend.

A Farewell Luncheon is being given to
PROFESSOR ROBERT BJORKKLUND
who is leaving the Department of Management at the end of term D.
The luncheon is being held in Higgins House, Friday, April 15th at 12:00. Donations are two dollars and admission passes can be obtained from Ms. Eaton in the Management Department.
ALL ARE INVITED TO ATTEND

WPISFS presents

LAST DAYS OF MAN ON EARTH

"Savagely Witty, Supremely Stylish, Wildly Imaginative!"

Los Angeles Times

PLUS: Color cartoons
and BAMBI MEETS GODZILLA!

Wednesday, April 20

Kinnicut Hall

8:00 p.m.

Admission \$1

GODSPELL

APRIL 19, 1977

ALDEN HALL

8 p.m.

FREE

Admission by ticket only. Free tickets are available at the Office of Student Affairs after April 6th. Two tickets per person.

Performed by: The Worcester County Light Opera

EDS

Do you want to work for a large company, or a large, growing company? The answer can make a big difference in your future.

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Majors include liberal arts, science, education, engineering, and business.

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Adam Gauthier counted on us.

If Red Cross hadn't trained young Lars Aleksen in lifesaving techniques, last summer Adam Gauthier just might have ended up one more drowning statistic. (Adam's alive and well today, thank you, and in the first grade in Manitowoc, Wisconsin.) We're not asking for medals (Lars is the one who deserves those). But we do need your continued support. Help us.

Because the things we do really help. In your own neighborhood. And across America. And the world.



**We're
counting
on
you.**

Red Cross.

The Good Neighbor.

SPORTS

Baseball team loses opener

Well after all the talking I have been doing about how good the baseball team is going to be this year I kind of feel funny now. Tufts was no powerhouse and we all thought we could win. But 40 degree weather and the lack of hitting did the team in.

Paul Josephson was pitching a real good game as usual but the WPI bats were silent. Six men were stranded in the first three innings. In the third with bases loaded and two outs and the score tied a ground ball was hit to short but the throw was late and it appeared the WPI had something going. But the umpire blew the call and the rally was ended.

Tufts scored a run in the fourth and one in the 6th but WPI still was in the game. The only trouble was no one could hit the ball to save their life except George Ferron. George got one hit to show for it, but it was a bright spot on a very cold and dark day. Tufts got four in the eighth and one in the ninth to go up 7-0. In the bottom of the ninth with two out Gary Sowyrda hit the

ball to right center for a homerun to break the shutout. So the score ended up 7-1.

Bright spots were few and far between. (Walker) finished up for Josephson and did well except for a hanging curve that was knocked out. Al Simakauskas threw out three Tuft baserunners to have a good defensive game for himself. A very bad spot concerning the game was the defense. WPI thought their defense would be good this year but five infield errors is something that has to be stopped.

Well game one is over and behind us. This defeat could be chalked up to cold weather and just game inexperience. Whatever, let's look ahead to next game; The team is still looking for a winning season.

VARSITY BASEBALL

Captain: Paul Josephson
Managers: Laura Gardosik, Carol Greenwood, Kathy Hogsett
Head Coach: Charles McNulty

APRIL	
9 Tufts	Home 10:30 a.m.
12 U. of Lowell	Away 3:00 p.m.
15 Clark	Away 3:00 p.m.
16 Hartford U.	Away 1:00 p.m.
19 A.I.C.	Away 3:00 p.m.
21 Bates	Home 3:00 p.m.
23 Northeastern	Home 2:00 p.m.
26 Wesleyan	Home 3:30 p.m.
28 Assumption	Home 3:30 p.m.
30 Coast Guard (doubleheader)	Home 1:00 p.m.
MAY	
4 Suffolk	Home 3:30 p.m.
7 M.I.T. (doubleheader)	Home 1:00 p.m.
9 Bentley	Home 3:30 p.m.
14 Amherst (doubleheader)	Away 1:00 p.m.
18 Brandeis	Away 3:30 p.m.

VARSITY TENNIS

Captain: Paul Carvalho
Coach: Alan King

APRIL		
9 Bentley	Away	1:30 p.m.
13 Holy Cross	Home	2:00 p.m.
16 Babson	Home	1:30 p.m.
18 Assumption	Away	2:00 p.m.
19 Clark	Home	2:00 p.m.
23 R.P.I.	Away	2:00 p.m.
28 Nichols	Away	2:00 p.m.

JUNIOR VARSITY BASEBALL

Coach: Stephen Raczynski

APRIL		
22 Worcester Jr.	Away	3:00 p.m.
25 Holy Cross	Away	3:00 p.m.
30 Worcester Acad.	Away	10:30 a.m.
MAY		
2 Mt. Wachusett	Home	3:30 p.m.
11 Leicester Jr.	Home	3:30 p.m.

SUMMER JOBS

Needed to work in the Athletic Department starting May 31 through August. Must be able to work 40 hours per week.

Lifeguards

Tennis Court Attendants
Gymnasium Security

Must be on financial aid "need."

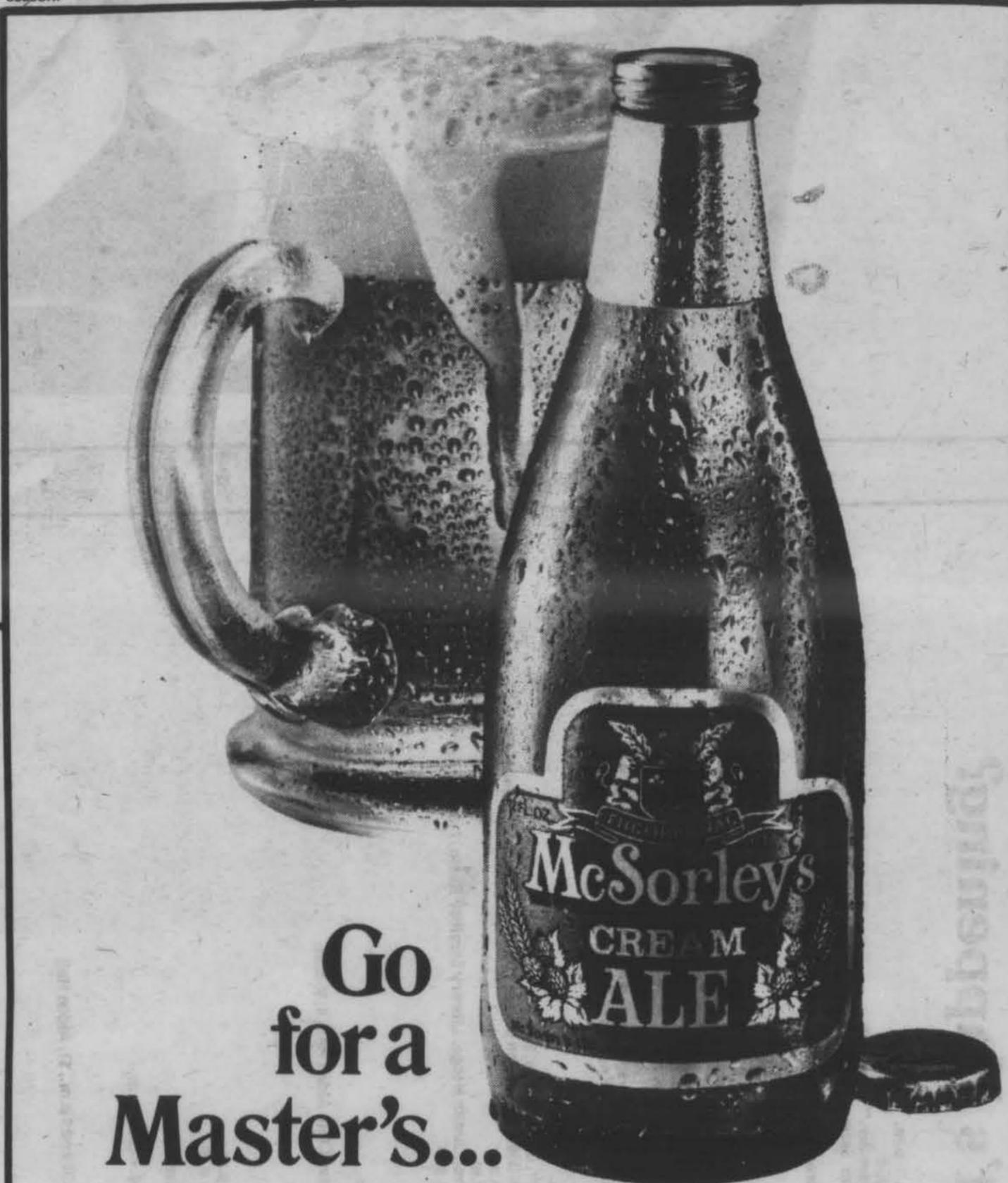
Please contact Prof. Robert W. Pritchard, Alumni Gym Office.

L & L officers

1977-1978 Executive Board Members

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Vice-President	Greg Dunnells Ellsworth 2 Box 153 756-8573
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Technical Director	Mark Hecker Zeta Psi Box 2056 753-9843

Hard ball playing should be restricted to the athletic fields and not used on the Quad. Numerous students and staff have complained about damage to their automobiles parked around the Quad.



Go for a Master's...

Only a master ale-maker can brew McSorley's Cream Ale. It takes knowledge that doesn't come overnight to develop a hardy brew. Bold and invigorating. Robust. Full-bodied. Yet smooth every sip of the way.

Only a master can brew the aroma — and the flavor that says it's McSorley's.

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