

Glee club and Wells Choir to perform Mass

The Wells College Choir, of Auora, N.Y., directed by Crawford R. Thoburn, and the WPI Glee Club, Professor Louis Curran, director, will present Ralph Vaughan Williams' *Mass in G Minor* at the Church of Notre Dame des Canadiens, Salem Square, at 4:00 p.m., Sunday the 8th of March. The Mass is a work for two full choirs and soloists. The soloists include Anna Granquist, Soprano, Jeanne Burwick, Alto, and John Palmer, Tenor.

Along with their part in the mass, the Wells College Choir program includes *O Praise the Lord* by Donald Johns, *Lift Thine Eyes* (Elijah) by Felix Mendelssohn, Alexander Gretchaninoff's *Nunc Dimitis* and *Missa Brevis* (1980) by Carlton Russel, college organist at Wheaton College, which is dedicated to the Wells College Choir. The WPI

Glee Club will also sing *She Is My Slender*, *Small Love*, by Eric Thiman and Sydney Bell, *The Omnipotence* of Schubert, arranged by Franz Liszt, *Standchen*, also by Schubert, and the *Drinking Song* of Gustav Holst.

Ralph Vaughan Williams, one of the most preeminent of British composers, died in 1958. Although his main interest in music was works for the voice, he was a master of every musical idiom from works for the organ to the massive symphonies which often include full choruses such as the *Sea Symphony*. His musical life was by no means limited to composition. He was an educator, a practical musician (his first post was as an organist and choirmaster at South Lambert Church, London) and an administrator. He is a recipient of many music prizes, in-

cluding the coveted Gold Medal in the arts from Yale University in 1954. His compositions are inherently British. He is deeply mystical, and drew much of his inspiration from English folksongs.

Williams composed much sacred music. The *Mass in G Minor* was composed in 1920 and 1921, and dedicated to Gustav Holst and his Whitsuntide Singers. It is in the tradition of the great masses of Taverner, Byrd, and Tallis. Its arrangements for double choir is easily understood when one considers that the English Cathedral and chapel choirs sit facing each other on the two sides of the chancel. The sides are arranged in equally balanced sections of boys and men. The mass also takes into consideration the use of the four best voices in the respective ranges of Soprano, Alto, Tenor, and

Bass in solo capacities — the Medieval Schola.

The WPI Glee Club is the second oldest student organization on the WPI Campus and is comprised of about forty-five men. They have toured extensively on the coasts of the United States, throughout Western Europe and Eastern Canada and have twice sung their way throughout England. They often sing with women's clubs such as those of Smith, Wheelock, Wheaton, Wellesley, Skidmore, Mt. Holyoke, Simmons, and Regis Colleges. In 1980, they hosted the annual convention of the Intercollegiate Musical Council, and national association of men's choruses, where they sang in the company of the

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Newspeak

The student newspaper of Worcester Polytechnic Institute

Volume 9 Number 5

Tuesday, March 3, 1981

APEC
Special Feature
— see pages 5-6 —

Tuition increase needed to maintain standards

Operating budget for 81-82 tops \$31 million

by Annamaria Diaz
Newspeak staff

Last week the students were informed that a \$900 tuition increase had been approved by the Board of Trustees. In an interview, Mr. David Lloyd, Vice-President for Business Affairs, discussed the reasons why the Administration and the Board of Trustees felt it was necessary to increase tuition, room, board, and fees at levels above the inflation rate and federal guidelines. The federal government has had voluntary guidelines for wage and price increases since 1978. The Administration and Board had attempted to remain at or just below these guidelines for the last three years, but this year WPI felt it was necessary to go above these guidelines in order to maintain our academic standards. The feeling that we were falling behind in our competitive position to hire faculty was growing, and the ability to attract and maintain faculty and administrators who would uphold and enhance our position was being threatened. This was a major motivating force in the Board's decision to accept the budget.

The Board of Trustees is responsible for approving a budget consisting of a Capital Budget and an Operating Budget. The Capital Budget for the 1981-1982 fiscal year is approximately \$4,000,000. This budget provides the funding for the renovation of Atwater Kent. The approved Operating Budget for the 1981-1982 fiscal year is \$31,585,945, with our tuition paying for approximately 45 percent of this. The

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Flood to leave WPI

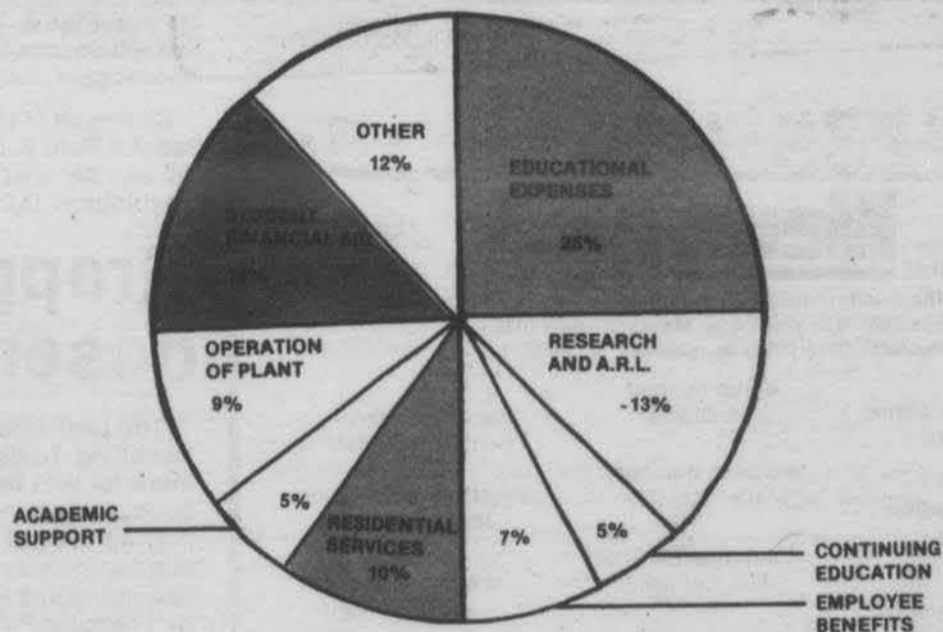
by Rich Goldberg
Newspeak staff

On Monday, February 23, WPI President Edmund Cranch announced that the contract of Athletic Director George Flood will not be renewed when it expires on June 30. The move came on the recommendation of a special committee of faculty and administrators which was set up to review Flood's overall performance as Athletic Director.

The committee Paul Davis represent-

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Expense budget 1981-82



PAC decision awaited

Spree Day proposal ready

by Tom Nicolosi
News-Features editor

Friday the Committee of Student Leaders (formerly known as the Committee of Campus Leaders) met to finalize their proposal for Spree Day 1981. The proposal which was finished just this week will be presented to the President's Advisory Committee today. The PAC will either approve or disapprove the proposal by their next meeting which is scheduled for March 10.

The new proposal which details measures for dealing with some of the problems that arose during last year's spree day is an elaboration on a proposal drafted earlier in the term. The first proposal dealt with the problems of outsiders on campus, security, trash clean-up, and format but did not contain the actual details of a working plan.

The full membership of the CSL met twice last week to finish preparation

of the proposal for presentation to the Advisory Committee. It was evident at the first meeting of the group, on Tuesday of last week, that little work had been done on the proposal draft since the last meeting of the group two weeks before. At that meeting it became apparent that many of the working details of the proposal had yet to be planned and that to insure the PAC's approval of the plan many of the details had to be researched in order to fully answer the concerns that members of the Advisory Committee had already expressed.

The two major concerns that surfaced were those of security and the cleanup of trash. Both of these problems seemed to be tied in with the availability of student workers to aid both as a supplement to the security force on campus and to help with the cleanup of trash after the event was over. The word that Robert E. Reeves, Vice President of Student Affairs, used

at the meeting over and over again was "commitment." The commitment that was being questioned was that of the student workers. No estimates of the number of students needed to work at the jobs of security and trash cleanup had yet been made and the availability of students who were willing to work had not yet been established.

Another concern with the plan that was discussed was the lack of specifics on the security force that would work the campus. There had been talk of hiring off duty Worcester police officers to serve as a supplementary security force or as an alternative to that, hiring auxiliary police officers, but the availability of these people and the cost of hiring such a force had not been determined. Also the advice of Campus Security had not been sought to aid in the planning of security.

Said Reeves, "I wouldn't present

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EDITORIALS

It is not too late to stop aid cuts

The current wave of budget cutting mania that seems to have infected the Washington D.C. political establishment may soon be hitting college students as well as the entire American higher education community where it hurts the most. In jeopardy are funds for financial aid from the federal government. The Reagan administration's proposed plan for cutting aid to students was detailed in an article by Helen Cordes of the College Press Service which was published last week in *Newspeak*. The details of the proposed cuts should strike panic in the heart of any student who is already finding it tough to make ends meet. The cuts would effect students from both low and middle income families as well as minority and handicapped students. The Guaranteed Student Loan program would be changed so that loans would have to be repaid at the market interest rates instead of the current 9 percent. Pell Grants (formerly Basic Educational Opportunity Grants) would be limited to families whose income is less than \$25,000. National Direct Student Loans would be entirely phased out in four years.

Many students would be effected by this plan if it were to pass through Congress. This year in particular has seen a large jump in the cost of a college education. WPI is only one of many schools which have significantly raised tuition, room, and board fees to students for next year. This coupled with the high cost of food, clothing, heating fuel, gasoline, rents, and just about anything else that can be imagined will surely put the financial squeeze on both students and their families. How would you handle having most of your financial aid and loans cut next year on top of a \$900 tuition increase?

The implications of Reagan's proposed cuts are serious, but the time has not yet come to panic. These cuts can only be put into effect by Congress and there is still time for you to act if you oppose them. The most effective way that you can influence what is done about financial aid in is to write the lawmakers in Washington to oppose the cuts while there is still time to do so. To make this task easier, *Newspeak* has already done most of the work for you. Below is a letter that you can send to anyone in Washington who will be in on the decision making with regards to financial aid cuts. If you want to do something to help prevent these cuts, clip the letter from this page, photocopy it, fill in the blanks, and send it to Washington. Be sure to include your return address and signature. It only costs 5 cents for each copy and 15 cents for each stamp. This small investment of time and money could help insure your future as well as that of the entire country.

Dear

It has come to my attention that included in the plan to cut the federal budget are large cuts to financial aid to college students and their families. I am strongly opposed to this. Those who attend college represent the future of our country. Because of the state of the economy and the rising cost of education, many students would be forced to leave their studies if significant cuts were to be made in financial aid in either grant or loan money. Cuts such as these would effect both middle and low income families as well as minorities and the handicapped. I urge you to work to prevent the cutting of federal financial aid programs. It is well worth sacrificing a small amount of thriftiness to insure the availability of higher education to all Americans.

Sincerely yours,

If you are concerned send copies of this letter to your congressman, United States Senators, and the President. Others who you should send the letter to and their addresses are listed below:

Massachusetts Senators:
Senator Edward M. Kennedy
Dirksen Senate Office Building, Room 2241
Washington, D.C.

Senator Paul E. Tsongas
Russell Senate Office Building, Room 342
Washington, D.C.

Chairman of the Senate Budget Committee
Senator Pete V. Domenici
Dirksen Senate Office Building, Room 2317
Washington, D.C.

Grapplers consistency deserves credit

The past weekend of accomplishments at the Division III New England Wrestling Tournament only exemplifies the point that wrestling is doing more for WPI than WPI is doing for its wrestling team. It's a shame to see such a close knit, competitive team such as the wrestlers ending up playing second fiddle to some of the other less outstanding sports at this school. In three years of close attention to the sports program at WPI, one can easily see the wrestlers as the top athletic organization at WPI. "Grebby's Grapplers" have been the most consistent varsity team out of the many stemming from the athletic department. And yet the wrestlers still don't get the funding that is needed to run a program worthy of a team like ours.

WPI isn't just another engineering college and the WPI wrestlers aren't just another team. Our wrestling program is now one of the top rated programs in New England, thanks to the hard work of Coach Grebinar and the team. There aren't many teams that play to as rough a schedule as the wrestlers do at this school. There aren't any "slouch" teams in their lineup, nor is there adequate backing for a top notch team like them either. It's about time that the administration showed a little appreciation to the wrestling team for their high standards of athletic achievement, loyal dedication, and the superior name that the team brings to WPI.

Most good teams only remain as good as they are while the support is there, but our wrestling team has shown how to shine standing on its own. Congratulations!

Letters Policy

WPI *Newspeak* welcomes letters to the editor. Letters submitted for the publication should be typed (double spaced) and contain the typed or printed name of the author as well as the author's signature. Letters should contain a phone number for verification. Students submitting letters to the editor should put their class year after their name. Faculty and staff should include their full title. Letters deemed libelous or irrelevant to the WPI community will not be published. The editors reserve the right to edit letters for correct punctuation and spelling. Letters to the editor are due by Noon on the Saturday preceding publication. Send them to WPI Box 2472 or bring them to the *Newspeak* office, Riley 01.

Newspeak

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COMMENTARY

The project-ion blues

by Gregg Miller
Newspeak staff

It's just another arctic cold blue sky day sweeping volume upon volume of stone-grey snowflakes onto the already frozen tundra of the quad. Belted calculators and undersized women shuffle past in the opposite direction. You make your way to the doorway of one of the 'efficiently'

But another of your partners breaks in, "Perhaps it would be better to enclose the entire problem in a circle. Then, using smaller and smaller concentric circles, concentrate on smaller and smaller aspects of the problem."

The final phrase hangs in the air for a moment and then you realize that it is time for you to put your two cents in — "I think that we should just

SATIRE

heated brick buildings, and open the door, stepping quickly inside.

This is not just any day or any time. It is now time for you to enter the realm of the weekly PROJECT MEETING — where problems revolve in circles without end. (ooOOO-OOOoo)

You enter the meeting room; your partners are already there; and your project advisor sits watching you with arms folded sternly.

"Sorry I'm late. My test ran over a bit." You have lied. There was no test today. You were talking to one of your friends.

"Really? How'd you do?" asks one of your project partners.

You stammer, "Uh, (pause) pretty good, I guess." Thinking quickly, you change the subject, "So what were you talking about just before I came in?"

Everyone looks at each other for a moment. Then the professor speaks up, "We were about to discuss the alternative ways of approaching the present problem that is bogging down the project. Do we have any suggestions?"

One partner says, "We could approach it along a hyperbolic tangent — find out where it's been and where it may go and then concentrate on a couple points in between..."

jump in and begin hacking away until we have a clearer path to follow."

"Very good," remarks your advisor. "I think that we're finally making some progress. Well, it looks like our time is up. I guess I'll see all of you against next week."

"Bye, professor."

"Bye, now." As you and your project partners exit the building, you turn to one of them and ask, "What did we decide, anyway?"

"We didn't," is the reply.

"Well, it is the end of C term. Shouldn't we have started some concrete work on the project by now?"

"Don't worry, we're doing great."

"How could we be doing great," you protest, "we haven't done anything yet?! Shouldn't we at least decide on how we're going to approach the problem?"

"We'll do that at the meeting next week."

"That's what you said last week."

"Listen," explains your partner, "it's not the quantity — it's the quality. Now forget it. Let's hit the pub for happy hour."

Grudgingly, you follow your partners into the pub for a couple of beers.

MORAL: A PROJECT IN HAND IS WORTH TWO IN THE PUB.

Electrical engineering: on heating/blankets

by John Farley

"Turn down the thermostat tonight Ralph" is an expression more often heard these days at outraged consumers struggle to keep their monthly heat bills under 4 figures. Of course, the result is annoying teeth chattering and cold tootsies which, together, can induce arctic insomnia into even the

while trying to rescue a woman who got out of her car when she realized she wasn't in line at Fatty's Fish Fry Drive-In.

Muriel Pellkripsney of Ipswich, Ma., who had used a heating blanket for many years, even in the summer, headed for the bathroom one morning curiously supercharged and when she

comps we'd like to see

most stalwart klondiker. To keep the body temperature from dipping into the coma range at night, consumers have been laying out the cold cash for everything from heating blankets to jalapeno pills nocturne.

As the sales of heating blankets soar so do the tales of their hazards. Take the case of Ralph Chalky of Manhattan who recently purchased a heating blanket because he had no one to snuggle up to. Being unfamiliar with the gadget, Chalky turned it up to high and, as was his habit, put on his thermal underwear, thermal socks, beanie, and hopped under the covers. By morning Chalky had dropped so much avoirdupois, that his friends failed to recognize him. He went through life a lonely and bitter man ending up as a life guard at a two-minute car wash where he was temporarily removed from his senses by a large undulating, octopus sponge

put her electric toothbrush in her mouth, sizzled the bristles to the plastic.

Then there is the bizarre account of a Violita Estherhazy of Emery Mills, Me. who tossed and turned one night and got all wrapped up in the heating blanket. Cocooned in the blanket, she was jolted out of bed by a voltage surge caused by the removal of a life-support system from an ailing two-ton rhinoceros at nearby Walley's Wild Animal Farm. Having achieved a degree of warmth just just of incineration, she got wound up in a telephone cord which created a magnetic field that turned on her remote controlled television and seduced a wide variety of small ferrous objects to the bedroom.

Study closely each of the above accounts. Then prepare design recommendations that would eliminate such (continued on page 13)

Are you literate?

Newspeak has been doing pretty well lately. The news staff has been cranking out superb writing, the editorials are more plentiful, the commentary page has two new columns, a new special feature section has been added, the sports pages have made a quantum leap, and our expense accounts have been tripled. But there remains one very important part of the paper that is really hurting.

The tragedy of this is that this particular section is not only very important; it is, in many ways, the most important section of all. Though some would immediately grant this distinction to the classifieds, the section I refer to is that containing letters to the editor.

On every paper we print, the legend "The student newspaper of Worcester

Polytechnic Institute" is printed right under the Newspeak logo. Although the paper is put out by students, we don't represent the entire student body; we only represent those with the will and perhaps the time to commit ourselves to publishing Newspeak

For some of us, our contributions to this paper take the form of opinion via editorials or columns such as this one. Although this serves to familiarize the reader with our beliefs and the effect they are likely to have on our general journalistic performance, if left unchecked it limits the paper's scope. The best way to counter this is with an invigorated letters page from the public involved; in this case, the students.

Besides, if we don't get lots of letters soon, we'll do something drastic!

Speculating on Harrington's roof

by Steve Kmiotek
Newspeak staff

Many of you are probably wonder-

ing would be offered, and during colder weather, skating. (This is an

(continued to page 7)

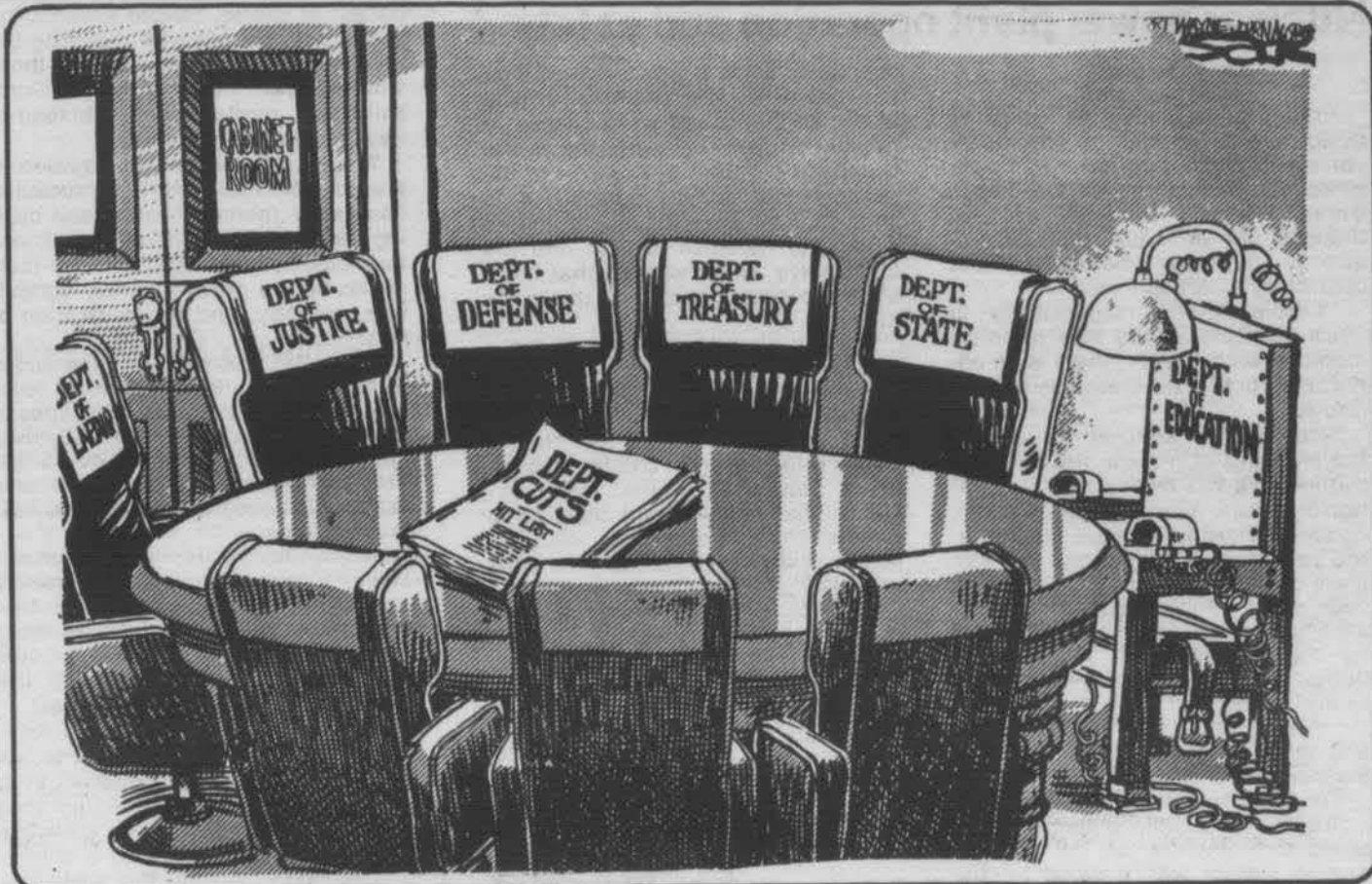
LIMERICK OYSTERS

ing why the gym is still leaking even though there is a trailer of roofing tiles parked outside. Newspeak's crack investigating team has done a complete investigation and will soon be publishing a report on the problem. This week I would just like to briefly summarize their findings.

One source said that WPI was just following Spag's lead by keeping all the tiles in trailers. (Spag's warehouses much of their inventory in trailers.) In this way, the school can avoid paying taxes on the material, as it is considered in transit. The school was also considering putting all the buildings on wheels, but dropped the plan when the ME department couldn't design a suitable suspension system.

One report said the whole matter was actually a joint MQP venture between the Life Science Department and Social Sciences. The Life Science people reportedly have stocked all those rain barrels. They are studying the effects of acid rain, water runoff, and different types of movies on the health of the fish. Meanwhile, the Social Science people are studying the whole problem as an advanced form of water torture.

There was also talk of turning the whole gym into a new type of sports arena. During warm weather, swim-



SPECIAL FEATURE

Two speakers kick off APEC II

by Jim Dyer

At 9:00 a.m., a bleary-eyed group assembled in Kinnicut Hall last Saturday for the introduction and welcome to APEC II. Conference chairman Phil Wengloski opened the meeting, explaining the fate of APEC I (that event, attended by about 80 people, was held at RPI last April), then introduced President Cranch.

Dr. Cranch described his concept of "the energy frontier" as a sphere

surrounding him: "there's frontiers all around me ... wherever my vector points, ... there's an energy frontier."

As far as energy is concerned, he believes that the 1970's will be viewed as a "transition in perception" in which a consideration of the finiteness of resources has developed. Before the '70's, he said, proponents of such a consideration were "viewed as heretics," and were denied access to "the political structures in the 1950's."

"The frontier...." Dr. Cranch continued, "has a physical dimension to it, a supply problem ... and transport and transmission problems ... There are geopolitical ramifications ... There's the economic frontier."

Dr. Cranch then reviewed the development of WPI in regard to the history of the development of various energy sources. He cited here a "common history of the early development of engineering education in the United States," all resulting from the developing energy situation. Civil engineering, one of WPI's first disciplines, addresses the matter of energy resource location and transport. Mechanical engineering grew with the conversion from wood to coal taking place in the late 1800's. Electrical engineering came next, as more sophisticated transportation methods became necessary. "What I'm trying to picture," he summarized, "is that energy ... is the driving force in progress and in our economic well-being."

Stepping forward in time, Dr. Cranch then extolled the development of the WPI plan as a means to meet the demands of the energy situation today. He summarized the plan for the benefit of the many guests attending the event, emphasizing the project requirements as relevant to energy considerations.

The need to solve energy problems is, in Dr. Cranch's view, urgent. He illustrated this view with a riddle commonly offered to French school children: A farmer stocks a pond with valuable fish. Water lilies tend to multiply rapidly in the pond — so rapidly that they cover twice the pond area

they did the previous day. If the lilies cover the pond entirely, which takes one month, the fish will be wiped out. The question is, how long the farmer can wait to clean the pond. The answer is the next-to-last day of the month. The urgency we now face is, according to Dr. Cranch, due to waiting for the next-to-last day.

The next speaker was Marc Goldsmith, president of Energy Research Group, Inc. Goldsmith began with the proposal that "program chairmen that start off programs at 8:00 in the morning ... ought to be taken out and lined up and shot."

"The keynote ... for the conference and for working in energy is, 'keep your sense of humor,'" he said. The challenges in the field of energy can tend to dispel optimism, so "one faces those challenges with a sense of humor and having a good time, then you can handle them."

Goldsmith called for a social awareness in energy policy. "We need at time of increase in prices to maintain a level of distribution within society. We can't dislocate — make the poor poorer and the rich richer, by the way we adjust energy." The task he sees is to keep social and technological aspects of energy distinct, "without losing our humanity in handling the technical aspects of energy."

Echoing the goals of the WPI plan, he continued: "What it requires is that engineers become more humanist; and they ... do their technology and their programs within a social context; and they take upon themselves a responsibility of convincing people that the innovation, the invention, the creation of a new plant, a new energy form, or



President Cranch.

— Humberto Guglielmina.

Energy session workshops held

A highlight of the APEC activities held last weekend were the energy session workshops on Saturday. From 1:15 to 5:30 in the afternoon, nine different presentations were led two times each in three time slots. Of the nine, *Newspeak*, was able to cover seven: Nuclear Power Plant Operation and Safety, by Dr. James Biffer of Combustion Engineering and Connecticut Voice of Energy; Direct Solar Energy, by Marc Goldsmith of

Energy Research Group, Inc.; Indirect Solar Energy, by Dr. Melvin Steinberg of Smith College; Coal Liquefaction, Oil Shale and Synfuels, by Joanne Stallmann of Exxon; Environmental Impacts of Energy, by Tom D'Avanzo of the EPA; Comparing Risks of Energy Sources, by Harvard University's Dr. Richard Wilson; and Resource Recovery, by Mr. Edward Lombardi of Henningson, Durham and Richardson.

Nuclear power plant operation and safety

by Mike Beach
Newspeak staff

"Don't believe me, the Union of Concerned Scientists, or anyone — you should sort out the issue of nuclear power for yourself," said Dr. James Biffer. His talk supplied food for thought on an issue that is frequently subject to emotionalism and conflicting expert opinions.

"People have a responsibility to know the facts ... and at a technical institute, such as WPI, there is an opportunity to find the truth about these issues."

Since another seminar focused on the problems of nuclear waste, Biffer confined his talk mostly to the operation of a power plant. He described six nuclear accidents that have occurred in the past, and explained that none of them caused any serious disasters. In 1966 about 30 miles outside Detroit, a mishap occurred that was the impetus for the book *How We Almost Lost Detroit*, a book which Biffer described as misleading.

"We did not almost lose Detroit," and he challenges anyone to research the incident for himself.

The more recent Three Mile Island incident Biffer explained happened because the condition of the primary cooling system was misread by the

operators. Since it was believed that the pressure was reaching critical levels, certain valves were opened to relieve that pressure. When the excess water was pumped off the floor of the reactor room, it was pumped in to an unshielded area, causing a limited amount of radiation to leak into the atmosphere. Biffer assured that there are now precautions to avoid this in the future.

Nuclear plants are designed for a "maximum credible accident", the worst possible accident that could ever happen. For an airplane, a maximum credible accident would be that a loaded refueling plane crashed into the Super Bowl at half-time. Biffer explained that if planes were designed to survive that hypothetical disaster, none would be built. So, are the risks of nuclear power worth the benefits?

Biffer considered the risks of other power sources. For instance, the risk of cancer from breathing coal fumes, or the problems of disposing of the useless potassium and phosphorous that results from coal ash.

The waste per year per person from nuclear generation of all the U.S. power would be only the size of an aspirin, if fuel were to be recycled.

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Solar energy — direct

by Jim Dyer

"What I'm gonna really talk about is direct use of the sun's rays," said Marc Goldsmith. Goldsmith, who spoke at APEC II's welcome and introduction, had a canned presentation, consisting of a slide show and narrative on direct solar energy. To this he added his patented sense of humor and personal insight.

He began by noting that national dispersal of the sun's rays. This dispersal, of course, tended towards the south, with New Mexico receiving the most and New England among those with the least. For this reason, Goldsmith said, most solar projects tend to be in those sunnier climes.

The specific technologies treated in the presentation were "processed heat, solar thermal heating and cooling, and electric generation." These technologies were dealt with by their application to private homes, agriculture, industry, and the generation of solar power.

Goldsmith proceeded to show slides of homes while listing the solar technologies each home used. The types of home covered varied from individual homes to multiple family dwellings. The particular systems in use also varied with geography, and this was touched upon.

Photovoltaic cells, which convert sunlight into electricity, are usually applied only in conjunction with other energy sources. This is because those cells commonly in use today provide little energy. Furthermore, their use tends mostly towards the southwest.

Goldsmith described the passive heating system, where sunlight comes onto a home, heating a medium such as "a wall of rock". This medium then radiates heat at night. An attractive feature of this method is its simplicity and economy. Again, this system is

most effective in warmer regions.

An active heating system is a bit more complicated. In a typical system, there is an array of pipes in the house's roof containing water. This water, heated by the sun, then travels throughout the house and warms selected areas. Other systems exist, where a different medium than water is used. Some other mediums can better retain heat; but in those cases where water is sufficient, it is favored for its economy and simplicity.

There are also solar water heaters. In such a system, water is heated directly by the sun's rays. Unlike an active heating system, however, this water is then used in itself, rather than to heat the house. WPI has such a system.

Industry and agriculture, because of their increased capital, can use larger systems of solar power. Goldsmith showed slides of various businesses, all utilizing large arrays of photovoltaic cells and/or heat collection units. One example was a crop-drying system formerly using oil, now done by the sun.

Research also continues in solar power stations. These consist of a huge complex of mirrors which serve to direct the sun's rays to one focal point, which then converts the intense heat to usable energy. This system is still in the research stages, but it draws fire from many solar advocates because it represents a centralized source of energy, rather than the localized sources offered by other solar techniques.

Another centralized solar source is the solar space station, which collects the sun's rays without the interference of atmosphere, and sends it to the earth in the form of microwaves. This is still only in the planning stages.

SPECIAL FEATURE



Marc Goldsmith.

— Humberto Guglielmina

otherwise; is in the social interest." Also expressed was the need for people of other professions to recognize technological considerations.

Goldsmith proposed that, as engineers, we have a social obligation to apply our skills "with as much knowledge as we can ascertain about the things that we're not skilled in" to meet the myriad social problems related to energy.

He maintained that the key to con-

fronting the energy situation is to develop the "human" side. "The new frontier is going to be the human relations — the communications of the technologies and the policies among ourselves." In his view, it is not the technology, but its application that determines its worth. He sees the increased attendance at this, the second APEC conference, as a step in that direction.

The conference then turned to the game, "Power Play"...

Game helps spark energy awareness

by Tom Nicolosi
News-Features editor

Saturday morning, as part of last weekend's APEC activities, participants in the conference acted out the roles of various groups involved in real-life energy policy-making decisions in a game called "Power Play." Said Jack Keenan of the University of Hartford, who coordinated the morning's activities, "Power Play is an energy issues simulation."

The game is based on a fictional newspaper and a fictional account of a future energy situation in which the United States' energy supply is gathered in equal amounts from six sources — oil, natural gas, solar, nuclear, coal and shale oil. Game participants are placed into groups which simulate sectors of society that are involved in the political and economic decisions involved in shaping the nation's energy policy. The groups included special interest groups that were concerned with the promotion of one energy source, the Congress, the stock market, and reporters. In the fictional newspaper articles — were

several policy options that the "special interest groups" and Congress voted on. The newspaper articles each concerned one of the energy sources, and included such fictional events as a Soviet backed takeover of Saudi Arabia's oil fields and a massive strike by coal miners.

Each group voted on alternative energy policy schemes and trading was done in the "stock market" based on the newspaper accounts and later on updates from the "special interests" and "Congress." After the voting sessions were completed, all of the groups met and the results of the shaping energy policy were discussed from each viewpoint.

The game provided a dynamic demonstration of the process of policy making in real-life situations and served to shed a bit of light on the complexities of managing the national energy policy. According to Keenan, the game has been used in Connecticut schools to help students become aware of the energy situation, and now the game is commercially available in a packaged form.



A POSITIVE ENERGY CONFERENCE

Solar energy-indirect

by Jim Dyer

Dr. Melvin Steinberg is not one for spouting statistics. He prefers to promote an understanding, thus leaving figures one can have faith in. This is the approach he took to the indirect solar energy workshop he headed.

The indirect methods he referred to were windmills, hydroelectric, geothermal, and biomass. The last two, however, were not his specialties, so the workshop's focus was on the former two.

Windmills are a favorite of his, and a source he feels has been underrated by everyone from the public to the Department of Energy. "It is not negligible, it'll do things for you," he said. "On the other hand, it's not going to run the world as we know it," even if everybody had one.

Steinberg explained the situation. The wind, when in motion, has energy (which is defined in physics as the ability to transfer a mass for a distance). The problem is to transfer that energy via the windmill to a useable form.

Power is the rate of energy, or the

amount of energy considered for a length of time. Steinberg wrote a dimensional relation incorporating the factors involved in a windmill:

$$POWER = (\text{Area of Blade}) (\text{Energy of wind}) (\text{air density})$$

This, when put into a formula, becomes:

$$P_{max} = \pi/2 (DR^2V^3)$$

He then put some figures in. Air density is 1kg/m^3 , the radius of a large blade is 10m, a good wind is about 6m/sec. Plugging these in, and accounting for a 65 percent loss in the wind's energy due to conversion, Steinberg came up with roughly 20,000 watts. Enough to run an electric stove, a few light bulbs and a quartz space heater.

Hydroelectric power is more familiar to the general community industry. The power relation it has is:

$$POWER = (\text{water rate}) (\text{gravity acceleration}) (\text{height})$$

For Niagra Falls, the rate is one million kg/sec at a height of 50m. This results in 500 megawatts. Steinberg compared this to the 200,000 megawatts consumed in the United States.

direct. The direct method of liquification can be accomplished by simply heating the coal which produces a low grade oil, or heating the coal at high pressure with the addition of hydrogen. The second of these methods is the most attractive because the liquid produced would be of higher quality. The indirect method of coal liquification involves first the gasification of the coal and then the production of methanol from the gas. Gasification of coal is already a commercially viable process. Liquification of coal by the direct method is still in the research and development stage.

Each of the methods of synthetic fuel production has a number of technological and economic problems associated with it. Shale oil technology has been developed to the point where the process is almost commercially available, but exploitation of the technology would mean moving thousands of people into presently undeveloped regions where the shale plants would be located. This adds both time and cost to this resources development.

The synthesis of high grade fuels directly from coal has many problems associated with it. Liquified coal made directly by heating (pyrolysis) is commercially viable but health hazards from carcinogenic products produced and the low grade of the fuel make the process unattractive. The other method of direct synthesis of liquid fuels still needs much technological development. Problems remain in the removal of sulfur from the coal to prevent environmental problems as well.

Coal gasification on the other hand is already viable. James Coleman, a representative of General Electric, demonstrated to the audience in the workshop a scheme that his company was currently developing in Maine to produce electricity from gasified coal. The scheme arose out of a need to keep the gas turbines that the company manufactures in operation with the shift of electricity production going

to coal from other sources. The scheme involves a coal gasification plant built and operated within an electric generating plant. The coal would be delivered to the powerplant site as is done currently in conventional plants, gasified to a relatively low grade synthetic gas and then buried in a turbine to produce electrical energy. Before the discussion Coleman explained that the cost of construction of such a plant would be low as compared to a conventional nuclear powerplant — \$350 per kilowatt as opposed to \$1000 for a nuclear powered plant.

The discussion by Coleman of GE was probably the most optimistic part of the entire discussion. This probably stems from the different viewpoints of General Electric and Exxon as to the use of the synthetic fuel products. According to Stallman, Exxon is mainly interested in creating the synthetic fuels and then selling them for transportation, domestic, and chemical process use as is now done with the petroleum products that are now produced. Coleman on the other hand stated that General Electric was more interested in using the present technology to produce electricity cleanly and to keep their gas turbines in use. The GE scheme seems more optimistic at the moment because the technology is immediately available. Exxon's scheme for the sale of the commercially prepared synthetic fuels would not be workable for at least another ten or twenty years and would cost billions of dollars in both research and development and plant construction. Yet apparently Exxon does see a profit in synthetic fuels and there seems to be an expensive and risky developmental program now underway there to develop these fuels. However it does not seem that synthetic fuels will play a major role in America's energy situation in the next few years. Said Stallman, "Synthetics will be only a couple of percent of our energy usage in this century."

Coal liquification, oil shale and synfuels

By Tom Nicolosi
News-Features editor

A discussion of synthetic fuels was led by Joanne J. Stallman, a member of Exxon's Synthetic Fuels Research Staff in Florham Park, New Jersey. Explained in the preliminary discussion were the various types of synthetic fuels now available and under development.

These synthetic fuels include oils produced from tar sands and shale, and various gases and liquid fuels which are produced from different grades of coal. Tar sands are a mixture of a substance called bitumen which is a viscous, dense petroleum substance and water in sand. There are great resources of tar sands in

Canada where liquid fuels are being produced commercially from the substance, but very little exists here in the United States. Oilshale is a sedimentary rock that contains kerogen, a waxy, insoluble organic substance which can be converted to oil. The oil is not as easily extracted from the shale, but there are significant reserves of the substance in the western part of the nation.

There are many different grades of coal, some of which can be converted to gas and liquid products. The United States contains abundant coal reserves in Illinois and Texas which are seen as being suitable for the manufacture of various types of fuel. There are two ways of liquifying coal, direct and in-

Environmental impacts of energy

by Doug Fraher
Newspeak staff

The transition to alternate energy sources is lent a special urgency in New England because of the region's high dependence on oil, which provides 79 percent of the energy consumed. Eighty-seven percent of the oil is imported. In the United States as a whole, only 49 percent of the energy comes from oil, 43 percent of which is imported. Mr. Thomas D'Avanzo, Regional Energy Coordinator for the Environmental Protection Agency — Region I, at APEC II — addressed the environmental impact of various energy sources being considered in New England and the regulatory agencies involved. According to D'Avanzo, "any sort of energy system is going to have inefficiencies — and this shows up in terms of waste."

D'Avanzo said that if he was giving his talk five years ago, nuclear power would have been the focus of the discussion. But he now believes that because of organized effective opposition to nuclear power, "only zero to two more nuclear plants will be built in New England — and some of the present plants will be ready for retirement in the 1990's." The two that may be completed are Seabrook and Pilgrim II. The major concerns in New England about nuclear power are the effects of low level radiation, accidental releases of large amounts of radioactive material, thermal pollution,

entrainment, and the fuel cycle. Entrainment is one of the objections raised to the Seabrook facility. The intake for Seabrook's cooling system is a major estuary, and there's concern that the numbers of larval fish and other organisms killed may have significant deleterious effects on some commercial species. The major regulatory agency involved with the plants is the Nuclear Regulatory Commission, with EPA and the states playing smaller roles.

Although nuclear power will be declining, coal will probably be playing a much greater role in electricity generation for utilities and industries. According to D'Avanzo, two to three major utility plants are soon or soon will be burning coal, and this may go up to seventeen. While the United States has decades of coal, the environmental effects of direct coal burning are substantial. Air pollutants include sulfur dioxides, nitrous oxides, hydrocarbons, ash, and carbon dioxide. Acid rain is already a major concern in the northeast. Runoff and leaching from coal-piles may contaminate water supplies. D'Avanzo said that "coal is dirtier than oil in almost every way. It also presents many more problems in transportation."

Many of the electric plants in New England were built for coal use, but they converted in the 60's and early 70's with the glut of cheap oil. Now many of these plants may be ordered

to convert back by the DOE. Before they can be converted, however, decisions have to be made as to the type of coal burned and the type of monitoring systems installed. Regulations established by the Clean Air Act, and the Clean Water Act in regard to emissions from coal burning are enforced by EPA and state agencies.

One way to lessen the atmosphere's pollution by direct coal combustion is to use systems that gasify coal. Plants of this type are still in the development stage. D'Avanzo believes that perhaps up to three plants of this type may be constructed in New England. While

cutting down on release of material into the atmosphere, the gasification process will probably leave wastes of a toxic or otherwise hazardous nature, which have become one of the major concerns of the EPA. Besides the acts mentioned above, the Resource Conservation Recovery Act (1976) and the toxic waste act, TSCA, are involved in regulation.

New England also used to get a great deal of its energy from hydro sources. There are perhaps 1000 megawatts of generating capacity in small dams and mills that are not

Comparing risks of energy sources

by Jim Dyer

Harvard University's Dr. Richard Wilson revealed his sympathies. He considers nuclear energy "the best alternative in many ways." Because of this, he refers to what is commonly known as "alternative" energy with the term "distributed."

One risk concerning energy he finds is the risk of nuclear war "over oil." He clearly considers the "distributed" energy sources insufficient and therefore, presumably, more likely to lead to such a war.

The risks he examined included those of the "distributed" sources. He offered that such sources require more materials overall than concentrated sources, which increases the risk. An example to illustrate this was the

death of 50 people in Maine from fires in wood stoves. Dr. Wilson figures that the risk of death is thus one in 10,000, which he proclaimed "1000 times the risk" involved with nuclear energy.

Another decentralized energy source is the burning of wood in stoves designed for other purposes, such as burning coal. This practice results in an incomplete combustion, which in turn invites cancer. If everyone in the country was to burn wood this way, Dr. Wilson maintains, the number of deaths would increase 20,000 a year.

Other such sources are presently "inestimable," but he finds risks therein very probable. For example, someone with a solar unit on his house

(continued on page 12)

(Workshop coverage continued on page 12)

Election to take place March 12

Nominees for student elections announced

The following is a listing of the nominees:

CLASS OF 82

President:	Phillip A. Collingwood Martin Scott Curry Matthew J. Flynn
Vice President:	Kingsley A. Brown Andrew Montelli Christopher L. Wraight
Secretary:	Anni H. Autio John Lee Ann M. Noga
Treasurer:	Stuari J. Joseph Kathleen M. Pereira Thomas E. Potter
Class Representative:	Cynthia Gagnon

CLASS OF 83

President:	Debbie Biederman John Gorman Robert J. Peters
Vice President:	Jeffrey J. Cocozzo Jeffrey A. Giordano James D. Leonardo
Treasurer:	Sonie Andrianowycz Nick Pirog
Secretary:	Randal Brown Lynn St. Germain
Class Representative:	Heather McDonald Walter T. Towner, Jr.

CLASS OF 84

President:	Michael Grasis Jack A. Nickerson Michael Ortolano Jamies F. Pouliopoulos
Vice President:	Debbie Harrow Jason P. Macari Robert Zides
Secretary:	Catherine M. Culnane
Treasurer:	Steven A. Krouse Douglas Rich Kevin Trudel

Class Representative:	Robert D. O'Shea Glenn A. Zinkus
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STUDENT GOVERNMENT

President:	Kenneth J. Balkus, Jr. John Hanly David J. Rubinstein
Secretary:	Thomas Berard Paul T. Dagle George R. Oliver

Elections will be held on Thursday, March 12, 1981
from 10:00 a.m. — 4:00 p.m.

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WPI continues to acquire land for expansion

by Rich Bibbins
Newspeak staff

The house which once occupied 30 Schussler Road no longer stands, its absence a sign of the continuing growth of the WPI campus. Two weeks ago, Plant Services had the structure torn down because, as Gardner Pierce noted, it was "not economical for the college to maintain the house."

Prior to its decision to dismantle the place, WPI owned and leased the property. Pierce, chief of Plant Services, mentioned that it was far cheaper to rent than to otherwise preserve the real estate. The people who had been renting from the college, nonstudents, left the house unattended over Christmas, allowing the water pipes to freeze and break. When they returned, they quickly turned their keys in to Security! As "WPI is not in the real estate business," the house was not preserved, said Pierce.

This particular project was only one in a series of minor efforts to acquire land for future use by WPI. In general, the school's policy, dictated primarily

by the President's Advisory Committee, has been to obtain as much space adjacent to the campus as is

are several WPI owned homes on Dean, as well as some on Schussler, Boynton, Einhorn, and Institute. The proper-



30 Schussler Road.

— Keith Agar.

economically feasible. This applies to the area of Institute Road and Dean Street, in particular. At present, there

is usually leased to faculty members.

At this point, there are no definite

plans for any new acquisitions, most of which are purchased through an agent, Reidy Realty. Gardner Pierce did express his own impressions of the school's construction priorities, however. First, he mentioned the growing need for student housing in the campus vicinity. The student attitude, inflation, and lack of housing apparently is driving more students to WPI shelter. A second priority is the renovation of Washburn, assuming the funds are available. Fixing the football field, track, and bleachers to accommodate added and nighttime use is a third near-future possibility. In addition, Pierce voiced a desire for a general service facility, to contain the printing plant, electrical and trade shops, and the grounds department.

Continuing the "greening of the campus" is an ongoing priority of Plant Services, Pierce concluded. He added that, depending upon the availability of area property, this trend should continue.

SocComm continues work on by-laws

by Debbie Allen
Associate editor

The revising of the Social Committee bylaws is almost complete and a final version will be voted on. A major issue affecting the passage of the new bylaws is whether to make Production of Major Shows and Security of Major Shows full Programming Board committees with a vote. The first version of the new bylaws puts Production, Security, and Ticket Sales under the jurisdiction of Major Shows. The Social Chairperson is in charge of Major Shows and is able to vote. The chairmen of Production, Security, and Ticket Sales are nonvoting members of the Programming Board.

A second version of the new bylaws puts Production and Security as full Programming Board committees and each have a vote. The Society Chairperson remains in charge of Major Shows and Ticket Sales remains under the jurisdiction of Major Shows. In a recent vote, the Programming Board was evenly divided on this issue.

After more discussion, a third version is being prepared which represents a compromise between the first and second versions. The third version will give Production, Security, and Ticket Sales one vote between them. The Social Chairperson will still be responsible for Major Shows and will have a vote.

...budget

(continued from page 1)

tuition increase for the 1980-81 year was 13.8 percent, with next year's tuition up 18.2 percent to \$5850. The combined room, board, and tuition for the 1980-1981 year was 12 percent. The combined total increase for the 1981-

Feasibility of WPI day center offered for IQP

Consider joining the innovative team for the brand new IQP entitled "A Feasibility Study for Creating a Nursery School and Day Care Center at WPI"

The need exists for quality child care in the academic and the industrial world where both husband and wife are pursuing careers in addition to parenthood.

More and more women are going into the work force — some of whom have or would like to have children. Most of the time, the burden of child care is primarily taken by the mother, even though a career interruption might effect her career position as well as earnings.

One solution to the problem of "continued inflation" making "two-income families...more significant" would be that "each organization of sufficient size can provide the service through its own on-site resources, reducing to a minimum the separation of mother and child."

I am looking for students and faculty

for an IQP to explore the possibility of creating a Nursery School and/or Day Care Center at WPI. Some questions to answer...

- 1) Does the need exist?
- 2) Where would the site be?
- 3) Would this service be available for the WPI Community alone, or to the neighborhood as a whole?
- 4) What are the legalities necessary to operate a Nursery School and/or Day Care Center?
- Some benefits if all goes well...
 - 1) A service to parents with careers would be available
 - 2) WPI students could learn how to set up a Nursery School and/or Day Care Center in their future organizations
 - 3) Work study students could act as staff
 - 4) Study on young people could be carried out
 - 5) We could turn out little engineers (but please no little Frat kiddies)

(continued on page 13)

1982 year is 16.5 percent.

Mr. Lloyd said that WPI had compared itself to other colleges, both liberal arts as well as engineering schools, when it was considering the budget increase. Many other colleges were increasing their faculty and administrators salaries at a faster pace than WPI, and it was about to hit us in the face. He said that it is disenchanting for someone with a Ph.D to watch one of our graduates with a B.S. earn more money than he does.

The Operating Budget is prepared with particular goals in mind. WPI wants each student to receive the finest education possible on this campus. If the facilities, faculty, and administrators are not as good as they

can be, then our education will not be the best possible. The preparation of the Operating Budget goes through many steps, with each academic department making up its own budget request. These are then reviewed by Dean Bolz. Each non-academic department submits its budget request to Mr. Thomas Denney. The budgets are then put into model form by President Cranch, Mr. Lloyd, Dean Bolz, and Mr. Denney. The models are presented to the Trustees Budget Committee. The Trustees Budget Committee prepares a budget for the Trustees Executive Committee to review. The final recommendation of the Trustees Executive Committee is then voted on by the entire Board of Trustees.

...Oysters

(continued from page 3)

extension of the experiment last year when they tried to flood the bowling lanes.) Rather than basketball, water polo would be the primary sport offered. The administration decided against holding wet T-shirt contests during halftime, but did suggest that the cheerleaders wear bathingsuits. They vigorously denied plans to stock the new facility with Piranhas to curb vandalism.

I originally thought that the Newspeak editorial board was behind the whole mess, as they spent so much time watching the girders rust, the floor warp, and the rain drops fall. Last week, however, I saw that they finally gained the presence of mind to reinstate me as an editor after a year in obscurity, and realized that I probably was wrong.

The true reason, however, has to do with the uprising last May. The administration has finally decided to answer the requests of the faculty and students of the "Greening of Campus" controversy. Remember, you heard it here first. The leaks are merely a revolutionary new form of a watering system and Harrington is to be turned into a giant greenhouse. They're now taking suggestions for the types of plants, so get your suggestions in.

Crossword solution

```

PARKA SNOB ASPS
EQUIP MOVE SNAP
SUITTOATEE SORA
TAM NIGER COVER
      VELA WHARF
ACCESS CHORTLES
SLUBS SHELL ALA
CATS SCALY SKIT
ORC CHARM PIETY
TOOSHORT PURSER
      ROUTE CAPE
DENIM GLASS PWS
OVER CROSSTROUT
HERE PORT TORSO
ERSE OWNS STEEP
    
```

WPI has budgeted the following expenditures:

Summary of the 1981-1982 Operating Budget

WPI has estimated receipt of the following revenue:		
Payment for tuition and fees:	\$14339250	45%
Dividend and Interest from Endowment:	2358800	7
Unrestricted Annual Gifts:	575000	2
Income from Short Term Investments and Reimbursements for Services rendered:	2165400	7
Income from Continuing Education, Evening and Summer Programs, S.I.M.:	2593100	8
Income from Sponsored Research and A.R.L.:	4070000	13
Student Financial Aid:	2104500	7
Payments for Room, Board, Books, etc.:	3340125	11
Total Revenues:	\$31546175	100%

Educational expenses including faculty salaries:	\$7833335	25%	
Academic Support including Library and Computer Operations:	1611255	5	
Student Services including Health Services, SAB and Security:	1161540	4	
Institutional Support such as insurance, professional fees, communication and general administration:	2531830	8	
Maintenance and Operation of Physical Plant:	2833210	9	\$31546175
Faculty and Staff Benefits such as Health Insurance, Retirement, Disability Insurance, Workers' Compensation, Social Security Tax, etc.:	2294530	7	\$31585945
Continuing Education, Evening and Summer Programs:	1564150	5	Deficit \$ -39770
Sponsored Research and A.R.L.:	4155000	13	
Student Financial Aid allocations:	4260970	14	
Residence and Dining Hall, Bookstore, Pub, etc.:	3340125	10	
Total	\$31585945	100%	



Kelly McNaghy.



Andre Walker.



John Willoughby.

THE GONG SHOW

photos by K



The judges.

by Ingrid Slembek
Newspeak staff

This year's "Gong Show", held on Saturday night in the Pub, could be termed both a success and a frustration. There were eight acts, all of them musical in nature.

At 9:45 p.m. emcee John Kanty of Atlas Distributors, Auburn, the sponsors of this event, introduced the judges: Lauren Stratouly, Bridget McGuinness, Prof. Richard "Ollie" Olson and Bob Tolber. After a droning prelude by the emcee, the Stan Matthews Band took the stage. This three-member group performed two numbers, the last of which was "Wild Thing", cranked to an excruciatingly painful level. Next was a solo guitar and vocal act by Bill Brothers. This guitarist sang "Red Neck Mother" and an original tune entitled "Bathing Suit Blues". The third group Kelly McNaghy, consisted of two guitarists and a harmonica player. During their first number, they were gonged by the judges.

Between acts, the emcee attempted to cajole the audience into participating in arm-wrestling contests on stage. The fourth number was Andre Walker and the R.A. Band. Andre sang the classic "Worcester Tech Down-

ne ong OW



The Rolling Clones.

Kevin Santry.



The RA Band.

Home Chem Eng Pre-Comp Blues". In a second number he was accompanied by five kazoo-ing R.A.'s and Tim Gottlieb on drums. This act was well received by the audience. Act number five was done by Ed Gonsalves and Alan Amaral, also gonged by the judges. The audience enthusiastically received the 6-member Rolling Clones who entertained with "Brown Sugar" and "Gimme Shelter". Probably the most popular and best received band was the 5-member Sigma Pi Band who really got the house rocking with Pat Benatar's "Hit Me With Your Best Shot", Rondstat's "Heat Wave" and Heart's "Barracuda" and "Rock 'n Roll". The last act, John Willoughby and Lory Molesky, performed Jethro Tull's "Aqualung", bringing the "Gong Show" to literally a smashing finish when they destroyed two guitars and a speaker during a rendition of "Wild Thing". Winners were the Sigma Pi Band and Bill Brothers.

The show was well attended by a crowd seemingly appreciative of its fellow students' talents. The Lens and Lights Club provided hurried sound modifications for all of the acts with almost no advance notice of stage requirements. Coordinator of the show was Social Committee's Kevin Cavanaugh.



Arm wrestling in between acts.

ACROSS

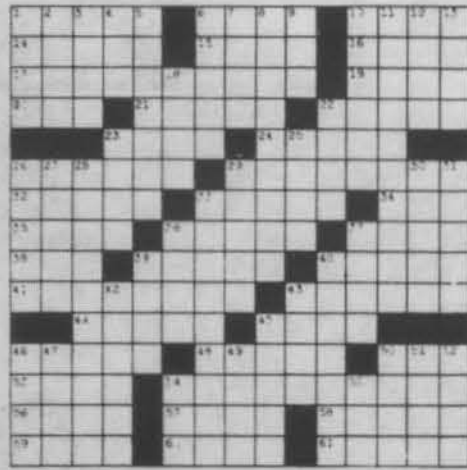
1. Ski jacket
6. A loof one
10. Certain snakes
14. Fit out; array
15. Chess player's turn
16. "Cinch": slang
17. Please exactly: 4 wds.
19. Wading bird
20. Hosiery shade
21. More delicate
22. Cringe
23. TV's "Champagne Music" king
24. Pier
26. Means of approach
29. Laughs gleefully
32. Twists fibers for spinning
33. Cartridge
34. Cotton State: abbr.
35. Lion and tiger
36. Horny-skinned
37. Comedy sketch
38. Grampus
39. Amulet
40. Devoutness
41. Skimpy: 2 wds.
43. Ship's officer
44. Course
45. Horn or Cod
46. Sturdy fabric
48. Tight embrace
50. Afternoons: abbr.
53. Across
54. Canceled: 2 wds.
56. No more than
57. Larboard
58. Body or trunk
59. Gaelic
60. Has title to
61. Unduly high

DOWN

1. Nuisance
2. Blue-green
3. Wreck
4. Caboodle's companion
5. Suitability
6. Slight flavor
7. G. for one
8. Crush
9. Sewing party
10. Classify
11. Wintry phenomena
12. Trim
13. Box scientifically
18. Lubricants
22. Poet Sandburg
23. Networks
25. Sanctified
26. British social event

27. Mild cigar
28. Economize: 2 wds.
29. Plan
30. Aristocracy
31. Goatlike god
33. Brain-seeker in land of Oz
36. "Plugged"
37. Paddock papa
39. Roommate
40. Punch and Judy
42. Evening party
43. Safe-conduct
45. Molds
46. Cupola
47. At any time
49. Bereft: poetic
50. — over: study
51. Clio or Erato
52. Avast!
54. Naval rank: abbr.
55. Speak

CROSSWORDS



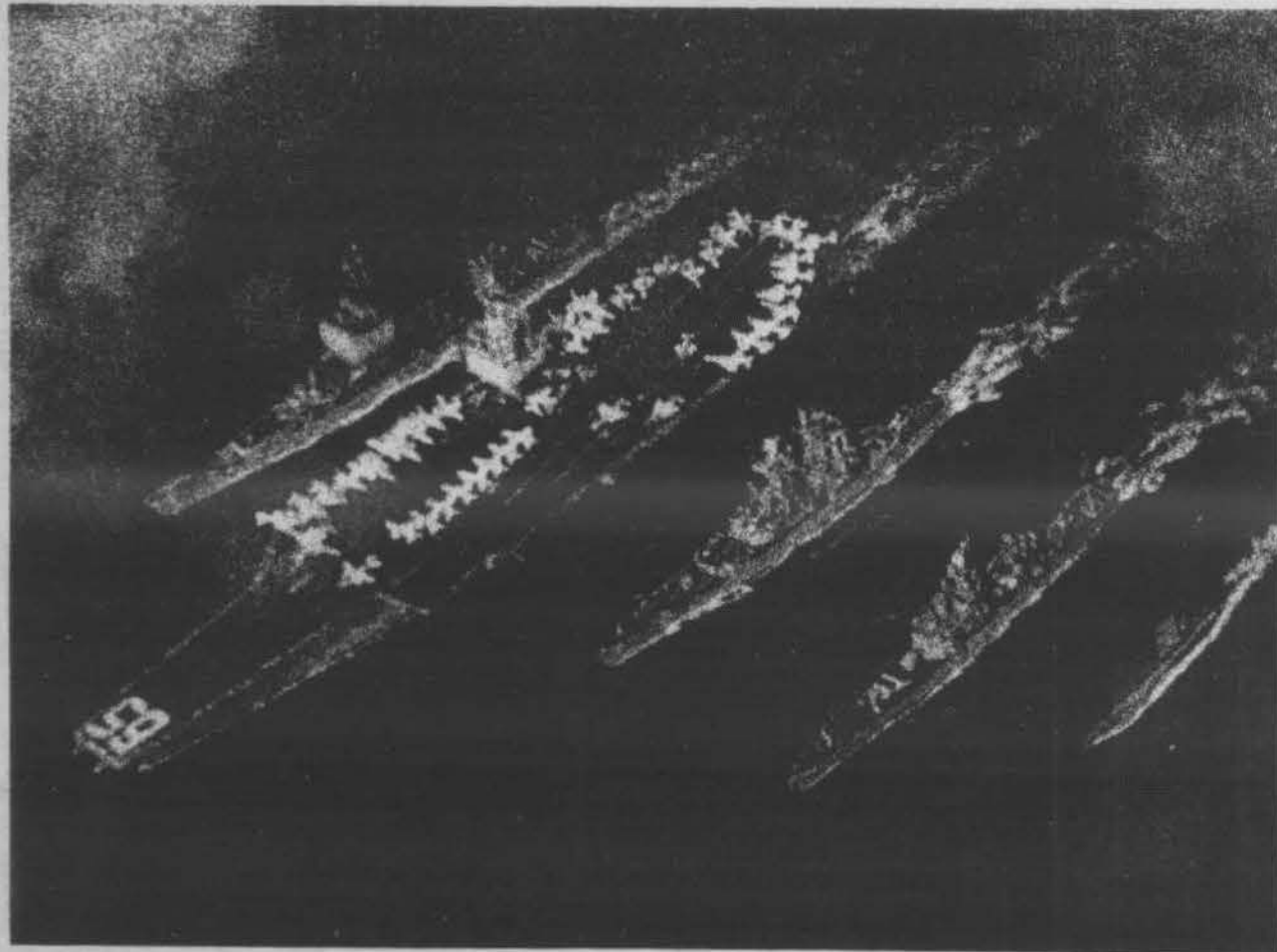
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¶Major/Minor: _____

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This is for general recruitment information. You do not have to furnish any of the information requested. Of course, the more we know, the more we can help you determine the kinds of Navy positions for which you qualify.

C N 3 / 8 1

NAVY OFFICERS GET RESPONSIBILITY FAST.

...Environmental impacts

(continued from page 6)

operating now. The general range of these plants is one to five megawatts. The plants became uneconomical in the 1960's, but many are becoming feasible once more. However, hydro plants have significant effects on downstream conditions. Reduced stream flow leads to less dilution of pollutants, lower levels of dissolved oxygen, and increased eutrophication. If the hydro plant involves impoundment of water, sedimentation behind the dam will increase. Dams present unpassable obstacles to fish swimming towards upstream spawning waters unless fish ladders or tunnels are installed. These additions may alleviate the problem to an extent, but they also increase the cost of construction. DOE, and Fish and Wildlife are the major regulatory agencies involved. EPA plays a relatively minor role, but it may be involved in situations where reduced river flow affects the operation of sewage treatment plants. Some states have set up minimum stream flow standards, but EPA has yet to do this.

New England may also become an energy exporting region, if the George's Banks explorations are very successful. But there are obvious dangers to the marine environment involved. As the George's Bank fishery is incredibly productive, the oil companies have met with strenuous op-

position. Opponents believe that the fishery, a renewable resource if properly managed, is being sacrificed for a short term benefit. However, exploration is going ahead late this summer, with Exxon's *Alaskan Star* and perhaps ten other drilling ships beginning test wells.

Drilling muds used in lubrication of the drill bit are recycled to an extent, but they are eventually pumped overboard. The drilling muds are conceivably toxic, although not enough research has been done in this area.

Spills from blowouts or transportation accidents present the greatest danger. The effects from spills are highly variable due to wind, tide, and current conditions and the characteristics of the spill site. According to D'avanzo, a "study in Falmouth of a small spill that took place in the early 70's indicates that the marsh has recovered at least to some extent. Oil spills may not be as bad as they look." However, research in this area is still highly fragmentary and there's a great deal of disagreement between investigators.

D'avanzo briefly mentioned the impacts of other forms of energy. The toxicity of heat transfer fluids used in solar hot water heaters will become more of an issue in the future. Wood stoves contribute to air pollution and increased harvesting of wood, which is often not well managed. D'avanzo said that "It's difficult to control a whole lot of little decisions, like homeowners putting in woodstoves." The EPA is more efficient in affecting major projects.

D'avanzo, previous to working as the EPA's Region I Energy Coordinator, worked at the Washington Headquarters for the Office of Water Enforcement. He received his B.S. in environmental studies in 1976 from the University of Vermont and a MPA in 1979 from Indiana University's School of Public and Environmental Affairs.

...Nuke safety

(continued from page 4)

"In a conventional oil fired plant air goes in and waste comes out," said Biffer. By comparison a nuclear plant is clean since matter is destroyed to create energy.

The problem of hijacking radioactive materials and creating a bomb were dismissed because of the immense equipment needed to reprocess nuclear waste. "The terrorist would have the highest electric bill in the state" in order to separate the fissionable materials.

Although radioactive plutonium is quite poisonous in itself, and would also be useful to a terrorist, it would be just as easy to use some other volatile (and more easily attainable) chemical for the same purpose.

At the end of the presentation Biffer suggested looking up these references on nuclear safety: Dr. R.E. Lapp, "The Radiation Controversy", Dr. Peter Beckmann, "The Health Hazards of Not Going Nuclear", E.M. Page, "We Did Not Almost Lose Detroit", and B.L. Cohen, "Environmental Impacts of Nuclear Power".

classifieds

NEWSPEAK will run classifieds free for all WPI students, faculty and staff. Free classifieds are limited to 6 lines. Those over 6 lines must be paid for at the off-campus rate of 25 cents/line. Deadline is Saturday noon for the following Tuesday issue. Mail to WPI Newspeak Box 2472, or bring to WPI Newspeak, Room 01, basement, Sanford Riley Hall. Forms must be filled with name, address, and phone no. for ad to be printed.

NAME _____ PHONE _____

ADDRESS _____ TOTAL ENCLOSED _____

AD TO READ AS FOLLOWS:

Allow only 30 characters per line.

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_____	7
_____	8
_____	9

All classifieds are subject to space limitations.

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FOXBORO

...Comparing risks

(continued from page 6)

could "fall off the roof fixing it," and this must be taken into account.

Nuclear energy has an inherent factor of safety, he states, because of the relatively plentiful amount of energy per unit weight of the fuel, uranium. The radioactive waste, when properly

stored, carries a risk of only 50 cancers in their 50,000 years of activity, Dr. Wilson stated, citing EPA statistics.

The risk of cancer is a moot point, he feels. The figures he offered to support this are as follows: Natural background radiation varies from 0.05

(continued on page 13)

Resource Recovery Fact or Fantasy

by Mike Beach
Newspeak staff

Waste may be our most important energy source. According to Mr. Edward Lombardi, solid waste incinerators could not only relieve Worcester's pressing disposal problem, it could also relieve oil consumption.

Lombardi is a program coordinator for the Henningson, Durham, and

Richardson engineering firm, and formerly was Director of Worcester's Solid Waste Recovery program.

Solid waste is a serious problem in Worcester now that there are no new sanitary landfill dumping sites. Lombardi worked with the city to arrange the construction of an incinerator that would supply a perfect solution to the dumping problem, and supply Norton

Co. with energy.

By burning, waste heat would be generated to create steam that could be purchased by Norton Co. Worcester would only have had to agree to have the incinerator installed.

The cost of burying, over dumping wastes, is clearly much less. Lombardi showed that the investment cost of building the plant would be offset by the savings in oil consumption. Eventually by the year 1990, the plant would begin to show a profit.

The city would pay an estimated \$16/ton for waste disposal under this plan, compared to a cost of shipping the waste to an area, such as Plainville, which is 45 miles away. The price of shipping waste to open dump sites increases each year with the price of oil whereas the cost of burning the waste decreases overall because Norton pays for the energy it receives.

Pollution from this incinerator would be less than from the currently used oil burning furnace. Since air pollution

standards are not retroactive on existing oil plants, Norton's old smokestack does not comply to new regulations; the incinerator would comply to the current EPA health standards, however.

The technology exists, and has been used in Europe for the past 30 years. Though there are more demands on the system that was proposed for Norton (a steam pressure of 670 psi) compared to the European disposal plants, there are 25 such working plants in this country already.

Lombardi described how trash could be separated and burned for maximum efficiency. There would still be a need for some sanitary land fill, since not all waste can be burned. About 3 to 25 percent of the waste would have to be buried.

Unfortunately, Worcester recently turned down the option to burn its waste. Lombardi is concerned that federal backing for such a project may never again be available.



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at the O.G.C.P. Don't bother dressing up for the interview.

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Contact: Howard Marshall

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CAMPUS CAPSULES

Mass in G Minor

The Wells College Choir, of Amora, N.Y., and the WPI Glee Club will present Ralph Vaughan William's *Mass in G Minor* in concert in the Church of Notre Dames des Canadiens, Salem Square, Worcester, on Sunday the 8th of March at 4:00 p.m. This is your last chance to see and hear this fantastic group in Worcester this year. Come one and come all. The performance is free and open to the public. Concert time is 4:00 p.m.

Commuter nominations

Nominations for officers for the WPI Commuter Association will be open until March 5th. Anyone interested is asked to send his or her name to Rich Ferron, Box 665. Elections will be held on March 12th.

Summer support

NATIONAL SCIENCE FOUNDATION
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APPLICATION DEADLINE
APRIL 1, 1981

Details and Application forms available for the Chemistry Department Office in Goddard Hall.

Ash Wednesday

Ash Wednesday Masses will be held at 12:10 in Harrington Auditorium and at five o'clock in Kinnicut Hall. During Lent, the Roman Catholic mass will be celebrated on Mondays, Thursdays and Fridays at 12:10 in Stratton 202.

Dance class registration

In conjunction with her Spectrum Series concert on Monday, April 6th, Beth Soll will teach a master class in modern dance on Sunday, April 5th from 7:30 to 9:00 p.m. in the Pub. The class will be open to the WPI community free of charge, but all interested students must register before March 13th by calling 754-2498.

Life sciences colloquium

A two-day colloquium on "Cell Systems for the Study of Gene Expression" will be held Thursday and Friday at Higgins House. One of the twelve featured speakers will be Dr. Stephen Dellaporta, research assistant at WPI. Others represent Brock University (Canada), Albert Einstein University, Univ. of Florida, Harvard, National Institute of Health, Princeton, URI, Rockefeller U., Tufts, Yale, and the W. Alton Jones Cell Science Center. The W. Alton Jones Foundation and WPI are co-sponsors of the event. Registration will begin at 8:30 each morning; the fee is \$15 (\$7.50 students). For further information, call Jeanne Burwick, ext. 543.

Physics colloquium

Prof. Edward O'Neill will speak on "Some Problems Associated with Correlation Functions in Statistical Physics" in Olin 107 tomorrow at 4:15 p.m.

ME colloquium

Dr. Richard S. Lopatka of Pratt & Whitney Aircraft will be the speaker tomorrow afternoon at 4:30 in HL 109. His topic is "CAD/CAM for Mechanical Design". Refreshments will be served at four o'clock.

Chem eng seminar

The Chemical Engineering Department will present a talk by Dr. Norman Li of Exxon Research & Engineering next Monday at 11 a.m. in Goddard 012. Dr. Li's topic will be "Encapsulation and Separation by Liquid Membranes".

Claire's knee

The Worcester State College Monday Night Cinema Series features Eric Rohmer's "Claire's Knee", March 9th, at 7:30 in room L117 of the Learning Resources Center. In this film, the fifth of Rohmer's "Moral Tales", we observe a character's obsession with his friend's teen-age daughter. This determination of his, to caress Claire's knee, provides background for a very funny exploration of modern morality.

Marathon monopoly

The WPI Scuba Club will hold a 24-hour marathon Monopoly game in the Alumni Gym pool on Saturday. Money raised in pledges will be used to benefit the American Heart Association.

Financial aid deadline

Financial Aid applications are due by March 13th. Completed applications must be returned to the Student Affairs Conference Room in the Wedge from 1 p.m. - 4 p.m. (Monday, March 2nd through Friday, March 6th and Monday, March 9th through Friday, March 13th). Applications will not be accepted at the Financial Aid Office during this two week period in anticipation of the congestion arising from the number of applicants.

If your completed application is not submitted by 4 p.m. Friday, March 13th, your application will be late. Late applications will not be reviewed until after all on-time applications have been reviewed and awards will be made on a funds available basis. Be expedient. Avoid long lines and resulting problems by completing your application immediately.

Women's softball

There will be an organizational meeting for all women interested in the 1981 Women's Softball Team on Wednesday, March 4 at 4:15 in the Alumni Conference Room.

CM & ME summer jobs

There will be an open meeting for all CM and ME's interested in a summer job with Mobil in their Commercial Marketing Department on Thursday, April 2nd, in the Library Seminar Room.

Road race

The Second Annual St. Patrick's Day 10K Road Race will be held March 15th at 2:00. The race will be sponsored by the Tam O'Shanter II in Leominster to benefit the American Cancer Society. T-shirts for the runners and refreshments. For more information contact the American Cancer Society, 44 Lee Street, Lowell, MA 01852.

...Comps

(continued from page 3)

safety hazards.

Hints:

Re: Acct. No. 1 (Chalky) — Thermostatically controlled?

Re: Acct. No. 2 (Pelkripsney) — Decapacitorization?

Re: Acct. No. 3 (Estherhazy) — Static cling?

Newspeak will print responses to "Comps" in upcoming issues.

...Day Care

(continued from page 7)

Veronica Gold, Math Instructress of the third kind, invites WPI students to inquire further into this IQP that will charmingly help to decrease the average age of the WPI population.

Call WPI extensions 539, 293, or 241, or 755-6734, or leave a message in the Math department, or come to Stratton 307 on MTuThF from 9 a.m. to 12 noon. Hope to see you!

Joseph A. Soetens, Issue White Paper-Executive Brief Human Resources Needs, Issues Research Collaborative-WPI, December 1980.

...Risks

(continued from page 12)

to 0.2 radons per year, nuclear plant emit 0.01 R/yr, the highest dose received from the TMI accident was 0.1 R ("one of the better determined numbers," as it was agreed upon by five federal agencies); cancer has been observed at 10 R/yr.

Dr. Wilson then took questions from the audience. The risks in mining uranium? 400 lung cancers are reported there since 1945, whereas the same number occurred annually in Pennsylvania alone until 1972. Someone asked about the consideration that the responsibility for such risk be left to the individual or to larger organizations. Assistant Professor John Wilkes asked about the appropriateness of computing risks for an entire population when such risks have more bearing on the local level. To both questions, Dr. Wilson responded, "It depends on your perspective."

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Recruiters will be on campus on March 4, 1981.

Hoopsters finish season with 2-1 week

by Rich Goldberg
Newspeak staff

After four months and thirteen days, the WPI Basketball season has drawn to a close. It really seems a shame that it had to end now. The hoopsters had really come together as a team. They were playing their best and, without doubt, most exciting basketball of the season.

This past week, the Engineers won two games and lost one to finish up with a 10-12 record. On Tuesday they squeaked past Nichols 83-82 in a double overtime heart-stopper. The next night, back home in a dry



Petro zeros in. — Steve Knopping.

Harrington Auditorium, they gave a drubbing to Suffolk University to the tune of 89-65. Then on Saturday night, in THE game, the team put up a tremendous battle before succumbing to Clark University by a score of 66-63.

If you were one of the 2200 who came to Harrington Auditorium on Saturday night, you know exactly what kind of excitement I am referring to. Clark came in boasting a 21-2 record (the best in their history), an eleven game win streak, and a ranking of number one in New England Division III and number five nationally. WPI was working on a three game win streak of its own and looking for a .500 season. History has dictated that WPI-Clark will be a special event, regardless of team records, and this year was to be no exception.

A preview of things to come was provided in the Junior Varsity game when Tommy Smerczynski hit a fifteen foot baseline jumper with two seconds left in regulation time to send the game into overtime. "Smuz" then displayed that lightning can strike twice, as he canned another fifteen footer from the baseline with only five seconds left on OT to create a double overtime. The Clark J.V. finally prevailed 92-90 when a Jon Olson shot fell off the front rim at the buzzer, sparing the weak of heart from a triple overtime before the varsity game even started.

This all served to work the crowd into a near frenzy. By the time the starting lineups were announced, the atmosphere was that of a playoff final.

When WPI's only senior, Captain Randy Byrne, was introduced, the crowd rose to its feet where it remained to greet the entire WPI starting five. Byrne would later admit, "The crowd was great. We hadn't received that kind of support in a long time and it really got us pumped up for the game."

Possibly the teams were too pumped up. Early game jitters were evident at both ends of the court and the baskets were not coming easily. After 5½ minutes, the score stood at a meager 8-8. The Engineers then put on a virtual basketball clinic over the next nine minutes, outscoring the Cougars 22-10 to stake themselves to a 30-18 lead. Randy Byrne put on a show in this stretch scoring on everything from a 20 footer to an alley-oop off an Ed Walls pass.

Unfortunately, this stretch also produced some foul trouble for WPI forwards Russ Philpot, Jim Petropulos, and Chris Trainor, whose aggressive defense had allowed Clark's all Americans Kevin Clark and Mike McGee only nine points at that juncture. With Philpot on the bench and Petropulos and Trainor playing tentatively (having three and four fouls respectively), McGee and Clark teamed for the Cougar's last fourteen points of the half to tighten the score to 38-32 in favor of WPI at the intermission.

Sensing that they had the Engineers down, Clark came out kicking and outscored the home team 20-8 in the first seven minutes of the half to take a 52-46 lead. It is here that some teams might have given in, content to have given Clark a good battle. WPI showed great character coming right back behind good defense and the scoring of Byrne and Walls to tie the score at 52. They were determined to battle until the end.

For the next seven minutes the lead see-sawed, changing hands six times before a John Kessler bank shot put the Cougars ahead for good 64-63 with 3:13 to play. The Engineers had possession of the ball a few times, but the Clark defense kept them off the board the rest of the way, holding on for a 66-63 victory.

WPI had many excellent performances in the game. Ed Walls played the game of his career, scoring 18 points on 9-10 shooting. He and Randy Byrne combined to totally dominate Clark's highly touted guards (Kevin Cherry and Dan Trant), outscoring them 34-11, outrebounding them 10-3, getting more steals 7-4, and getting more assists 10-9. Russ Philpot is also to be commended for his defensive job on Kevin Clark. Clark scored 21 points, but only ten came while Philpot was in the game guarding him.

Earlier in the week, the game with Nichols may have surprised the Clark game in the excitement department. The game looked like it would turn into a blowout when WPI raced out to a 27-13 lead behind the scoring of Philpot, Byrne, and Jim Petropulos. Foul trouble again got in the way of plans. With Philpot and Walls on the bench (3 fouls each), Nichols clawed back to trail at the half by a score of 41-34.

Nichols came out fired up for the second half and didn't seem to miss a shot. They ran off 24 points to 10 for the Engineers to take a 58-51 lead with 9½ minutes to play. WPI fought back, but with 1:32 to play Philpot, Walls, and Petropulos had all fouled out and the score stood at 72-69 in favor of Nichols.

Chris Roche hit a jumper to close the gap to one point. When Nichols could only convert one of two foul shots with fifteen seconds remaining, the Engineers had a chance to tie. With nine seconds left, a time out was called to set up a play. The ball was inbounded to Byrne who dribbled to the key and put up a jumper (with three Nichols platers draped upon him) that swished through the net with four seconds left to send the game into overtime at 73-73.

Nichols got the first bucket, but a Shawn Moore tip-in tied the score. Again the Bisons went up by two only to be tied by a Moore basket. Good



Philpot scores two as Pecevich looks on. —John Mar.

defense kept the score at 77-77 and the game went into a second overtime.

The Engineers fell behind, but two key hoops by Randy Byrne finally gave WPI a lead they could try to hold. With nine seconds left Steve Bishop went to the line for the Bisons, with a chance to tie the score, but only hit one shot. Shawn Moore skied to rebound the miss and was fouled with six seconds left on the clock.

With the Nichols crowd jeering him, Shawn coolly sank both free throws to produce an insurmountable 83-80 edge. Nichols scored with one second left to account for the 83-82 final.

One can not say enough for the play of Randy Byrne, Shawn Moore, Mark Melfi, Chris Roche, David Pecevich, and Chris Trainor who kept battling back from the verge of defeat. It was their persistence that won the game.

Wednesday's game was the only one that could be viewed by those with weak hearts or ulcers. Suffolk got the

first hoop, but I hope they enjoyed the lead then because it was the only time they had it. Despite very sloppy play, the Engineers soon found themselves on the top end of a 37-14 score. Suffolk closed the gap to 47-28 at the half, but that was as close as they would get.

By the midpoint of the second half the lead was 71-42 and the regulars were all resting on the bench. The only thing in doubt was whether or not Tom Smerczynski would get a dunk.

Philpot led the scoring parade with 21 points and everyone but Walls broke into the scoring column. Jim Petropulos played an excellent all around game, scoring 14, grabbing 14 rebounds, making 6 steals, and registering 4 blocked shots. This game gave the Engineers a 10-11 record and set up the confrontation with Clark.

Look forward to a very good team next, as the team only graduates one player. All others should return with the extra year's experience under their belts.

...AD leaving

(continued from page 1)

ing the Faculty Committee on Appointments and Promotions; Associate Professor of English, Lance Schachterle; one representative of the athletic department, Associate Professor Phil Grebinar; and two presidential appointees, Vice President of Student Affairs, Robert Reeves, and Vice President and Dean of Faculty, Ray Bolz, who served as chairman.

The committee operated under much the same guidelines as a tenure panel. They interviewed all members of the athletic department, as well as members of campus organizations such as club sports and others who had dealings with Flood. It was on this basis that the committee voted unanimously not to rehire Flood when his three year contract expires.

Unfortunately, as in the tenure process, all of the details of the hearing must remain confidential. For this reason one will never know exactly why George Flood was dismissed, after only 3 years from a position which

was held for an average of 31 years by the only two men to proceed him.

The only thing one can be aware of is that no one will say anything definitive. Flood himself may have shed some light on the matter when he said, "It was a matter of emphasis. What they wanted me to put emphasis on, I didn't feel was important. And what I wanted to put emphasis on, they didn't feel was important."

The people at the Worcester Telegram got Dean Bolz to add that "It was no question of George's integrity...it just wasn't a good fit, that's the best way to put it."

This all leads one to believe that perhaps there has been a change of priorities since 1978 when Flood was hired. Couple this with disgruntlement by some over deficiencies on the budgets designated for their sports and it is not hard to see why the decision for a change was made.

Reaction among his peers ranged from surprise to disappointment to the all too familiar "no comment," and of course, nobody wanted to be quoted.

WHAT'S HAPPENING

Tuesday, March 3

Cinematech, "The Trials of Alger Hiss," Kinnicutt Hall 6:30 and 9:30 p.m.

Wednesday, March 4

WPI Protestant Fellowship, Lunch, Prayer, and Discussion 11:30 a.m.

Thursday, March 5

Coffeeshouse Entertainment, Wedge, 9 p.m.

Friday, March 6

Higgins Halfway House, Cocktails and dinner, 6 p.m.

Saturday, March 7

Underwater Monopoly Marathon Game to benefit the American Heart Association, sponsored by the WPI Scuba Club.

Sunday, March 8

Sunday Mass in the Wedge, 11 a.m.
The Reel Things, "Breaking Away" Harrington Auditorium 6:30 and 9:30 p.m. (WPI \$1/Others \$1.50)

Monday, March 9

Spectrum presents jazz quartet "Search", Wedge, 8 p.m.

Tuesday, March 10

Cinematech, "The Tree of the Wooden Clogs", Kinnicutt Hal, 6:30 and 9:45 p.m.

SocCOMM PREVIEWS

by Debbie Allen
Associate editor

Pub Entertainment Saturday, March 7

If you're ready for some good FM rock, then come down to the Pub between 8:30 and 12:30 on Saturday to see "Night Bear". They last played here two years ago. Their play list includes Bruce Springsteen, Bob Segar, The Who, The Cars, Tom Petty, J. Geils, and Bad Company. They are perhaps best noted for their exceptional renditions of Bad Company.

Spectrum Fine Arts Monday, March 9

The "Search, Jazz Quartet" will be performing in the Wedge at 8:00 p.m. They are known for their own composi-

tions and striking renditions of traditional jazz. Previously, they have performed in pubs and on college campuses. Their four members are Tom Doherty on bass, Bruce Raty on piano, Anni Cheatham on alto sax, flute, and percussion, and Hollis Headrick on drums and percussion.

Cinematech Film Series Tuesday, March 10

"The Tree of the Wooden Clogs" will be shown in Kinnicutt Hall at 6:30 p.m. and 9:45 p.m. This film is about peasant life in northern Italy at the turn of the century. It tells about the daily life of four families who serve the same landlord. It has received favorable reviews in *Newsweek*, *The New York Times*, and the *New York Post*.

...Glee Club

(continued from page 1)

Amherst college, Harvard and Cornell University Glee Clubs, the University Glee Club of New York, and the Union College Glee Club. The March 8th concert will renew a years old tie with the Wells College Choir, which has lain dormant since 1974, when the two choruses combined to sing the Mozart

Requiem. The club's plans for the immediate future also include a tour to New York City, with the Smith College Glee Club, where the two groups will sing the *Gloria* by Francis Poulenc in St. Patrick's Cathedral.

The concert in Notre Dame Church is free and open to the public; the WPI and Wells College choruses will number around ninety singers.

...Spree day Proposal

(continued from page 1)

this proposal in its current form." He said that if the proposal was presented in the form that it was in then it would get "blown out of the water."

With these words in mind the CSL set another meeting for Friday of last week to consider a revised proposal. This left only two days for the updating of the latest draft, and large factual gaps were still left to be filled in the proposal.

At the Friday meeting a new draft was presented which represented a significant amount of progress as compared to the old draft. The new draft contained a much more detailed plan for the working of Spree Day 1981. It was determined that the fencing in of all entrances to the campus was feasible and that the campus grounds crew was up to the job. Under the plan trash receptacles would be fashioned on the quad by fencing in small areas with snow fences. Daka would supply boxed lunches to those on the meal plan from in front of the wedge. The stage would be located in front of Harrington instead of on the quad itself and the program for the day would consist of a mellow band in the morning followed by a two hour lunch, entertainment by jugglers and magicians, and another band to perform in the afternoon. Absolutely no bottles would be allowed on campus during spree day. Only consortium students would be allowed on campus. A two

hour lunch would be requested for staff so that they might participate in the activities.

Ten volunteers would be needed to help Daka prepare boxed lunches in the morning. A commitment of 40 student workers was obtained from the IFC. This answered one of the biggest concerns that had been voiced about the original plan — the availability of student workers. Student workers would be paid \$5.00 and given a tee shirt.

It was determined that seven off duty Worcester police officers would be hired to help patrol the campus. Forty students would also help with security. The student force would consist of four shifts of ten students each. The cost of the added security was estimated at \$600.

Apparently because of the added costs associated with this spree day entertainment would be curtailed as compared with past years. Along with this the spree day plan if approved would serve as a sort of test to see if there would be any more spree days in future years. It seems that only one ugly incident could sabotage the chances of having future spree days. Student workers would have to be reliable. Things will have to go very smoothly if the proposal is approved for the event to be repeated. Now that the proposal rests in the hands of the PAC we will know in a week if Spree Day 1981 will be a reality.

Student aid cut will cause more loan defaults

(CPS) — President Reagan's proposal to cut the Guaranteed Student Loans (GSL) program will lead more students to default on their federal loans, a University of Pennsylvania researcher contends.

In a draft report on the possible effects of the cutback, Kurt Kendis wrote the "cost-cutting plans which place the entire burden on the borrower will leave a large portion of two million young people very little choice but to default, at least in part, on their student loan obligations."

The current GSL default rate is 11 percent.

David Stockman, director of the Office of Management and Budget, has recommended that federal interest subsidies on GSLs be dropped. Until now, the government has made up

the difference to banks between the nine percent interest they charge students and the higher interest rates banks could get from loaning the money to non-students.

Kendis' report, which is being actively used by anti-cut lobbyists in Washington, D.C., notes that low starting salaries that students get immediately after graduation generally make it even harder to make loan payments, especially the higher loan payments that would result if the Reagan plan is approved.

"It is clear that the 'standard' budget for consumption of a 24-year-old leaves no room for the loan repayment if interest has compounded and accrued over time," Kendis wrote. "That even nominal loan repayments are made in a timely manner is a miracle."



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