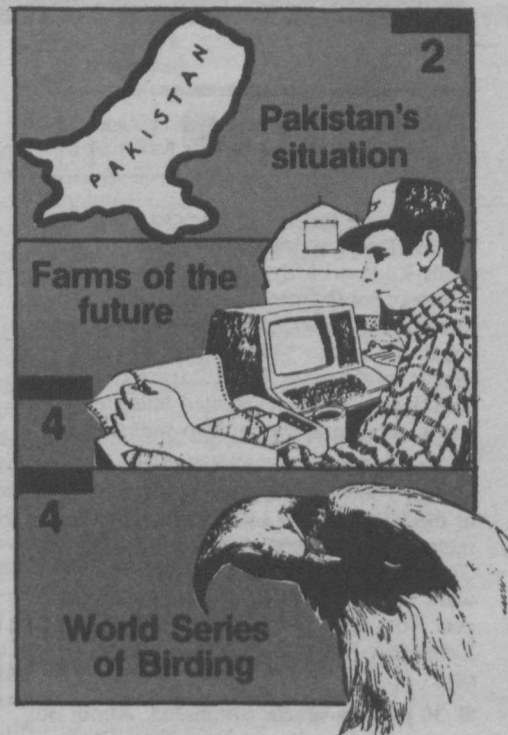


Cornell CHRONICLE

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A couple of folding chairs in Tjaden Hall.

Claude Levett

Rotating grants to help interdisciplinary studies

In the next three years, Walter I. Cohen will be as well read in the theory of culture as he has been in Renaissance drama, his original field of scholarship.

Robert H. Frank will add insights from psychology, philosophy, sociology and biology to what he already knows about theories of economic behavior.

Martin Bernal will turn aside from his study of revolutionary Chinese politics and contemplate the African and Asian contributions to Greek and later European civilization, on which he has written a pioneering book, "Black Athena."

All three professors in the College of Arts and Sciences will be given time to develop interdisciplinary courses incorporating their new knowledge through a new series of grants financed by the Andrew W. Mellon Foundation. Because the support is for a limited term and then will go to three other faculty members from the college, the subsidized chairs have been dubbed "folding chairs."

Barry Adams, vice provost for undergraduate education, welcomed the grants. "One of the distinctive features is that faculty members are perceived precisely as teachers," he said. "I sense a renewed interest and a new willingness to think about and talk about the art of teaching."

The three initial grantees were chosen from nearly three dozen applicants. College of Arts and Sciences Dean Geoffrey V. Chester and Associate Dean Isaac Kramnick told faculty they regard the Mellon chairs as "an important step in a process of curriculum renewal and reform" that would enable teachers "to transcend the boundaries of their departments and fields and to present courses that embody new syntheses to the College community."

Cultural Studies

Cohen said he has been promoting among faculty colleagues and administrators

the idea of cultural studies as a discipline of equal validity with such others as psychology, sociology and philosophy.

"The bibliography in this area has virtually exploded in the last 15 years," he explained. His new "Introduction to Cultural Studies" course will present not the great masterpieces of European culture that every educated person supposedly should know, but rather the concepts of culture and society, the history of culture, the connections between elite and popular culture, and the relation between American and foreign cultures.

"As a renaissance scholar, my field includes the era of exploration," Cohen noted. This might lead to a future course relating culture to empire. "Today there are few colonies in the world, yet American culture is influential worldwide, even in the U.S.S.R., where you see blue jeans and hear rock music, although American economic influence is not present," he added.

Cohen plans to use the 1960s as his case study in the history of culture. "Having lived through it, I have some scholarly expertise, having slept, eaten and breathed it every day," he explained.

Decline of Ancient Greece

Bernal speaks knowledgeably of the resistance to the recent economic reforms in China, arising from traditional mores and the desire of party cadres to retain authority — a subject on which there has been vastly more knowledge since China began to admit foreign scholars. "There are some areas of Guangdong where every district has had its American social scientist," he noted.

Bernal recently developed an interest in the history of and techniques of studying ancient Greece — which he described as "a hobby that's gone out of control."

"The Greeks in classical times saw their foundation as a culture deriving from early

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Theory Center to get IBM's largest computer

Research projects ranging from treating eye cancers with sound waves to theorizing how galaxies of stars collapse to form black holes will be aided when IBM Corp. provides its most powerful computer, the 3090-600E, to the national supercomputer center here.

The new \$20 million system for the Theory Center, which is sponsored by the National Science Foundation, is among the first of the new IBM machines to be installed. Cornell's 3090-400 will be upgraded to the IBM 3090-600E supercomputer in July. The computer is expected to speed the advance of research in medicine, biology, geology, physics, astrophysics, electronics and engineering.

"In making this commitment, IBM is recognizing the great importance of the mission of NSF's supercomputer centers," said Gordon Bell, NSF assistant director for computer and information science and engineering. "Providing the most advanced supercomputers to researchers at the forefront of their fields is vital to maintaining international leadership in science and technology."

According to Theory Center Director

Kenneth G. Wilson, "The IBM commitment comes at a critical time for the Theory Center. With over 200 projects now depending on our facilities, we have found that the current IBM 3090-400 is now fully utilized. To continue to provide the academic research community with the most advanced facilities, we must stay on the frontier of technology, and the 3090-600E computer will allow us to do just that."

Austin Kiplinger, chairman of Cornell's Board of Trustees, said, "This latest example of the extraordinarily fruitful collaboration among Cornell, IBM, and NSF is most welcome and badly needed."

"Clearly, the vision of the Theory Center director and his colleagues of a research enterprise energized by supercomputing is coming true. This offering from IBM will yield enormous benefits, from the intangible thrill of being on the scientific frontier to the hard dollars-and-cents value of gaining in the international high-technology race."

Jack Kuehler, executive vice president of IBM, said, "Providing this new computer to Cornell is doubly important for IBM. We are pleased to be able to aid scientific progress in a wide range of areas. And we also

welcome the opportunity to have our new system exercised to its fullest capabilities by some of the finest scientific and technical minds in the country."

The IBM 3090-600E has about 60 percent more processing power than the 3090-400, currently being used by the center. The new Cornell machine includes six processors, each with a vector facility, which can operate either singly on separate computing problems or in various parallel combinations on the same problem. The system will have a memory of 768 million bytes, 256 million bytes in central storage and 512 million bytes in expanded storage. Another 512 million bytes of expanded storage is scheduled for delivery in the first quarter of 1988.

"The Theory Center is committed to advancing supercomputing, particularly in the areas of parallel processing, large virtual memory, and IBM compatibility," said Wilson, a 1982 Nobel Laureate in physics.

"We were especially interested in the 3090-600E because it affords us the opportunity to advance in all these areas. It offers extensive parallel capabilities and is the only supercomputer that is mass produced. If the

demand for future supercomputing in universities and industry is to be met, it can only be with mass-produced machines."

The Theory Center here was established in February 1985 with a \$21.9 million NSF grant. It is one of five such facilities in the nation. The others are at the John von Neumann Center in Princeton, N.J., the University of California at San Diego, the University of Illinois and the University of Pittsburgh/Carnegie-Mellon University.

The Cornell center currently has a budget of \$16.2 million a year, \$5.4 million of which comes from the NSF. Additional funding comes from the State of New York, Research Institute Corporate Associates, Cornell, the NSF Networking Program, Floating Point Systems Inc. and in-kind contributions.

The CNSF currently consists of an IBM 3090-400 computer with four vector facilities, 128 megabytes of main storage and 512 megabytes of expanded storage. In addition, the system uses a powerful technique called virtual memory, which is a method of simulating through the operating system a much larger storage than is actu-

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Notable

■ **Two-way traffic to return to Judd Falls Road:** Two-way traffic will return to Judd Falls Road on May 15. The road has been one-way south from Forest Home Drive to Plantations Road since Jan. 6 as an experiment on traffic patterns in the Forest Home neighborhood. Data from the five-month trial will be evaluated and a decision made about one-way or two-way traffic.

■ **Forest Home Drive's west entrance closed:** The west end of Forest Home Drive at the East Avenue and Triphammer Bridge intersection is closed to traffic through May 22. The road is torn up for pipe and valve work at the Chilled Water Plant. To park near Toboggan Lodge and Martha Van Rensselaer Hall, enter the drive from the east.

■ **30 parking spaces eliminated:** About 30 spaces of J Permit parking will be eliminated indefinitely around Bailey Hall beginning May 11 due to construction of Academic I. Other J Permit spaces can be found on Tower Road, north of Martha Van Rensselaer Hall and in the new parking garage.

■ **Support group to meet this summer:** There will be an ongoing staff and graduate discussion and support group meeting this summer. The group will discuss such topics as intimacy, aloneness, and addictive relationships, as well as other topics of interest to members. The group, sponsored by the Dean of Students Office, is free and confidential. For more information, call Stu at 255-3122.

■ **Traffic Bureau to switch to summer hours:** The Traffic Bureau at 116 Maple Ave. will begin operating on summer hours beginning May 18. Those hours are 7:45 a.m. to 4 p.m., Monday through Friday.

■ **Safety Shoemobile coming May 22:** The Lehigh Safety Shoemobile will be on campus May 22 at Riley Robb South Parking from 9 a.m. to 12:30 p.m. and from 1:30 to 3 p.m. To receive departmental reimbursement for safety shoes, an L-order using Lehigh Safety Shoe Co. as the vendor, with an authorized signature, should be presented. Maximum monetary amount allowed should be stated on the L-order. For more information, call Alex McCord at 255-3741.

■ **United Way campaign: \$382,675 from Cornell:** The Cornell community contributed \$382,675 to the 1986 United Way campaign, a 6.7 percent increase over the previous year. Some 4,195 employees and 349 retirees made pledges this year, which is an 8.3 percent increase over last year. Cornell raised more money for the United Way in both 1985 and 1986 than any other institution in the Ivy League. Next year's Cornell United Way campaign chairperson will be College of Engineering Associate Dean Bing Cady.

Pakistani ambassador sees sign of Soviets leaving Afghanistan

Pakistan's ambassador to the United States told a university audience last week that he sees some signs the Soviet Union may withdraw its troops from Afghanistan.

But Ambassador Jamsheed K. A. Marker said he believes Moscow will require assurances that Afghanistan will be neutral and revert to its historic role as a buffer nation separating Russia from Pakistan and India. "We have reports that public opposition to the Afghan operation is growing inside the Soviet Union," the diplomat said. "There have been changes under [Soviet leader Mikhail] Gorbachev. He was not a party to the Soviets going into Afghanistan so he has no emotional attachment.

"As long as the Soviets can be assured of Afghanistan's neutrality, which is to everyone's interest, I think they will go along with a withdrawal, but they want to get the best deal. I'm less despondent than I was a couple of years ago on an Afghan settlement."

Marker spoke to about 70 students in Tjaden Hall May 8 and later that day answered questions from faculty and students in the Peace Studies Program.

In addition to discussing Afghanistan, the ambassador denied that scientists in his South Asian nation are developing nuclear weapons, a concern shared by neighboring India and the United States.

The diplomat said that Pakistan's fuel shortages make "some form of nuclear

energy absolutely vital to us."

But he rejected concerns in Washington and New Delhi that his nation is building nuclear weapons.

"We are pursuing a nuclear program, and we assure you that it is peaceful and for the purpose of creating energy," the ambassador said in answer to a question. "We have one nuclear power plant in Karachi and are negotiating with France for another one. I do not subscribe to the concept that possession of nuclear weapons would assure a measure of peace."

The Soviet Union sent thousands of troops across its borders into Afghanistan in 1979, saying they were required to put down insurgency. Diplomatic and military sources estimate that about 120,000 Soviet troops remain in the landlocked nation today.

In the days of the Russian czars and British colonial rule of the Indian subcontinent, Afghanistan served as a buffer area separating those two empires.

Marker said that about 3 million Afghan refugees have poured into Pakistan to escape Soviet occupation and that more than 1,000 air raids launched from Afghanistan have attacked Pakistani villages and towns.

Negotiations in Geneva have reached agreement on most terms for a Soviet withdrawal except the timetable, the ambassador said.

— Albert E. Kaff

Briefs

Robert R. Morgan, acting chairman of the English Department; Michael McFee, a visiting professor of English; and Nancy Couto, subsidiary rights manager for the Cornell University Press have been awarded \$20,000 grants for creative writing by the National Endowment for the Arts. All three are published poets.

Also among the 104 published authors to receive the grants nationwide was David C. Lehman of Lansing, a poet and fellow at Cornell's Society for the Humanities in 1980-81.

A total of \$2.08 million was awarded this year by the NEA to 51 poets and 54 prose writers "of exceptional talent to enable them to set aside time for writing, research or travel," Frank Hodsol, NEA chairman, said.

Carl Sagan, a professor of astronomy and space sciences and the director of the Laboratory for Planetary Studies for Radiophysics and Space, will deliver the commencement address on May 17 at Long Island University's C.W. Post campus.

William B. Travers, professor of geological sciences, has been named a charter member of the U.S. Department of Energy's Basic Energy Sciences Advisory Committee.

The committee, responsible for evaluating programs and suggesting areas for future development, reports to the Secretary of Energy, John S. Herrington, through the Office of Energy Research. The appointment is for one year.

Travers, who has been in the College of Engineering since 1972, has done research in the Sacramento Valley of California towards predicting development of submarine fan strata as an aid to petroleum exploration.

From the Office of Human Resources

• Due to a ruling by the New York State Court of Appeals, the proposed new smoking regulations were not implemented as planned on May 7. Therefore, the university's current smoking policy (Personnel Manual policy No. 710) will remain in effect. This policy was developed in 1981 in cooperation with the Smoking Commission and the Employee Assembly and provides that no member of the community shall smoke without the consent of all persons within the range of the smoke. The policy also details where smoking is prohibited and where smoking should be regulated.

• The Immigration and Control Act Task Force is now reviewing the final regulations and Cornell policy procedures prior to implementation by June 1, 1987. The new policies will be distributed to Personnel Manual holders, hiring supervisors, PSG representatives, PSG representatives, payroll representatives, and academic deans, directors, and department heads before June 1.

• Special compensatory-time policy for commencement workers: All employees who VOLUNTEER to work during the university's commencement exercises will be granted compensatory time-off equivalent to their standard work day; exempt employees REQUIRED to work will be granted compensatory time-off equivalent to time worked; non-exempt employees REQUIRED to work will be paid at their regular rate of pay for the hours worked and will be eligible for overtime premium pay for those hours worked in excess of 40 hours per standard work week.

• This summer, Job Opportunities will be published each week as usual in the Chronicle or as a one-page listing on weeks when the Chronicle is not published (June 4, 17; July 2, 16, 30; August 13, 27). The one-page listing will be delivered to regular campus locations.

• The 32nd Annual Service Recognition Banquet will be held this year on June 10 in Barton Hall. If you have worked at Cornell for 25 years or longer, you should have received your invitation by now. Please call 5-6898 if you have not received an invitation.

CU students win prize fellowships in Asian research

Cornell graduate students won four of the seven Doctoral Research Fellowships awarded by two national academic groups for studies in Southeast Asian subjects during 1987-88.

Benedict Anderson, director of the Southeast Asia Program, said that competition for the fellowships was open to candidates from all over the world. Two of the four winners are from Southeast Asia and two are Americans.

"It is a singular tribute to Cornell that the faculty of its Southeast Asia Program and the resources of the John M. Echols Collection in Olin Library attract such outstanding graduate students who will be in the forefront of the upcoming generation of Southeast Asia specialists," Anderson said.

The Echols Collection is ranked as one of the world's important depositories of books and documents on Southeast Asia.

The fellowships were awarded by the Joint Committee on Southeast Asia of the Social Science Research Council in association with the American Council of Learned Societies, both based in New York City.

Cornell students who won fellowships will leave shortly for their studies abroad. They are:

• Daniel Dhakidae of Jakarta, Indonesia, who will go to Indonesia for research on "Press, State and Capital: Political Economy of the Indonesian News Industry."

• Bruce M. Lockhart of Carlisle, Pa., who will travel to France and Thailand for research on "The Monarchy in Thailand and Vietnam, 1925-1946."

• Sarah Maxim of Farmington, Conn., who will go to Great Britain, Malaysia and Burma for research on "The Resemblance in External Appearance: The Imperial Project in Kuala Lumpur and Rangoon."

• Chiranan Prasertkul of Paholyotin, Bangkok, Thailand, who will go to Thailand to do research on "The Luang Prabang Kingdom Before French Colonization [1828-1888]: A Social, Economic and Political Analysis of Laos."

Anderson said that receipt of fellowships by a woman student from Thailand and an Indonesian "is a notable indication of the close and longstanding ties between the Cornell Southeast Asia Program and scholarly institutions in Southeast Asia."

— Albert E. Kaff

Obituaries

Robert Duncan MacDougall

Memorial services were held Wednesday in Sage Chapel for Robert Duncan (Scotty) MacDougall, dean of the Division of Summer Session, Extramural Study and Related Programs. He died May 8 in Roswell Park Hospital, Buffalo at the age of 46.

MacDougall had served since 1979 as head of the division that operates conferences, professional and community education, continuing education courses for adults and summer programs for college-age students. He also was an associate professor of architecture in the College of Architecture, Art and Planning.

Trained in anthropology as well as architecture, MacDougall was known for his photographic studies of the domestic architecture and society of India. A exhibit on that topic, "Beyond the Taj: Unity and Diversity in Indian Architecture," toured American art museums in 1980.

Provost Robert Barker praised MacDougall's administrative abilities in running the continuing education program, which included the popular Cornell's Adult University (CAU). He was twice re-appointed dean of the division, most recently in 1985.

MacDougall was born Sept. 1, 1940, in

New York City and earned a bachelor's degree in architecture (1963) and Ph.D. in anthropology (1971), both from Cornell. Before joining the faculty of the College of Architecture, Art and Planning in 1972, he taught at the University of British Columbia, University of Washington and Dartmouth College.

He had practiced with four architectural firms in the New York City area and in Ithaca. MacDougall was an acting assistant dean and assistant dean of the College of Architecture, Art and Planning from 1974-76; acting director of the South Asia Program from 1978-1979; and guest curator at the Herbert F. Johnson Museum of Art, 1978-80.

He was the son of Howard D. and the late Etta M. MacDougall of Rossmore, N.J.. He is survived by his father, his wife, Bonnie Lynn MacDougall, and two daughters, Carlin-Marie and Margaret Duncan MacDougall, all of Ithaca; and a brother, Richard H. MacDougall of Oyster Bay, N.Y.

Officiating at the memorial service was the Rev. W. Jack Lewis, director emeritus of Cornell United Religious Work. Burial was in Pleasant Grove Cemetery. Donations may be made to the American Red Cross Blood Bank Services, 201 W. Clinton St., Ithaca.

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Biologists invent gun for shooting cells with DNA

A gun developed by biologists at the Agricultural Experiment Station at Geneva shoots genes into living plant cells, increasing the ability of genetic engineers to alter plants and animals.

Writing in the May 7 issue of the British science journal *Nature*, Theodore M. Klein and John C. Sanford report success in using the gun to fire small metallic particles coated with deoxyribonucleic acid (DNA) and ribonucleic acid (RNA) into plant tissue.

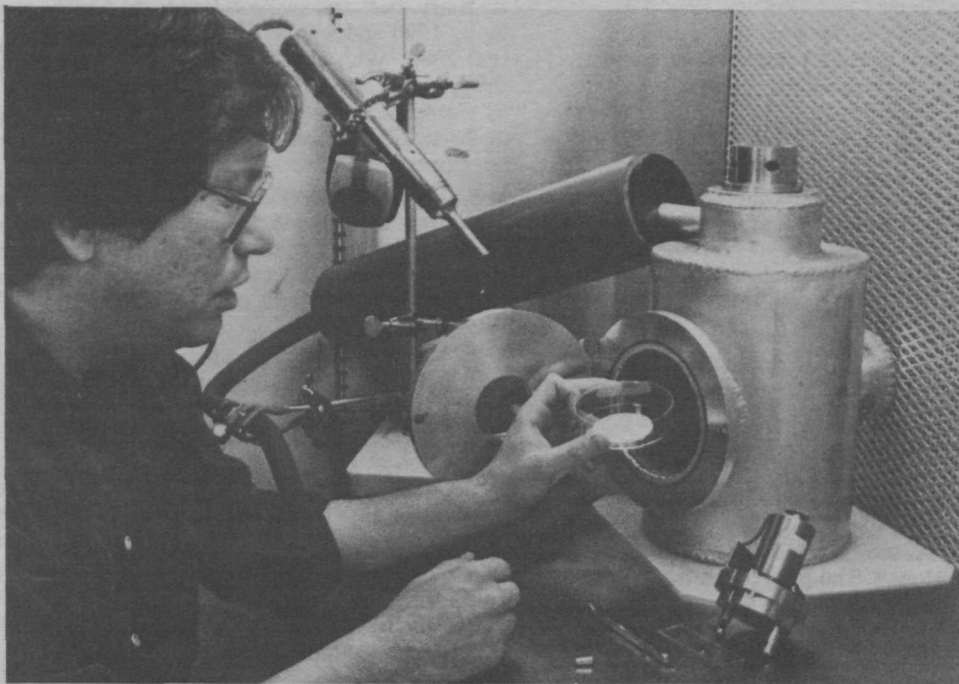
The nucleic acids were "expressed," that is, they produced protein in the plant cells, yet the cells were not harmed by the high-speed bombardment, according to the researchers.

The gun, which can deliver genetic material to thousands of plant cells with one blast, is said to be faster and more efficient than other means of inserting genetic material into plant and animal cells.

The new technique will have immediate use in studying the activity of foreign genes in plants, the researchers said. Further refinement of the technique can cause transformation of plant cells, allowing a desirable foreign gene to be incorporated in a host, they added.

Klein and Sanford's particle gun is similar to a shotgun. A cylinder the size of a .22-caliber rifle barrel is equipped with a firing pin, which detonates a gunpowder-filled blank cartridge. The force of the exploding gunpowder drives a nylon projectile along the gun barrel, pushing ahead thousands of microscopic tungsten particles — each between one and four millionths of a meter in size — that have been coated with RNA or DNA.

A steel plate with a 1-millimeter hole in the center stops the nylon projectile but allows the gene-carrying particles to exit the gun barrel and bombard the target —



Claude Levett

Theodore M. Klein, postdoctoral associate in horticultural sciences and one of the inventors of a new gun that shoots genes into living cells, prepares a target of plant tissue.

which is about one-half-inch square — at velocities of more than 1,000 miles per hour.

The high velocity and small size of the tungsten particles allow them to pierce cell walls without damage. Once inside the cells, the genetic material goes to work.

Assisting in the four-year development of the gene gun were Edward D. Wolf, director of the National Nanofabrication Facility at Cornell, and Nelson K. Allen, a research machinist at that facility.

The first tests of the gene gun used RNA

from tobacco mosaic virus and DNA from bacteria on the living tissue of onion bulbs. The RNA produced a form of virus called viral inclusion bodies, proving that the RNA was functioning. The DNA contained a code to produce chloramphenicol acetyltransferase, and that enzyme appeared in the onion cells.

Ray Wu, a Cornell professor of biochemical, molecular and cell biology, assisted with biochemical assays of the DNA in onions. He is now studying the technique for genetic engineering of rice.

"These findings indicate that particle bombardment can be used to deliver RNA or DNA into large numbers of intact plant cells simultaneously and that foreign nucleic acids introduced by this process can subsequently be expressed," Klein and Sanford wrote in the *Nature* article.

Particle bombardment is expected to offer an advantage over the widely used methods of transferring genes by way of microorganisms such as *Agrobacterium tumefaciens* for plants and retroviruses for animal cells. Those agents are limited to organisms that are their hosts. High-velocity particle bombardment appears to work with a wide range of plant cells, and should work with animal cells as well, according to Sanford, an associate professor of horticultural sciences.

Another method, microinjection of genetic material, works on only one cell at a time. Particle bombardment transfers genetic material to thousands of cells at a time, the scientists said.

The first demonstrations of the gene gun were on the relatively large cells in the epidermal (or outside) cells of plants. "It remains to be shown that smaller cell types, as are found in regenerative plant tissues, can be stably transformed by this method," the researchers wrote.

Recent experiments with eggplant and corn indicate particle bombardment will be a "very promising system" for tissue transformation, Sanford said. "As far as we can tell, there is no reason why this technique will not work with animal cells."

Development of the gene gun was supported by grants from the Cornell Biotechnology Program, the U.S. Department of Agriculture and the Rockefeller Foundation. Cornell has applied for a patent on the device.

— Roger Segelken

Morley describes new emphasis on capital planning

James E. Morley Jr., vice president and treasurer, has been nominated by President Frank H.T. Rhodes to be senior vice president. Pending approval by the Board of Trustees, the appointment would become effective July 1. In his new position, Morley would be responsible for day-to-day direction of virtually all non-academic and support service areas of the university. In a recent interview, he answered questions about his goals and priorities, the university's finances and his style of management.

Q: What will be your initial focus as you prepare to assume the senior vice presidency?

A: First, I hope to assess and understand where we are relative to Bill Herbster's established agendas, and by working with the president, provost, the college deans and others to evaluate and set a course for administrative support services that is appropriate based on that analysis.

Q: In the recent budget reviews, departments were asked to cut two percent from their proposed 1987-88 spending plans. Is this a trend that is likely to continue over the next three to five years?

A: Yes, I think we need to continue to reassess the manner and efficiency with which we provide services in support of our primary missions of teaching, research and public service.

Q: Can we do that by looking at just the bottom line?

A: No. That assessment needs to reflect a number of factors. We cannot look exclusively at cost. We need to understand the relationship between the service and the academic programs it supports. If we don't do that well, we could reduce the quality and scope of service to such an extent that we would impair the quality of our academic programs. We don't want to throw the baby out with the bath water. That leads to one of the most important parts of the senior vice president's role — the coordination and the smooth running of the administrative support areas.

In other words, the critical role of the senior vice president is to see that those staff-support areas are well-managed and to work in concert with each of the other services in support of our fundamental academic mission. For example, our extensive construction program needs to be understood in terms of the academic programs that drive it. We have many needs in terms of developing additional resources and we face the difficult reality of

allocating limited resources across many competing and worthy demands.

We also need to be more effective in linking our development efforts with the needs of the institution so that the needs of the colleges, departments, centers, and so forth are met in concert with the work that's being done by our development staff, both from the central organization and from the units themselves. My financial planning experience can be of assistance in this area.

Q: What particular or special strengths do you feel that you bring to the position?

A: I hope I can contribute in a number of ways. First, I listen well. And because of that, I learn from others. Second, I think I have established a good working relationship with President Rhodes and Provost Barker and can translate the goals they have identified to the support areas that report to me. My experience with other universities has given me important perspective on the issues, problems and opportunities facing higher education and Cornell.

The second is leadership in the process of developing staff support, working not only with the senior vice president's organization, but also with the new organization in the provost's office. The goal is to coordinate more effectively the "inter-workings of the university." No single function survives on its own. Each department must work effectively with organizations adjacent to it. In these efforts of team building and sorting out institutional priorities, I feel I have something to contribute.

Planning will be increasingly important. We've started the process of capital planning. This process takes a more disciplined look at Cornell's new initiatives, whether it's a new physical facility or a new program thrust that requires significant funding. New capital programs need to be looked at within the framework of institutional planning. That effort has begun effectively under the leadership of Associate Provost Joan Egner, and I expect it will be further strengthened by the new organization in the provost's office. I see the senior vice president contributing in major ways to that effort. To succeed, that will require greater involvement of all of the deans, center directors and so forth, as well as the senior staff who report to the senior vice president.

This emphasis on planning and ordering our priorities is essential for resource allocation.

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Bill Mott, a senior in the College of Agriculture and Life Sciences, looks up a quotation.

Claude Levett

Dramatic changes predicted for farms of the 21st century

As the 21st century approaches, American agriculture faces even more dramatic changes and opportunities than in past years.

That is the report from speakers at a recent symposium here celebrating 100 years of agricultural research in the United States.

The symposium was held to mark the centennial of the Hatch Act of 1887, which paved the way for establishing agricultural experiment stations across the nation, and the centennial of the Cornell Agricultural Experiment Station.

Focusing on the theme, "The Next Century," speakers covered topics ranging from the role of agricultural research in the world economy to the impact of technology on the 21st century farm. More than 400 people attended the two-day conference May 4-5.

Biology and other areas of science and engineering will revolutionize agriculture in the next century and dramatically change the methods by which American farmers produce food and fiber, predicted Sylvan H. Wittwer, former director of the Michigan Agricultural Experiment Station.

"Technology will raise world farm output, and agricultural research will advance more rapidly and broadly than ever before," Wittwer said.

"If American agriculture is to remain truly competitive for the 21st century and beyond, we must first be willing to invest to retain our edge in agricultural science and technology, and second to create a mechanism whereby new technology developed in other countries may be brought into the

U.S. system," he added.

Highlights of his projections for the American farm as it heads towards the 21st century included:

- Dairying will remain the most stable and value-added agricultural industry of the world. U.S. milk production per cow, which has doubled during the past 40 years, is likely to double again by the year 2000, while the number of cows will dwindle from 11 million to 7 to 8 million.

- The beef industry is at a crossroads, with consumers demanding low-fat, palatable and tender beef. The future of the industry hinges upon consumer acceptance. There will be no great expansion of exports, and the fate of the industry lies with the domestic market. Acceptance of bovine growth hormone and its use will result in leaner beef and greater rates of gain.

- Pigs that will produce leaner meat will be developed. The pig growth hormone tested at Cornell and other universities has enhanced rates of gain up to 15 percent, reduced carcass fat by as much as 50 percent and back fat by 70 percent, and has produced a 100 percent increase in loin eye area.

- Consumption of broilers and turkey will continue to expand in competition with red meat. By 1990, poultry meat consumption is expected to equal that of beef and pork taken together. Per capita egg consumption in the United States will continue its downward trend.

- Commercial use of growth hormone

for dairy, beef and swine will become a reality by 1990 and will be widespread by the year 2000. With appropriate management, the growth hormone technology, pioneered by Cornell scientists, could produce rewards to the small producer equal to those for the large operator.

- The world's dominant food crops will continue to be rice, wheat, corn, sorghum, millet, oats, barley, rye, soybeans, field beans, chick peas, pigeon peas, cowpeas, peanuts, potatoes, sweet potatoes, cassava, bananas and coconuts.

- The amount of pesticides used for agriculture will be reduced substantially. Costs of materials and of application, increasing environmental constraints and destruction of non-target organisms, food safety and human health and increasing numbers of biotypes gaining resistance will require less use of chemicals.

- Conservation tillage practices, such as no-till, ridge and living mulching systems, will be the wave of the future. This is an emerging agricultural technology vital for resource conservation, including land, water, energy, fertilizer, soil and organic matter.

- Management of water resource availability and quality will be critical for productive and dependable farm production.

- The "plastic revolution" is well underway for crop production throughout the world. Plastic greenhouses, row covers, tunnels and mulches extend production area, control weeds, conserve soil moisture,

repel insects, and protect crops from freezing, thus greatly improving yields and quality of crops.

Keynote speaker Lt. Gov. Stan Lundine of New York State said, "Governor [Mario] Cuomo and I are firmly committed to help the agricultural sector help itself, treating our number one industry with the concern and respect it deserves, and to recognizing the importance of those who supply food to the family of New York."

Lundine called for government and all segments of the agriculture industry to work together to help farmers and agribusiness adapt to changing markets.

"Ensuring a healthy future for New York's agriculture industry is a job not just for farmers and not just for government," he said. "It must be a joint effort of government, farmers, food processors, distributors, wholesalers and retailers."

"Farming is the biggest industry in our state. New York's 48,000 farms directly employ about 191,000 people and generate a gross annual income of about \$3 billion a year. New York's more than 1,300 food processing and manufacturing plants employ 65,000 people, with a payroll of about \$300 million a year.

"Companies providing supplies and services to farmers, along with food processors, distributors, wholesalers and retailers provide another 400,000 jobs. And beyond that, agricultural expenditures indirectly support hundreds of thousands of other jobs throughout the state's economy."

— Yong H. Kim

Cardinals likely to make the World Series . . . of Birding

Money grows on trees — or at least perches there — for Cornell ornithologists who chase birds in New Jersey.

For the fourth year, a five-person team from the Laboratory of Ornithology will test their eyes, ears and instincts in the World Series of Birding. The race to spot the most species of birds in the 24 hours of May 16 will take them from the woods to the shore of the Garden State as they compete against the best birders in the land.

Each bird species they find adds funding, in the form of pledges, to the research and education programs of the Laboratory of Ornithology. Last year, the Cornell team found 169 kinds of birds. That wasn't enough to win the event, but all the pledged dimes, quarters and dollars earned the laboratory more than \$18,000.

"There's probably no scientific value in this enterprise. It's just a snapshot in time of the birds in New Jersey that particular day," said Rick Bonney, captain of the Cornell team and managing editor of *The Living Bird Quarterly*. "We do it for fun and for the laboratory."

Other Cornell team members are Greg Butcher and Todd Engstrom of the Bird Population Studies program here; Mike Braun, a biochemist at the National Cancer Institute; and Andy Dasinger, an engineer from Massachusetts.

Beginning at midnight in the Great Swamp National Refuge, the Cornell team and 26 others will jump into their cars and drive to sites where they saw the most birds in rehearsal runs earlier that week. The Cornell team will spend Saturday's darkest hours in the woods of northern New Jersey, then head for the shore.

"Dawn only comes once in 24 hours, and we like to be at the Great Swamp National Wildlife Refuge where there will be a lot of birds singing. Last year we had 68 species by 6:30 in the morning, before most people



F.K. Thuslow, Laboratory of Ornithology

One of the species the Cornell team hopes to spot in the World Series of Birding this Saturday is the black skimmer, with its elongated lower bill for catching small fish in coastal waters.

were out of bed," said Bonney, who has led the Cornell team every year since 1984.

So many species can be seen because the World Series of Birding coincides with the peak of spring migration through New Jersey. One team found 201 species in 1985. Since New Jersey-based birders have an advantage on familiar territory, the event also gives an award for the most species spotted by an out-of-state team.

Mid-day should find the Cornell birders in New Jersey's pine barrens, with their eyes closed.

"Mostly we stand listening and concentrating. We probably pick up 60 or 70 percent of the species by ear — not by sight — and then try to identify them visually," Bonney said. "You'd be surprised how much time we spend with our eyes closed."

Attracting birds with tape recorders and other devices is against the contest rules, but whistling and hooting is allowed, Bonney said. He imitates a barred owl with a call that sounds like "Who cooks for you, who cooks for you all?"

Shore birds are evident even at dusk, Bonney said, and the Cornell team plans to spend the early evening at Cape May, then work their way back north to the interior once again.

"Cities are to be avoided at all costs because we want to be out listening and looking," the expert birder said. "Being stuck in traffic is no fun at all."

Neither is repairing a flat tire at 2:30 a.m., which cost the Cornell team an hour in 1986.

So the birders have a secret weapon ready for 1987: a second spare tire.

— Roger Segelken

Employment crisis discussed at ILR conference

Senior officials of top companies, government representatives and international union presidents gathered in New York City under Cornell's auspices on May 12 to consider what can be done now to prevent the widespread poverty and extremely high levels of unemployment that the United States could be facing within the next two decades.

The School of Industrial and Labor Relations and the Cornell Institute of Collective Bargaining sponsored the gathering.

Speakers at "The Next American Revolution: Crisis in Employment" explained that the crisis is expected because several seemingly unrelated events will converge within the next 20 years, including:

- The dramatic reduction in the number

of unskilled jobs as the nation moves from an industrial to a service economy.

- The new wave of immigrants permitted under legislation that recently took effect.

- The dramatically increasing rate of adult illiteracy.

- The growing number of minority adults who have given up — who are not holding jobs, going to school or serving in the military.

After Industrial and Labor Relations School Dean Robert E. Doherty welcomed participants, President Frank H.T. Rhodes addressed the group.

The keynote speaker was U.S. Labor Secretary William Brock, whose topic was "Labor 2000 — a Challenge to Manage-

ment and Labor." He was followed by ILR Professor Vernon M. Briggs Jr., who spoke on "Meeting the Impending Crisis of Labor Force Transition." Briggs is author of a book on immigration and chairman of the National Council on Employment Policy.

The AFL-CIO's secretary-treasurer, Thomas Donahue, presented organized labor's view of the impending crisis, followed by the vice president of the Industrial Relations Department of the National Association of Manufacturers, Randolph Hale, who gave industry's view.

The view from education was offered by the former president of Hunter College, Jacqueline Grennan Wexler, who is now president of the National Conference of Christians and Jews.

— Barry Gross

Graduate bulletin

The Rotary Foundation is offering the following scholarships for study abroad: International Peace Scholarships for study at the University of Bradford School of Peace Studies, West Yorkshire, England and Japan Program Scholarships for 21 months of language and university study in Japan. Rotary Foundation Scholarships, which include travel, living and education expenses, are for study in any country that has a Rotary Club. Deadline is June 15.

The Sea Grant Congressional Intern program provides a paid internship in Washington D.C. for work with committees or executive agencies overseeing the marine field. Application deadline is on Sept. 20.

For more information on these awards, contact the Fellowship Office, 116 Sage Hall.

CALENDAR

All items for the calendar should be submitted (typewritten, double spaced) by campus mail, U.S. mail or in person to Chronicle Calendar, Cornell News Service, Village Green, 840 Hanshaw Road.

Notices must be received 10 days prior to publication and must include the name and telephone number of a person who can be called if there are questions.

Notices should also include the sub-heading of the calendar in which the item should appear.

by Cornell Cinema. An (*) indicates that \$2.50 admission is charged.

Friday, 5/15

"Animation Celebration" (1986), 7:30 and 9:45 p.m., Statler Hall.*

"Crimes of the Heart" (1986), directed by Bruce Beresford, with Diane Keaton, Jessica Lange and Sissy Spacek, 10:30 p.m., Uris Hall.*

"Repo Man" (1985), directed by Alex Cox, with Emilio Estevez, Harry Dean Stanton and Tracey Walter, midnight, Statler Hall.*

"Student Film Benefit" (1987), short works by Cornell film students, 6:30 p.m., Uris Hall, admission \$5.

Saturday, 5/16

"Animation Celebration," 7:30 p.m., Statler Hall.*

"Crimes of the Heart," 7:30 p.m., Uris Hall.*

"Repo Man," 9:45 p.m. and midnight, Statler Hall.*

"Decline of the American Empire" (1986), directed by Denys Arcand, with Pierre Curzi, Remy Girard and Yuves Jacques, 8 p.m., Uris Hall.*

Sunday, 5/17

"Decline of the American Empire," 8 p.m., Uris Hall.*

Monday, 5/18

"To Have and Have Not" (1944), directed by Howard Hawks, with Humphrey Bogart and Lauren Bacall, 8 p.m., Uris Hall.*

Tuesday, 5/19

"Fahrenheit 451" (1966), directed by Francois Truffaut, with Julie Christie and Oskar Werner, 8 p.m., Uris Hall.*

Wednesday, 5/20

"Celine and Julie Go Boating" (1974), directed by Jacques Rivette, with Juliet Berto and Dominique Labourier, Uris Hall.*

Thursday, 5/21

"Bring on the Night" (1985), directed by Michael Apted, with Sting and Branford Marsalis, 8 p.m., Uris Hall.*

LECTURES

Western Societies Program

"The Neglected Dimension of Language," Laurence Wylie, French Department, Harvard University, May 16, 10 a.m., Kaufmann Auditorium, Goldwin Smith Hall.

"Techniques for Incorporating Non-verbal Communication into Teaching the French Language," Laurence Wylie, French Department, Harvard University, May 16, 2 p.m., LO4 Uris Library.

MUSIC

Bound for Glory

Records from the Studio, May 17, Commons Coffeehouse, Anabel Taylor Hall.

Ithaca Opera and Johnson Museum Benefit

Savor the Arts benefit, an evening of visual, aural and culinary delights: the Ithaca Opera Company and the Johnson Museum's first joint benefit. Performances by the Ithaca Opera Workshop, the Cayuga Chamber Orchestra Classical Quartet and Mischief Mime. Tickets are \$15 in advance, \$18 at the door and are available at the museum, Carey's Luggage, Rebob Records, Sophisticated Soles and William Shoes. For reservations, call 272-0168 and for more information, call 255-6464.



Claude Levett

DANCE

Cornell Folkdancers

Instruction and requests, Martha Van Rensselaer Auditorium, May 17, 7:30 p.m.

Cornell Scottish Country Dancers

Monday evenings, 8-10 p.m., 213 S. Geneva St. Beginners and experienced dancers welcome. For more information call 257-6017 or 272-6229.

Israeli Folkdancing

Thursday evenings, 8:30 p.m. Anabel Taylor Hall Auditorium.

EXHIBITS

Johnson Art Museum

The Herbert F. Johnson Museum of Art, on the corner of University and Central avenues, is open Tuesday through Sunday from 10 a.m. to 5 p.m. Admission is free. Call 255-6464 for further information.

New York State Printmakers: The works of six printmakers living and working in New York State will be on display May 16 through July 5 as part of the New York State Artists Series. Artists in the exhibition include: J. Catherine Bebout, Nancy Friese, Charles Heasley, Alleyne Howell, Judy Natal and William Schade.

Elements of Nature: Watercolors by Kenneth Evett: Watercolors inspired by Evett's travels to Europe, the Mediterranean, the Maine coast and the American West, through June 28. Evett is an emeriti professor in the Department of Art.

Gallery Reopened: The George and Mary Rockwell Galleries of Asian Art on the fifth floor are now open to the public with the exceptions of a few galleries still being renovated.

Olin Library

Wyndham Lewis, author and artist, Monday - Friday 8 a.m.-noon; 1-5 p.m., through May 17. The exhibit is in the library's main lobby, on its lower level and in the Rare Books room.

Whittaker Seminar Room

Botanical drawings and watercolors, by Carl Whittaker, in the R.H. Whittaker Seminar Room, Corson Hall, Monday through Thursday 8 a.m.-4:30 p.m.; Fridays 8 a.m.-4 p.m. Call 255-6583 for exact times.

FILMS

Unless otherwise noted, films are sponsored

RELIGION

Sage Chapel

Jerome M. Ziegler, dean of the College of Human Ecology, will preach at Sage Chapel on May 17 at 11 a.m. The topic of his sermon will be "Race and Culture in 2001."

Catholic

Mass: Every Saturday, 5 p.m., every Sunday, 9:30 and 11 a.m. and 5 p.m., Anabel Taylor Auditorium.

Daily masses: Monday through Friday, 12:20 p.m., Anabel Taylor Chapel.

Sacrament of Penance, Saturdays from 3 to 4 p.m., G22 Anabel Taylor Hall, or by appointment, 255-4228.

Christian Science

Testimony Meeting: Every Thursday, 7 p.m. in the Anabel Taylor Founders Room.

Episcopal (Anglican)

Every Sunday, 9:30 a.m., Anabel Taylor Chapel.

Friends(Quakers)

Sunday, 9:45 a.m., adult discussion, 11 a.m. meeting for worship, Edwards Room, Anabel Taylor Hall.

Jewish

Morning Minyan: Young Israel House, 106 West Avenue. Call 272-5810.

Conservative/Egalitarian Services: Friday 5:30 p.m., Saturday 9:45 a.m., Anabel Taylor Founders Room.

Orthodox Shabbat Services: Friday evenings, Young Israel House, 106 West Avenue. Call 272-5810. Saturday, 9:15 a.m., Anabel Taylor Edwards Room.

Reform Services: Friday evenings 5:30 p.m., Anabel Taylor Chapel.

Korean Church

Every Sunday, 3 p.m. Anabel Taylor Chapel.

Muslim

Sunday through Thursday, 1 p.m., 218 Anabel Taylor Hall. Friday 1 p.m. Anabel Taylor Edwards Room.

Protestant

Protestant Cooperative Ministry: Every Sunday, 11:15 a.m., Anabel Taylor Chapel.

Zen Buddhism

Zazen meditation: every Thursday 5:10 p.m. at Anabel Taylor Chapel. Beginner's instruction every Tuesday 6:30 p.m. at Ithaca Zen Center, 312 Auburn Street. For more information call 277-4364.

SEMINARS

Applied Math

"Polyhedral Algorithms," Alexander Schrijver, University of Tilburg, the Netherlands, May 15, 12:20 p.m., 207 Upson Hall.

Biochemistry

"Structure and Function in Adenovirus Architecture," Roger Burnett, Department of Biochemistry and Molecular Biophysics, Columbia University, May 15, noon, 125 Riley-Robb Hall.

"Telomeres of neurospora crassa," Michael Schechtman, Department of Biology, Syracuse University, May 15, 4:30 p.m., 204 Stocking Hall.

Boyce Thompson Institute

"Patterns and Mechanisms of Gene Expression in Plants as Revealed by the Firefly Luciferase Gene," Stephen H. Howell, Department of Biology, University of California, San Diego, May 15, 3 p.m., Boyce Thompson Auditorium.

"The Evolution of Moth Sex Pheromones," Wendell L. Roelofs, Department of Entomology, Geneva Experiment Station, May 20, 2 p.m., James Law Auditorium, Schurman Hall.

Jugatae

"The Entomopathogenic Fungus Erynia conica and the factors related to its infectivity to the adult mosquito Aedes aegypti," Esteban L. Cuevas-Incle, graduate student, Department of Entomology, May 18, 4 p.m., A106 Morison Room, Corson/Mudd halls.

Mechanical and Aerospace Engineering

"Chemical Reactions in Turbulent Flows," J. Mathieu, Ecole Central de Lyon, France, May 19, 1 p.m., 282 Grumman Hall.

Microbiology

"The Early Stages of the Plant-Rhizobium Symbiosis," Sharon Long, Department of BioSciences, Stanford University, May 21, 4:30 p.m., 124 Stocking Hall.

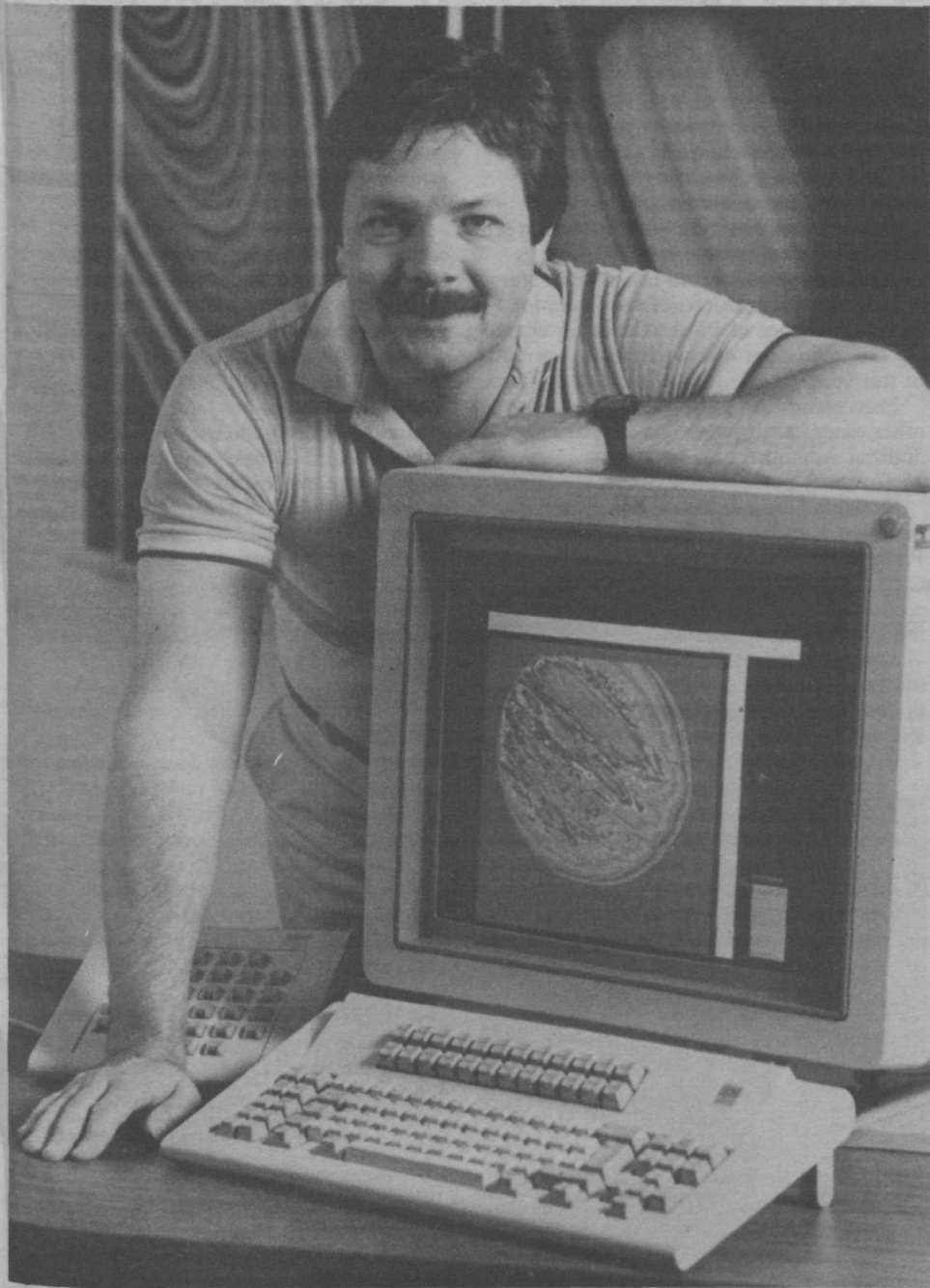
Pharmacology

"Clinical Pharmacokinetics and Aminoglycosides in Renal Disease," Jim Riviere, Department of Anatomy, Physiological Sciences and Radiology, School of Veterinary Medicine, North Carolina State University, May 18, 4:30 p.m., Pharmacology Library, D101L Schurman Hall.

MISC

Prints and Process

A two-hour demonstration and discussion of printmaking techniques, May 16 at 11 a.m. at the Johnson Museum. For more information, call 255-6464.



Planetary scientist Reid Thompson displays a supercomputer graphic of the planet Jupiter. Cornell scientists use the IBM 3090-400 to produce three-dimensional maps of the Jovian Clouds to study the planet's weather.

ally allocated to the user.

Attached to the IBM 3090-400 are seven Floating Point Systems scientific processors — five FPS 264 processors and two FPS 164 processors.

The new IBM 3090-600E will consist of six processors, six vector facilities, 256 megabytes of main memory and 1,024 megabytes of expanded storage.

The IBM 3090-600E will greatly enhance the CNSF's unique program in parallel processing, because the computer's six processors, as well as the attached FPS processors, can be applied in parallel to the same

problem.

The installation of the IBM 3090-600E will also allow expanded usage of the CNSF, enabling the center to implement fully its Strategic User program to provide extremely large amounts of computing time and other scarce resources to heavy users of the facility whose research has the greatest potential for scientific progress. Such candidate projects include studies of how proteins fold into three-dimensional working molecules, how quasars form in outer space, the theory of turbulence and the complexities of metal deformation. — *Dennis Meredith*

Work by New York printmakers will be featured at museum

"New York State Artists Series VII: Prints and Related Work," on view at the Herbert F. Johnson Museum of Art through July 5, features the work of six printmakers living and working in New York State.

The artists in the exhibition differs greatly in the media and images they select. J. Catherine Bebout, of Fair Haven, explores lithography and sculpture in her creations of magical environments inhabited by mystical beasts.

Nancy Friese, of Plattsburgh, is represented by her painterly monoprints, etchings, and drawings, which transform traditional landscapes into explosions of color and shapes.

Charles Heasley, of Cortland, combines

lithography, collotype, screen printing, and letter press in his prints and books to achieve clean-edged images that explore social and political issues.

The monoprints of Alleyne Howell, of Otsego Lake and Vershire, Vermont, are characterized by a languorous romanticism. Working from sketches and photographs taken around New York State and New England, he captures the landscape in the tradition of 19th-century painters.

Judy Natal, of Rochester, works in photogravure, one of the oldest commercial intaglio printing processes.

Drawing on a keen sense of humor and technical skill, William Schade, of Albany, uses drypoint to create his often surprising images of birds.

Rotating grants *Continued from page 1*

Egyptian and Phoenician settlements. In the 19th century, a new view emerged of the conquest of Greece from the North by Indo-European speakers," Bernal explained. "What I've been arguing is that the ancient model was destroyed by general intellectual and political forces, not by its own inadequacies.

"The idea that Greece was somehow a magic society, never matched before and since, made Europeans feel they had a unique experience from the Greek legacy that made them qualitatively better than other peoples. Those who went out to conquer empires were trained in classics and were inculcated with a belief in the superiority of European society."

With this thesis expressed in his book, "Black Athena," recently published in England, he has set himself up in what he called a "unique niche," adding, "I've been slightly ahead in these concepts."

Bernal will use the fall term to rethink his contribution to a common learning course, "The Herodotean Movement, or the Uses and Abuses of Western Civilization," and to develop the "Black Athena" course for the spring term. He will relate the ways scholarship is both dependent on and independent from society and general intellectual trends.

Two other courses to follow will examine the influences of other civilizations on Europe. A look at China will include "not just gardens and pagodas, but economic development, paper money and canals in France" and regard Europe as "a continuum that transmits the concepts that came before," he said.

As to the Mellon grant, "It's really been a godsend," Bernal said. What makes it more gratifying is that "too many awards go to people who are 'sound' rather than innovative. So I'm particularly encouraged."

Economic man

Frank will use his grant to explore the motivations that govern individual economic behavior by adapting insights of other behavioral sciences to the economic precept that a rational person acts with total economic self-interest.

"Economists generally haven't been interested in what other disciplines have to say," said Frank, author of a book on how concerns about status affect behavior. He has come to believe "people care about a different set of things than economists think they care about."

Philosophy brings in concerns of rights and obligations, issues of moral and political theory, he explained. Cognitive psychology is identifying systematic errors of judgment that affect economic behavior. And sociology suggests people can be motivated to work cooperatively.

Among the experiments Frank cites to show how economic judgments are made on non-rational grounds is one in which half the diners in an all-you-can-eat pizza parlor are unexpectedly given a refund of their lunch check. Contrary to the clear prediction of economic theory, those who get the refund eat a lot less.

Economists postulate that a combination of income, leisure and consumption makes people happy. But in fact, Frank noted, "the data show that if your position improves relative to others, you're happy. If everybody is 5 percent better off, though, it doesn't matter so much."

The Mellon "folding chair" will relieve Frank from teaching assignments for two semesters to prepare a new course for each of the ensuing three fall terms. "It's a wonderful thing to have the time free to put the material together," he said.

— *Irv Chapman*

Job Opportunities (continued)

safety.
Req.: AAS pref. 2 semesters of gen. & organic chem. & lab exp. Analytical lab exp. incl. HPLC (min. 2 yrs. exp.). Send cover letter & resume to Judi Pulkinen by 5/29.
Minimum Biweekly Salary: \$482.33

TECHNICIAN, GR22 (T175) Food Science & Technology-Geneva
Assist in research on chem. & physiol. of fruits & vegetables. Conduct processing studies in pilot plant & stat. analyses.
Req.: BS or MS in sci. with strengths in chem. Aptitude for analytical work. Familiar with plant physiol., computers, liquid chromatography, & PAGE. Send cover letter & resume to Charie Hibbard, Box 15 Roberts Hall by 5/21.
Minimum Biweekly Salary: \$539.94

RESEARCH ASST. (T176) Boyce Thompson Institute
Conduct research in biochem. lab. Project is primarily concerned with factors involved in growth of insect pathogens on insect hosts. Techniques used: extraction & purification of proteins, polyacrylamide gel electrophoresis & participation in gene cloning strategies such as prep. of libraries of genomic DNA, isolation of mRNA & synthesis from it of cDNA, prep. of plasmids & DNA sequencing. Will use radioisotopes, prep. of media, culture nonpathogenic fungi & bacteria, use organic chemicals.
Req.: BS in bio. or related field. Prev. training & exp. in biochem., microbio., or cytology lab helpful. Contact Dr. Richard C. Staples, Boyce Thompson Institute, Cornell University, Tower Road, Ithaca, NY 14853. 607-257-2030.
Annual equivalent salary: \$13,000

TECHNICIAN, GR23 (T141) Microbiology, Immunology & Parasitology-repost
Conduct molecular studies on replication of hepatitis B virus. Develop exper., tissue culture, immuno. analysis of cells for specific viral proteins, construct, isolate & characterize recombinant plasmids; maintain inventories of supplies, train new personnel in lab tech.
Req.: BS in microbio., biochem. or genetics, plus either graduate trng. or exp. in nucleic acid chemistry tech. Manual dexterity to handle delicate gels & potentially dangerous substances. Able to handle tissue cultures aseptically. Exp. handling toxic chemicals, radioisotopes, recom-

binant DNA & pathogens. Send cover letter & resume to Judith Pulkinen by 5-22.
Minimum Biweekly Salary: \$572.27

TECHNICIAN, GR19 (T161) Animal Science
Perform radioimmunoassays & assays for plasma metabolites & enzymes; histological & histochemical evaluation of skeletal muscles; computer assisted data acquisition & summary. Assist with animal care & experimentation; maintain clean & orderly lab.
Req.: BS in Animal Sci., Biolog., Sci. or Biochem.; coursework in physiol., histol., or cell physio. helpful. Biochemical assay exp. req., animal exp. helpful. Send cover letter & resume to Judi Pulkinen by 5-22.
Minimum Biweekly Salary: \$457.09

TECHNICIAN, GR20 (T168) Entomology
Provide technical & admin. support for field & lab research program on biol., ecol. & integrated mgmt. of field crop insects.
Req.: BS in biol. sci., plant protection discipline, or related area; NY Certified Pesticide Applicator in categories 1A & 10. Trng. & exp. in research methods for field crop insects; farm background or exp. in operation of farm machinery.

TECHNICIAN, GR21 (T169) Psychology
Operate & supervise Infant Research Center. Supv. research group conducting experiments with human infants. Until 12/31, continuation of position is dependent upon research funding.
Req.: BA or BS in Psychology pref. Some research exp. Good supv., org. & interper. skills essential. Computer programming & WP skills pref. Send cover letter & resume to Judi Pulkinen by 5-22.
Minimum Biweekly Salary: \$482.33

COMPUTER OPERATOR, GR23 (T163) Computer Services
Operate & demonstrate mainframe & micro-computer equip. Perform parallel tasks for printing devices incl. line printers, plotters, laser printers, etc.
Req.: AAS or equiv., plus computer coursework. Knowl. on mainframes & microcomputers. Familiar with Lotus 1-2-3, dBase III & Word Perfect. Good interper. & comm. skills. Send cover letter & resume to Judi Pulkinen by 5-22.

RESEARCH EQUIPMENT TECHNICIAN, GR25 (T162) Plasma Studies

Provide technical support for constructing & operating of intense pulsed ion beam experiment: build & test high voltage pulsed systems, analog & digital control & timing hardware, a vacuum system, & a variety of associated hardware.
Req.: AAS technical or engr. degree with emphasis on electricity/electronics helpful but not req. Knowl. of basic electricity & electronics, able to build finished hardware from electrical schematics, able to read & understand blueprints & a facility with basic hand tools req. Familiar with high voltage circuits, vacuum systems & machine tools (lathe, milling machines) desir. Relevant exp. essential. Send cover letter & resume to Judi Pulkinen by 5-22.
Minimum Biweekly Salary: \$641.54

Part-Time

STOCKKEEPER, GR16 (G172) Ornithology
Assist stockkeeper with mail-order Bookshop operations, stock & other outgoing U.S. & UPS mail processes. 20 hrs./wk.; flexible morning hrs.; additional hrs. req. during busy season.
Req.: H.S. dip. or equiv. Familiar with U.S. postal regulations & other mailing operations. Able to operate mailing machinery. Able to work quickly & accurately under deadline. NYS driver's license req.
Minimum full-time equivalent: \$390.08

TECHNICAL ASST., GR17 (T172) Section of Ecology & Systematics
Assist curatorial assoc. in daily operation of research & teaching aspects of fish & herp collections. Duties incl. recordkeeping, data entry, specimen prep., collection maintenance & misc. duties associated with fish & herp collections. 20 hrs. per wk. Until 6/90.
Req.: BS pref.; coursework in biol. sci. desir. Able to work independ., exposure to research environ., lt. typing skills, & attention to detail important. Send cover letter & resume to Judi Pulkinen by 5/29.
Minimum full-time equivalent: \$409.53

CRT OPERATOR, GR18 (C175) Veterinary Pathology

Provide clerical support for Surgical Pathology & Necropsy Service, off. Data entry on computer; process reports; retrieval; respond to in person & telephone requests. Mon., Tues., & Wed. 8 a.m.-5 p.m.
Req.: AAS in med. sec. or equiv. Min. 2 yrs. in med. sec. off. pref.; med. terminology. Accurate & med. to high speed data entry on computer (as measured by typing skill). Proven ability to act as team member in working with both public & staff. Med. typing.
Minimum full-time equivalent: \$431.43

EDITORIAL PROOFREADER, GR19 (C178) CU Press

Check all stages of proof; help with manuscript, index, reprint preparation; assist 5 editors; fill in for part-time sec. Mon.-Fri., 30-25 hrs./wk. 18 month renewable appt.
Req.: H.S. dip. or equiv. Some college & knowl. of Chicago Manual of Style desir. Proof-reading skills. Exc. concentration & eye for detail. Able to organize flow of work & meet schedules. Knowl. of IBM PCs desir. Lt. typing. Send cover letter & resume to Esther Smith by 5/22.
Minimum full-time equivalent: \$457.09

SYSTEMS PROGRAMMER II (PT174, PT173) Engineering College

Install, modify, maintain & develop system software & utilities. Manage, diagnose & maintain a graphics workstation network. Recommend & specify new hardware, software. Consult with staff & users on programming; set & enforce programming standards. Train & supv. student staff. 20 hrs. per wk., flexible.
Req.: BS in comp. sci. or equiv. 2 yrs. exp. in systems programming & systems mgmt., familiar with VAX/VMS, FORTRAN, C, graphics programming, networking. Either UNIX, VAX/VMS, MS/DOS exp. a plus. Exc. comm. skills. Send cover letter & resume to Judi Pulkinen by 5/29.

ADMINISTRATIVE AIDE, GR20 (C0615) Chemistry

Resp. for WP in dept: Word Processing Facility. Use IBM PC & Mac & Microm 3000; train staff members in use of machines & various software; keep records of Facility svcs.; prepare

monthly billing; arrange for overflow workload staffing. P-t, M-F, 9 a.m.-1 p.m.

Req.: AAS or equiv. Heavy typing. Min. 3 yrs. exp. in WP using chemical, physics or math terms. Use of WordPerfect, Mac Write & LaTeX desir. Demonstrated exp. in prioritizing.
Minimum full-time equivalent: \$482.33

Temporary

Experienced & skilled individuals specifically interested in temporary clerical/secretarial work can contact Lauren Worsell (255-7044).

SUMMER CUSTODIANS (G128) Residence Life

Provide general care & maint. of res. halls & grounds in immediate vicinity of assigned area. May-Aug.; 39 hrs. per wk.
Req.: Able to operate a variety of heavy power equip., lift 50 lbs. & climb an 8 foot ladder. Basic reading & writing skills. Pay: \$3.50/hr., room provided, cash bonus based on srvc. Apply at Staffing Services, East Hill Plaza; Mon.-Thurs. 9 a.m.-12 noon or call 273-1179.

PHOTOCOPY ASST. (C099) Olin Lib. Admin. Oper.

Provide coverage for operations of Photocopy Services; supply minor maint. for CUL photocopiers & related equip.; answer calls for srvc.; make approp. log entries & ensure proper responses to requests for srvc.; supv. students. Eve. & weekend hrs; part-time.
Req.: H.S. dip. Work exp. pref. Willing to work with machines. Able to work with patrons, staff & faculty.

SPORTS

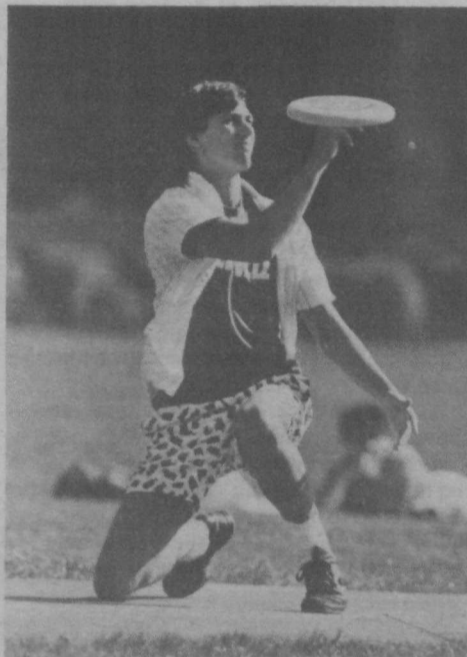
The men's lacrosse team — this year's Ivy League champion — has been seeded second in the NCAA Division I Men's Lacrosse Championships.

The team, which finished with an 11-0 regular season record, received one of four first-round byes in the tournament, along with Maryland, Syracuse and Johns Hopkins. Cornell will face the winner of Wednesday's Army-Adelphi contest on Sunday afternoon at Schoellkopf.

Baseball

The baseball team won four of seven games last week, including a split with EIBL rival Army.

On Tuesday, the team swept a double-header at Oneonta, 6-0 and 10-4. On Wednesday, the team split a double with Army, winning 2-0 and losing 4-3. In games against West Chester Saturday and Sunday, Cornell lost two, 5-1 and 8-3, and won one, 13-12, in a game that went into a tenth inning.



Crew

The lightweight crew closed out its season last weekend at the Eastern Sprints in Worcester, Mass. The varsity eight mustered a sixth-place finish in the grand finals. The junior varsity shell finished fifth. The first freshman boat took first place in the petite finals, topping MIT and Columbia.

The heavyweights placed fifth in the petite finals at the Eastern Sprints. The jayvees took third place in the petites. The freshmen also came in fifth in the petites.

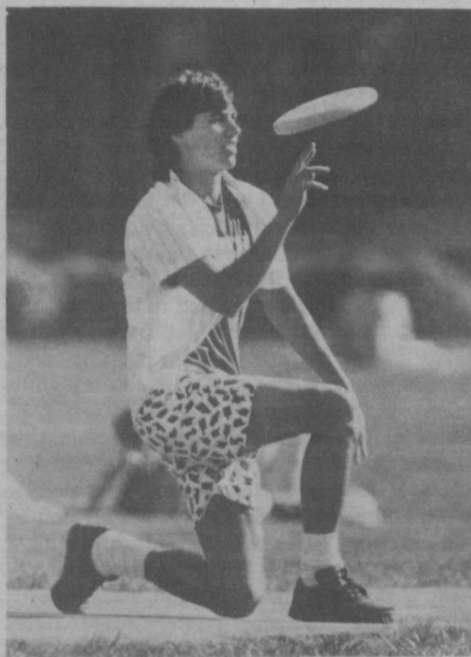
Golf

The golf team finished seventh out of 13 teams with a 653 total at the Northeastern Classic last Sunday and Monday and took fifth place out of nine teams with a 340 team score at the Rochester Invitational last Friday.

The linksmen concluded their 1987 campaign the next Friday by tackling the Oak Hill East Course in Rochester. The University of Rochester won the invitational.

Saturday, 5/16

Men's Baseball - Hobart, noon, Hoy Field.



4 who disrupted speech sentenced to 200 hours of community service

Three students and a staff member were found guilty by a university hearing board May 8 for disrupting a Nov. 16, 1986 speech by Rabbi Meir Kahane.

The university hearing board is comprised of students, faculty, and staff.

The hearing board also found eight students guilty of violations of the Rules for the Maintenance of Public Order for chaining the main door of Day Hall on April 20 of this year.

Proceedings involving defendants in two other cases have been delayed, according to Judicial Administrator Thomas J. McCormick.

Students Gopal Balakrishnan, Brett Beeman and Karl Zweerink and staff member Philip Gasper were found guilty of violating two sections of the Campus Code and a section of the Rules for the Maintenance of the Educational Environment.

They were charged with "interfering with the lawful exercise of free speech and failing to comply with an order to stop disrupting Kahane's speech."

Beeman was given a sentence of 100 hours of community service and placed on general probation, according to McCormick.

Gasper was sentenced to 60 hours of community service and told to refrain from further violations of the Code and the Rules.

Balakrishnan and Zweerink were each sentenced to 20 hours of community service.

Beeman and Gasper have been convicted before of violating the campus code.

In the April 20 case, eight of nine students were convicted of "blocking ingress or egress at Day Hall." Scott McDermott was found not guilty, and all the others were found guilty, McCormick said.

Lisa Daugaard was sentenced to 50 hours of community service and limited probation. Gordon Edgar, Adria Moskowitz, Deidre Silver, Susan Sosnow, Lisa Thompson, Elizabeth Uphoff, and Weiban Wang were given sentences of 10 hours of community service each.

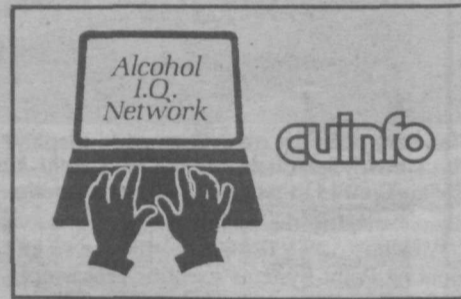
Proceedings involving a sit-in on Oct. 30 of last year in the office of University Counsel Walter J. Relihan were postponed May 11 because criminal charges against seven defendants are still pending in Ithaca City Court. The students are charged with unlawfully remaining in Day Hall after the 5 p.m. closing time.

A hearing on similar charges against seven students in connection with an April 21, 1987, Day Hall sit-in has been continued until the fall semester, McCormick said, because a full panel of eight hearing board members cannot be obtained until that time.



Three scenes on the Arts Quad, starring Mike Unger, a sophomore in the College of Agriculture and Life Sciences.

Claude Levett



Morley *Continued from page 3*

In a general way, that may be our biggest challenge. There are so many good ideas at Cornell and so many opportunities. But we always have to make choices. We must be able to ensure that, to the best degree possible, we are funding those programs that are absolutely going to move Cornell ahead as a world class university. Some projects will have to be postponed. Others we simply won't be able to undertake. And it will be disappointing for people in those activities that are not funded. But we have to make difficult decisions given the limited pool of resources with which we'll work.

Q: How can we, as an institution, make the right decisions?

A: The best way, and perhaps the only way, is to have a good sense of the overall university missions and an understanding of the plans to achieve them, and a clear sense of the direction in which we're heading.

These need to be shared broadly. To do that, we will have to communicate clearly and effectively with all segments of the university community as we develop the plans and as we implement them.

There are other elements that are critically important to decision making. Higher education is under attack nationally. There are many elements that have traditionally been a part of the higher education environment that are under attack — tax-exempt bonds, the pressure to add property taxes, the pressure to reduce indirect cost recoveries, the issue of unrelated business income. All of these are in addition to a general redirection of financial support from the federal government. Effective decision making requires that we understand our changing environment.

At the operating level, we need to improve our information systems. Much has been done. More is needed to take advantage of new technologies to improve the information available for decision making.

Q: You came to Cornell almost two years ago, after seven years as vice president for finance and administration at RPI, where you were instrumental in helping to develop an incubator center and technology park. You have started to make progress with Cornell's industry research park; will you continue to be active in that effort?

A: Yes, I clearly hope to continue to work on the economic development of the region, especially working with Cornell's real estate operation and research park to encourage the development of high tech companies in and around the area. We must provide the right kind of setting for such companies to grow and to come into the region. I hope to work closely with members of our academic community and with local officials in these efforts.

Q: How do you view the employee atmosphere, on both the academic and nonacademic

sides?

A: Cornell has a wonderful spirit of cooperation and institutional loyalty that is unique when compared to other campuses I know. As a university, we must provide an environment where all employees can do their jobs in the most efficient and effective manner and have a sense of contribution to Cornell. The quality of our employees is really outstanding and I will do everything I can to allow people to move as far and to contribute as much as they can toward Cornell's goals. In that regard, I give very high priority to the new Human Relations Agenda. If we are to be a world leader as an academic institution, we must open our doors to minorities and women in larger numbers and at different levels than we now do. I am encouraged by the increased understanding of the campus — students, faculty, staff — that we must do a better job in this area. I am absolutely committed to moving the Human Relations Agenda forward.

Q: How would you describe your style of management?

A: I see myself as a team leader, rather than an autocratic director of activities. I mentioned earlier the importance of having a good sense of direction, knowing what our plans are for the future, and then working to get all members of the university community working in that same direction. Then, you have to do the tougher job of monitoring against performance. That is done through communicating and working closely with faculty, staff and students.

Another element is getting out on the campus to obtain information about what's going on. One of the cliches is "managing by walking around." I subscribe to that philosophy and I look forward to getting out and meeting with people in all of the organizations, including those those beyond the ones reporting to the senior vice president.

That probably describes a style of trying to set broad direction and working with organizations to achieve objectives without micro-managing organizations. But, at the same time, important emphasis is placed on accountability and leadership.

Statler planning and sales staff to relocate

Due to the upcoming renovation of the School of Hotel Administration, the planning and sales staff of The Statler Hotel and Conference Center will be located at 83 Brown Road, opposite the Tompkins County Airport.

The staff will relocate the week of May 18. They will remain in the new location until late spring of 1988. Then they will move into the new hotel to make final preparations for the summer reopening.

With this temporary move comes a change in telephone numbers for the majority of the staff. These new numbers are as follows:

The Statler Hotel and Conference Center 257-2500
 Broderick, Sue, director, computer services 257-6177
 Carney-Lynch, Leslie, controller 257-5761
 Graf, Mary Lou, director, marketing and sales 257-4166
 Harrington, Jyll, graphics supervisor 257-3991
 Kaler, Howard M., general manager 257-5220
 Lang, Carol A., director, human resources 257-3635
 Roth, Thomas G., assistant controller 257-4568
 Rugg, Beth, sales manager 255-2331, 257-7599
 Mead, Judy A., sales assistant 255-5316, 257-2839
 Stevens, Doris L., administrative aide 257-2500

Barton Blotter:

Cash, bicycles, car stereo, oak table stolen

Seventeen thefts involving losses of \$3,111 in cash and valuables were reported on campus during the period May 4 through 10, according to the morning reports of the Department of Public Safety.

The thefts included four bicycles worth \$830 and \$430 in cash and valuables taken from four wallets and a purse.

Other thefts included a \$300 oak table taken from the Alfalfa Room in Warren

Hall, a \$230 radar detector, a \$200 "Men Working" sign, a \$555 car stereo system and a backpack with items totaling \$300.

Six persons were referred to the judicial administrator, three for reckless endangerment, two for public lewdness, and one for disorderly conduct.

Three persons were charged with driving while intoxicated in separate incidents.