

# CORNELL Chronicle

Volume 26 Number 14 December 1, 1994

## ABORTION DEBATED

A recent campus debate on abortion sparked a heated exchange.

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## MIGHTY BIG JOB

Experiment Station scientists tackle pesky pest problem and aid apple crop.

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## Gene therapy helps fight disease, Cornell doctor says

By Jonathan Beard

NEW YORK — Gene therapy — inserting “good” copies of defective genes into people — could help battle a host of diseases for which there are no known cures, a Cornell Medical College gene therapy pioneer said recently.

Dr. Ronald Crystal, chief of pulmonary and critical care medicine and the Bruce Webster Professor of Internal Medicine who pioneered gene therapy in the treatment of cystic fibrosis, said that the technique holds promise for a wide range of disorders.

“We chose CF because we understood the (CF) gene, and it offered a good scientific opportunity. But perhaps gene therapy will help against lupus, in which a person’s immune

system attacks their own organs, or heart disease, where we might be able to build new blood vessels, creating a ‘biobypass,’” he said. “But we have 100,000 genes, and an ability to use the gene as a drug delivery system will create a revolution in new drugs.”

Crystal explained his work Nov. 16 in Uris Auditorium at the Medical College in New York City in a talk called, “Gene Therapy: How Medical Research Contributes To Your Health.” His keynote address was in conjunction with Research!America, a nonprofit group that supports basic medical research. Dr. Donald Fischman, dean of the Graduate School of Medical Sciences, introduced Crystal.

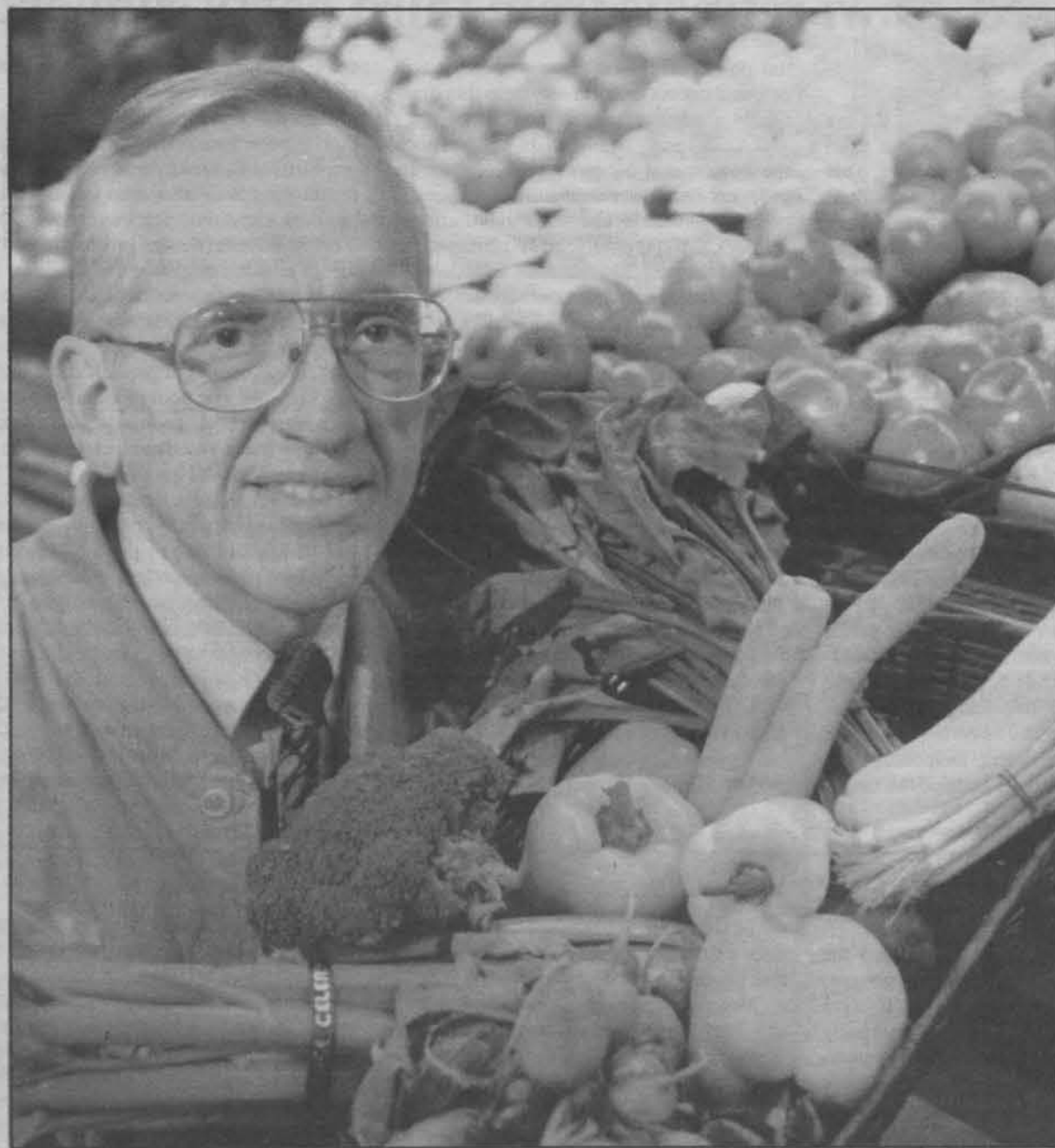
“The easy conquests in medicine — like the discovery of penicillin — are over,” Crystal told his audience, “and

today’s more complex disorders are more costly to treat.”

Crystal then provided an example of what can be accomplished with years of basic and clinical research by outlining his progress against cystic fibrosis, “the most common inherited disease in the USA.”

Crystal’s team at Cornell is using gene therapy against cystic fibrosis (CF), a disease that now limits its victims’ lives to an average of just 29 years, despite aggressive therapies designed to combat CF’s damage to the lungs and digestive system. Five patients currently are receiving gene therapy against CF at Cornell Medical College, and these few, along with four others at the National Institutes of Health (NIH) in Maryland, are the pioneers of what promises to be a broad

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Professor T. Colin Campbell with fruits and vegetables in the P & C supermarket at Cayuga Mall.

Sharon Bennett/University Photography

## China study shows need for eating plant-based diet

By Susan Lang

Americans will not reduce their rate of cancers, cardiovascular disease and other chronic, degenerative diseases until they shift their diets away from animal-based foods to plant-based foods, according to research findings emerging from the most comprehensive project on diet and disease ever done.

Findings from the study suggest that even eating just small amounts of animal-based foods is linked to significantly higher rates of cancers and cardiovascular diseases typically found in the United States, said Cornell nutritional biochemist T. Colin Campbell, director of the Cornell-China-Oxford Project on Nutrition, Health and Environment.

Further, he added, merely eating some low-fat foods or complying with current U.S. dietary recommendations is unlikely to prevent much disease. The dietary recommendations, Campbell said, do not go far enough in reducing the total fat content of the diet, or, more to the point, in advocating the exchange of foods of animal origin for foods of plant origin.

“To get really significant changes in disease rates, it will be necessary to shift the American diet from its heavy reliance on animal-based foods to one that relies far more on plant-based foods,” said Campbell, who along with his colleagues has been analyzing the data from the the China project, a collaborative effort of Cornell, the Chinese Academy of Preventive Medicine and University of Oxford.

The project, which just received \$200,000 from the American Institute for Cancer Research to continue analyzing data, is a massive survey designed to study diet, lifestyle and disease across the far reaches of China; it includes almost 7,000 Chinese families. By investigating simultaneously more diseases and more dietary characteristics than any other study to date, the project has generated the most comprehensive database in the

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## Lowi: Links that forge GOP coalition weaker than those of New Deal

By Lisa Bennett

One might imagine that having a book entitled *The End of the Republican Era* in galleys — one step away from publication — would have made Ted Lowi want to call his publisher on election night and scream, “Stop the presses!”

But it hasn’t. The reason: A double meaning he attributes to the title. By “end” he says he means to address the “objectives” of the party that just swept majority control in Congress.

If that sounds like word-play, however, consider the second meaning, a straightforward idea one is not hearing

much about these days. By “end” he says he means “end.” He means to anticipate the demise of the party still awash in its historic victory.

“These hegemonic coalitions don’t need enemies. They collapse from within,” said the John L. Senior Professor of American Institutions and one of the nation’s best-known analysts of presidential politics. “The New Deal coalition did not collapse from Republican defeat. It collapsed from within, and so will this one.”

When, oh when? some might ask.

Perhaps sooner than you think. Or at least sooner than the

30-year period when the Democratic Party held the majority in this nation, Lowi said in a post-election conversation.

“The factors that can hold the Republican coalition together are weaker than those that held the New Deal coalition together for two related reasons,” he said. One is that the New Deal coalition, founded on Franklin Delano Roosevelt’s ideas of a society in which government helped provide for its least fortunate citizens, favored a growing government. This gave its leaders the advantages of increasing resources to distribute to its members — and few things strengthen political loyalty

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## BRIEFS

■ **Transition team:** President Frank H.T. Rhodes has been appointed to Governor-elect George E. Pataki's transition team. Also named to the 221-member team were Cornell Trustees Richard C. Call, Joseph H. Holland, Ernesta G. Procope and Richard J. Schwartz. Appointed to a separate task force to study Medicaid costs was Paul Macielak, vice president for government, community and public affairs at the Cornell Medical College. "Details concerning the operation of all the transition groups have not yet been announced, but we are very pleased that Cornell's historic role in service to New York state has been recognized through these appointments," said Vice President for University Relations Henrik N. Dullea. The transition team's first meeting will be held tomorrow in New York City.

■ **Seeking thieves:** Next spring's rhododendron display at Cornell Plantations will be smaller than usual, and officials at Cornell's botanical garden are asking help in tracking the stolen plants and identifying the thieves. Sometime in mid-November, determined thieves dug up 14 rhododendrons from the Comstock Knoll collection, according to Mary Hirshfeld, garden curator at Cornell Plantations. The thieves also removed a mountain laurel, three lace-cap hydrangeas and reduced a planting of pink false spireas. "Theft of plants translates into fewer specimens for study and less color and fragrance to enjoy in spring and summer," Hirshfeld said. The Plantations rhododendrons can be recognized by their distinctive metal tags. Persons with information on the missing plants are asked to call Cornell Police at 255-1111.

■ **Mondavi speaks:** Robert Mondavi, one of the foremost vintners in the United States, will speak Friday, Dec. 2 at 1:45 p.m. in Statler Auditorium of Statler Hall as part of the Hotel School Dean's Distinguished Lecture Series. On Thursday evening, Mondavi will be the guest of honor at a dinner prepared by Hotel School students. Mondavi, co-chair of the American Institute of Wine and Food, was a major force behind the establishment of California's Nappa Valley as one of the world's premier wine regions. Mondavi's career has been guided by his brilliant marketing skills and his tireless attention to improving and upgrading the technology used by the wine industry.

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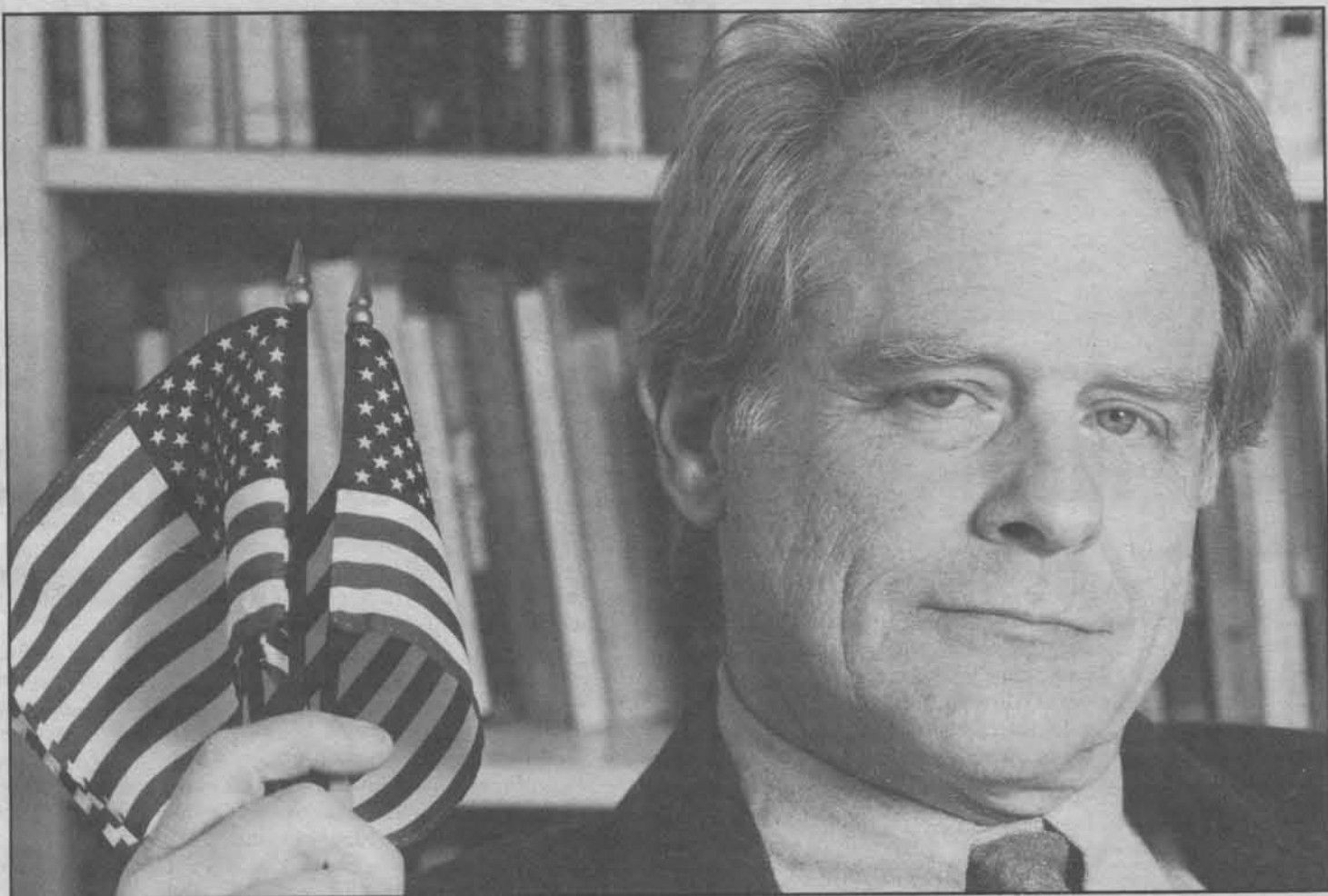
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Peter Morenus/University Photography

Theodore J. Lowi, the John L. Senior Professor of American Institutions, in his McGraw Hall office.

## Distressed, Lowi retreats from third party support

By Lisa Bennett

Two years ago, Ted Lowi could not say more positive things about what a third party could do for American politics. This year, he is like a groom spurned at the altar: He still harbors a belief in what could have been. But he also feels bitter about the reality of how things have turned out.

"My feeling, in principle, is this is what the country needs. But I'm unhappy about the way things are going," said the John L. Senior Professor of American Institutions. "I've psychologically withdrawn from the whole third party thing right now."

When Ross Perot was winning a sizeable share of the 1992 presidential vote — even after stepping in and out and in the election, even though he had never served in political office, even while running without a party apparatus behind him — Lowi hoped it would prove a turning point.

"Whatever the outcome of this year's presidential race, historians will undoubtedly focus on 1992 as the beginning of the end of America's two-party system," he wrote in an article in *The New York Times Magazine*. "Republicans, Democrats and independents alike have grasped the essen-

tial point that the current incumbents will not, and cannot, reform a system that drastically needs overhauling.

"A third party would do more than shock the powers that be into a few reforms. Its very existence — never mind its specific policies — would break the institutional gridlock that has paralyzed Washington for most of the past 20 years," he added.

And, thus, Lowi and others set about trying to help forge such a party. He wrote an open letter to Perot, imploring him to use his electoral support to help organize an independent party. Perot would have none of it. Lowi gave up on him. "He's a nothing," Lowi says now. But he kept organizing, kept writing and kept talking.

He helped organize a third party, originally called the Federation of Independent Parties, then renamed to the Patriot Party. "I didn't like that name," he said.

To make things worse, from Lowi's point of view, Leonora Falani and her supporters also got involved. "Basically, it's a [Louis] Farakan-type thing and to me, if you're with Farakan, you're a racist, I don't care what your skin color is.

"I raised hell about it," he said. But it was too late. He had not been in attendance at the

convention where these moves took place and there was no undoing them.

Since then, the examples of Lowi's bad experiences with the third party go on. Suffice it, however, to name just one more: Tom Golisano, who ran as an independent candidate for governor of New York this year, made, in Lowi's estimation, the same critical mistake Perot did. He ran as an independent candidate, instead of as a candidate representing an independent party.

"Tom, you might as well have stuffed that \$10 million in your pipe and smoked it," he wrote in *USA Today* the day after the election. It was a loud public retreat from the chief ideologue of the third party.

And, yet, despondent though he is, Lowi continues to hold to his principles, if not his passions, about the prospects for the future.

"Third party sentiment is as strong as it was in 1992," he said. "There still consistently are 55 to 60 percent of the people who say they are favorably disposed to a third party. That's unprecedented.

"But the people doing this sort of thing [running for office] now don't suit me," he said and laughed. "I'm the world's most famous disappointed political scientist."

Lowi continued from page 1

like patronage does.

But growing resources is one thing the Republicans, who favor shrinking government, do not have at their disposal. This is a distinct disadvantage in maintaining party loyalty. Or, as Lowi phrased it: "The prospects of politics on the way up offers more opportunities than politics on the way down."

A second reason the Republican coalition may prove weaker in the long run than the Democratic one once was is that ideology tends to mean more to Republicans than to Democrats; and, on this matter, the Republican coalition is split. On one side, there are what Lowi describes as the liberal Republicans; and on the other, there are what he calls the Christian, radical, moralistic, right-wing Republicans.

The right-wing Republicans, whether exemplified by Pat Buchanan, who Lowi reminds us, ran against George Bush for the Republican presidential nomination in 1992, or by the secular right-wing, represented by former U.S. Secretary of Education William Bennett — all are defined by their emphasis on morality.

Case-in-point: Newt Gingrich's announcement that one of his first actions, upon becoming the first Republican Speaker

of the House in 40 years, would be to introduce a Constitutional amendment to authorize prayer in schools.

Meanwhile, the more moderate Republican Party members are not interested in morality but economics and, more specifically, in making government less involved in the lives of its citizens, not more.

The result is a Republican Party made up of strange bedfellows, indeed. And therein lies the prospect for a major split within Republican ranks, Lowi predicts. There already have been some indicators of this schism, which will become more evident, he suggested, once the transition is made from minority to majority governing party and once the Christian right puts its agenda more squarely on the table.

Until now, the Christian right has been effectively using the strategy of: "Let's just take over the local organizations for now, let's put a smile on this tiger and worry about our programs later," said Lowi. But sooner or later the time to worry about programs will come. And that will present a profound challenge to moderate Republicans.

None of this is intended to belittle the change in the political terrain that occurred last month, however.

"This was undeniably a significant election," Lowi said. "The last exciting election was in 1984 when Reagan was re-elected with a very big margin but with support that was broad and thin: It was Reagan only. No coat-tails. No nothing. But 1994 was broad and thick." It also was the result of a 12-year process in which the dominant American ideology about the role of government changed.

"The Reagan Republican coalition now dominates our thinking about government just as much as the old Roosevelt Democratic New Deal coalition dominated our thinking about government for the whole generation from 1932 to 1972," Lowi said.

If the Democratic thinking was once about building government programs to help people, the now dominant Republican thinking is about shrinking government, also, they argue, to help people by reducing tax burdens. Consequently, Lowi notes, America has not had a single new public policy or program in 20 years.

"If you don't like this ideology, you call it gridlock," he added. "But people who call it gridlock don't understand that we are operating on a policy of no policies, which is the Republican way."



# Jamaica's Manley offers wit, wisdom on new world order

By Lisa Bennett

When Michael Manley laughs, which is often, the sound and smile linger. He is in no hurry to finish laughing and move on to the next point. He is Jamaican and has the charm of a grandfatherly gentleman from the Caribbean.

That the Right Honorable Manley also is the retired prime minister of Jamaica, former labor organizer and journalist and still-active advocate for developing world issues (recently having teamed up with former President Jimmy Carter and former Prime Minister Brian Mulroney to forge peace in Haiti) means he could offer both a little wit and a little wisdom when he visited Cornell on Nov. 15 to deliver the Bartels World Affairs Fellowship lecture.

Manley lectured to about 200 people on what some people have called the New World Order. And earlier in the day, he had a more casual conversation about the idea of order, the American elections and his hope for the United Nations.

"I don't like to comment about other countries' politics," he said when asked about his view of the American elections held one week before. "But I wonder if there is not an element of the U.S. process that is still lurching slightly (since the end of the Cold War). I get the feeling the U.S. is searching for new landmarks and the framework is very blurred at the moment."

"The voters do seem angry," he added. "Though if you scratch beneath the surface, I'm not sure they know what they're angry about."

As for the New World Order, a phrase coined by former President George Bush

and used in the title of Manley's lecture, "The Search for Development Paradigms in the New World Order," Manley, one of the first social democratic leaders to promote the need for a strong market economy, said simply: "There isn't any world order anymore." In the realm of economics, there is some. "But in terms of politics," he added, "there is no order at all."

Speaking of global economic development during his lecture, Manley said, "As we come to the end of the 20th century, it is a truism that technology, managerial skill and entrepreneurship have combined to create capital that could bring every class and nation global prosperity."

"Yet if we talk to the average person, if you can find such a person, we discover this is a time of cynicism, pessimism and creeping alienation," he added. There is, for example, increasing homelessness in the United States, more poverty in our hemisphere and a crisis of maldistribution in every society.

"So as we proclaim a new world order, as some do, we should be at the noontime of optimism and yet we are mired in discontent," he said. Consequently, he added, the global community needs to rethink new development paradigms.

These paradigms, furthermore, must reflect a cooperative solution. "There must not be one solution for developing countries and one for developed countries, or we will each be mired in our own problems: Yours of the inner cities and homelessness, mine of more generalized poverty," he said.

As for the lack of political order, Manley places his hopes on the United Nations.

"How to contain destructive regional conflicts is the big question now. We need to have a more capable institutional action that is not the result of long laborious efforts. We need to revisit the U.N. system," he said. Then he added, in response to an expression of doubt: "What else do we have?"



Manley

## Objection!



Peter Morenus/University Photography

**Cornell student Bari S. Kaplan argues a point in a mock trial competition, sponsored by the Cornell University Pre-Law Society, held Nov. 19 and 20 in the Tompkins County Courthouse. Kaplan and students from other schools and colleges argued a fictitious case before area attorneys and judges. Winners will participate at the regional mock trial competition to be held at Clark University in February.**

## Abortion debate draws supporters from both sides

By Dennis Shin

Reflecting upon the controversial moral and political issues presented by the national abortion debate, Professor Daryl Bem of the Psychology Department and pro-life advocate John Cavanaugh O'Keefe addressed the question, "Is Abortion a Violation of Human Rights?" in a crowded Martha Van Rensselaer Auditorium Nov. 18.

O'Keefe is associate director for research policy and development with the American Life League, and has been arrested 31 times due to his involvement in the Operation Rescue movement.

The debate brought supporters of both the pro-life and pro-choice movements together to discuss the differences of opinion that traditionally have divided the two camps sharply. Taking a pro-choice stance, Bem spoke against the criminalization of abortion as a violation of women's rights, while O'Keefe argued a pro-life position by defending the rights of unborn children.

Commenting on the structure of the debate, Bem said, "It in some sense borders on the obscene to have two men talking about what women should do with their bodies."

Besides teaching social psychology at Cornell, Bem has served on the executive board of Planned Parenthood of Tompkins County for 12 years. He said abortion statistics in the United States alone are tragically high, and expressed support for the use of contraception as a preventative measure that he believes reduces the risk of unwanted pregnancies. He also mentioned abstinence as a choice that prevents the need for abor-

tion, but ruled it out as an effective or widely accepted alternative.

Agreeing with Bem's opposition to the movement to make abortion illegal, Senior Nadine Sadek said, "The whole debate turns a really personal issue into a political



Bem



O'Keefe

one. You essentially take away the role of the mother as the decision-maker."

O'Keefe took a different approach to protecting the rights of others. Addressing the human rights issue on a global level, he referred to the strategy of population control implemented in China as a violation of basic rights imposed upon millions of women.

"In the United States, we're seeing now a powerful resurgence of eugenics," said O'Keefe. "The idea that you can improve the human race or the quality of life through social control of reproduction is a frightening violation of human rights."

O'Keefe also attacked Planned Parenthood, saying it has a high abortion referral rate for pregnant women who visit the centers. According to O'Keefe, Planned Parenthood does not effectively inform women that there are options other than abortion. He contended women often are sent to abortion clinics driven by fear and they suffer the consequences of post-abor-

tion stress and depression.

Responding to O'Keefe's claims, Bem stated, "One of the reasons we thought we ought to have an abortion service at Planned Parenthood was to provide an entrée into our contraception service."

According to Bem, recent studies show that 70 percent of the women who sought abortions through Planned Parenthood were not previously using contraception, whereas only 9 percent were not using contraception after they left Planned Parenthood.

Bem concluded that with the growth of technology and improved health care, the need to maintain abortion on the political agenda gradually will disappear.

O'Keefe disagreed and emphasized the international threat of abortion. "The issue will not go away. We are looking at systematic human rights abuses globally, and an assault on a helpless child is an abuse," he said.

Both men recognized the need to reduce the growing number of abortions, especially in the United States. Each agreed that a public consensus on the issue is needed before the state can intervene legally into the private affairs of the individual. Bem argued that such a consensus has been reached with the public's general acceptance of *Roe v. Wade*. O'Keefe said the historic 1973 Supreme Court decision actually reversed a consensus that previously existed.

"I thought there was a good exchange of ideas and I was impressed by the arguments of both speakers," said Junior Kerri Kiniorski, president of Cornell's Coalition for Life, which sponsored the event.

"I think people often overlook where the pro-life and pro-choice movements find common ground," she added.

## CU team sails to 9th place

By Darryl Geddes

The Cornell Big Boat Sailing Team, competing for the first time in an international competition, finished ninth out of 19 competitors in the Student Yachting World Cup, held Oct. 28 to Nov. 6 in Le Cap d'Agde, France. Finland won the World Cup; the United Kingdom was runner-up.

According to Cornell's captain, senior Andrew Hoofnagle, the team performed admirably, especially against the European teams, which fielded older, more experienced crews.

"I certainly would have loved to have done better," Hoofnagle said, noting that his team was hurt by poor starts. "This was the first such competition for us; we learned a lot from the experience."

The Cornell team, the only squad representing the United States in the World Cup, might have placed higher than ninth if the competition wasn't halted mid-way due to inclement weather. The World Cup was to feature nine races, but stewards canceled the event after five races because of bad weather.

In the five races completed, Cornell placed sixth, eighth, ninth twice and 16th. The 16th-place finish did not count toward the team's standing as Olympic rules permit teams to drop their single worst performance. Crews of eight sailed 35-foot Jeaneau One designs over 10- and 35-mile courses on the Mediterranean Sea.

Cornell earned the opportunity to represent the United States in the World Cup by placing second in the Kennedy Cup, the U.S. big boat championship, held in April.

Cornell's trip to the World Cup was made possible in part by gifts from alumni and friends of the Cornell Big Boat Sailing Team, Trimble Navigation Products and the Steve and Doris Colgate Offshore Sailing School.



## Special mail delivery coming

By Ed Hershey

If you are one of about 150 employees who see a lot of other people's mail as part of your job, you may be about to receive a special delivery notice of your own. You will be asked to participate in a survey to help revise and improve the way mail is sent and received at Cornell.

"We understand that you have a role in preparing mailings and handling mail for your department," the survey notes. "The people at Addressing & Mailing and Campus Mail Services are eager to learn about your department's mail usage and your own impressions of the effectiveness of campus and U.S. mail services."

"The information will be used to plan a new unit, Cornell Mail Services, which will combine the functions of addressing and assembling the mail you send and sorting and delivering the mail you receive."

William Wendt, director of transportation and mail services, said the survey was commissioned by the Cornell Mail Project and designed by the Cornell Office of Communications Strategies, which is also conducting it.

"We believe it is important to listen to people who are on the front line, so to speak, before we take our restructuring off the drawing board and into the field," Wendt said. "We hope everyone who is surveyed finds the time to share their thoughts with us on issues that will eventually affect part of



Mail courier Mark Hall shows a copy of the Cornell Mail Project survey to Susan Payne, who handles mail for her own Publications Services unit and four others at East Hill Plaza.

what they do, too."

As an added incentive, those who complete and return the survey questionnaires will be eligible to receive one of four gift certificates for lunch for them and as many as five co-workers at Banfi's in the Statler Hotel.

The first part of the survey attempts to determine how satisfied mail handlers are with current university operations in this area, what improvements they might suggest and how they use the services now available. The second part elicits specific reaction to changes

in mail pickup and delivery currently under discussion by the Mail Project.

The project is using six teams of employees to address finances, postal partnerships, mail facilities, address formats, databases, service standards and consumer education.

## Chinese diet continued from page 1

world on the multiple causes of disease.

The diets of rural China are mostly plant based and are, therefore, much lower in fat and animal protein and much higher in fiber than American diets. Chinese diets also go beyond the dietary recommendations now being promoted for long-term health in the United States and other Western countries. As a result, researchers not only could investigate the relationship of diet with disease, but also the worthiness of American dietary recommendations.

They have found, for example, that although chronic degenerative diseases are much more common in the United States than in China, the rates for these diseases are significantly higher in those areas of China where the intake of animal-based foods is higher.

"Whereas current dietary guidelines recommend that no more than 30 percent of calories (from the present 35 to 38 percent) come from fat, data from the China study suggest that reducing fat to about 15 percent of total calories would prevent 80 to 90 percent of chronic degenerative diseases such as cancer, cardiovascular diseases and diabetes before about age 65," said Campbell, also an author of the original 1982 dietary recommendations on cancer prevention by the Na-

tional Academy of Sciences.

"One of the most significant problems with the American diet is the excessive intake of animal-based foods and the inadequate intake of plant-based foods," said Banoo Parpia, a senior research associate on the project. She said that study after study shows that a diet rich in a variety of high-quality fresh plant-based foods with a minimum of animal-based foods is optimal for long-term health.

Such a diet not only would lower the risk of these Western diseases, but also would save an estimated \$120 billion per year in health care costs while reducing the use of the Earth's resources needed for livestock, Campbell pointed out.

In the past two years, Campbell and his colleagues have published more than three dozen studies on their findings, which are partially summarized in two chapters Campbell wrote for the recently published book, *Western Diseases: Their Dietary Prevention and Reversibility* edited by N. Temple and D. Burkitt, (Totowa, N. J.: Humana Press, 1994).

Among the new insights and relationships emerging from the Chinese data:

- **Breast cancer:** Women who eat diets

rich in animal foods reach menarche earlier, thereby producing more estrogen over their lifetimes and developing breast cancer at a significantly higher rate. In other words, "low-fat, high-fiber diets are linked with lower levels of female hormones and a lower risk for breast cancer," Parpia said.

- **Osteoporosis:** Women who eat diets rich in animal foods excrete more calcium in their urine, providing a negative calcium balance—a high risk factor for osteoporosis.

- **Liver Cancer:** A primary cause of this cancer is chronic infection with hepatitis B virus, but the mortality rate for this disease is significantly correlated with plasma cholesterol which is correlated, in turn, with the consumption of animal-based foods.

- **Esophageal cancer:** Chinese who eat little fruit have a five to nine times greater risk of developing this cancer than those who eat more fruit (the lowest quartile compared with the highest quartile).

- **Other cancers:** As the consumption of animal-based foods increases and levels of cholesterol in the blood increase accordingly, the risks for eight different cancers go up as well, including colon cancer. Vitamin C emerged as one of the most important factors for a wide range of cancers.

"In the final analysis, we have strong evidence from this and other studies that nutrition becomes the controlling factor in the development of chronic degenerative diseases," Campbell concludes.

"Even small intakes of animal foods, which simultaneously alter the intake of countless nutrients and other constituents, is capable of significantly elevating plasma cholesterol and similar biomarkers, and thereby elevate the risk of degenerative diseases."

"Mere tinkering with our diets by consumption of a few low-fat foods or special nutrient supplements, although possibly useful under some circumstances, will likely only have minimally useful effects and almost certainly will not be a panacea for disease prevention." Rather, he stresses, Americans need to shift to a more plant-based diet.

The typical American diet contains 10 times more animal protein (as percent of calories) than does the typical Chinese diet. The average dietary fat intake in China is 15 percent of calories compared with 38 to 40 percent in the United States. The average consumption of dietary fiber is 33 grams a day in China compared with 10 to 12 grams in the United States.

## Crystal continued from page 1

range of new treatments that will affect millions of people in the next century.

The five young men in Crystal's study are in potentially fatal trouble because their lungs and airways are clogged with the sticky mucus that is cystic fibrosis' hallmark. This coating—"it looks like pus," Crystal commented—not only prevents air from reaching parts of the lung, it also is a fertile breeding ground for infection. CF victims produce this abnormal mucus, he explained, because their epithelial cells lack a single gene, called the Cystic Fibrosis Transmembrane Conductance Regulator gene. ("None of us can remember all of that, either," Crystal said, "so everyone calls it the CFTR gene.") As a result of this deficiency, the epithelial cells cannot excrete chloride, and they produce the altered mucus. "The discovery of the CFTR gene and its activity was the result of basic research carried out at the University of Toronto and the University of Michigan several years ago," Crystal said. "That research had no clinical goals, but it led to understandings

which we can now exploit."

Crystal began his work on CFTR at NIH, before coming to Cornell to become the Chief of Pulmonary and Critical Care Medicine two years ago. He realized that if he could get a normal CFTR gene into the epithelial cells of a CF patient, and get that gene to "work," or express the proteins needed for normal functioning, that this would be a potential "cure" for at least the ongoing lung damage that usually kills these patients. To accomplish this, Crystal and his colleagues needed a vehicle—he calls it "a cargo ship"—that can carry the new gene into these cells.

Their choice was the adenovirus, an extremely common virus that causes many colds, and one that has a terrific ability to infect the cells lining our airways and lungs. Crystal's team modified adenovirus, snipping out part of its DNA, inserting the CFTR gene, and then changing the virus' habits. "The recombinant techniques we used to modify the adenovirus," Crystal stressed, "are another example of the importance of

basic research. We were able to delete parts of the virus' DNA, the parts that make it reproduce inside our cells and cause disease, and insert the CFTR gene, because we know the complete sequence of the adenovirus's genome. Again, this is the result of years of work with no clinical applications."

Once armed with this modified adenovirus, Crystal could move to clinical tests: Beginning in April 1993, five patients were infected with the virus, which is able to penetrate the epithelial cell's wall, move into the cell's nucleus, and make the infected cell produce CFTR. The actual infection was done under local anesthesia. The doctors inserted a fiber-optic bronchoscope into the patient's lung, then dripped about 20 million viruses into his lung—"it only takes about 1,000 adenovirus to give you a cold, but we were not leaving anything to chance," Crystal said. The treatment has since been repeated—epithelial cells only live for about a month—and the nine patients at Cornell and NIH are all alive and doing well.

Crystal then showed a slide of a single plastic vial labeled "CFTR virus." That vial, he emphasized, "cost \$500,000, although we can now make the same virus for about \$1,000." The difference, he explained, lay in safety testing. Years of tests with the virus, first on rats and pigs, and then later with human volunteers, were needed to prove that the modified virus not only worked—got into the cells and produced the new gene—but was safe.

"We had to prove that the virus would not cause inflammation; we had to prove that it would not replicate, like normal viruses do, and keep infecting more cells; and we had to prove that it would not reach the 'germ cells,' the sperm and egg cells that contain the genetic information we pass on to our children," Crystal said. These multiple layers of tests, hundreds of pages of documentation, and reviews by an institutional review board at the Medical College and the NIH's Recombinant Advisory Committee, were what made that vial cost half a million dollars.

## Experim

By Blaine P. Friedlander

Smell the sweet aroma of fresh from the oven and one might realize this could be the best in years news is good for apple growers, pests persist.

In the quest to control apple orchards throughout the Cornell Integrated Pest Management researchers have developed a new way to control infestations and use. This summer's work at Cornell's Agricultural Experiment Station Geneva successfully demonstrated the use of many pest control methods.

"There's no doubt in my mind," Joe Kovach, senior extension agent at Geneva, "We have explored many methods."

One pest is the European spruce sawfly, which attacks an apple tree's leaves and causes the growth of the fruit. The sawfly has continued to study the beetle known as *Typhlodromus*, which attacks its pesky cousin, the European spruce sawfly.

But, bad things can happen. In the midst of a biocontrol. In the midst of a success, the IPM group was discovered in the orchard when an infestation of leafrollers and spotted-tea was discovered in the orchard.

"This is what growers face," Kovach said. "Leafrollers could easily destroy the crop. Since certain IPM-compatibility have not been eliminated, they have not been used in this country, Kovach said. Kovach's research team faced a difficult choice: save the crop, they were forced to use a pesticide that not only kills

**'We are trying to save the trees are responsible for the stress of the tree's health. We are trying to be changed due to stresses.'**

and leafroller population, most all of the beneficial.

The apple crop was better in the past. In 1993, the orchard crop grossed \$1.1 billion, a 10 percent increase from 1992. The fruit industry professionals say the crop could exceed 1993.

Improved crop value is a major consideration for New York's apple growers. The state's apple orchards are under a wide array of natural pest pressures. The state's apple orchards are under a wide array of natural pest pressures. The state's apple orchards are under a wide array of natural pest pressures. The state's apple orchards are under a wide array of natural pest pressures.

## Chemical

New techniques for needed laboratory chemical analysis were demonstrated Friday, December 1, 1994, in a lecture by Margaret A. Armstrong, a professor at the University of Alberta and author of the book "Chemical Analysis of Environmental Samples."

Armstrong's presentation was held in 146 Morrison Hall and is sponsored by the Department of Environmental Health and Safety. She is a professor who needs paracetamol. She should contact Environmental Health and Safety (EH&S) at 255-1234.

"Dr. Armstrong is a



# Experiment Station scientists tackle pesky pest problems

By Blaine P. Friedlander Jr.

Smell the sweet aroma of apple pie cooling fresh from the oven this holiday season and one might realize this year's apple crop could be the best in years. Although the news is good for apple orchards in New York, pests persist.

In the quest to control harmful pests from apple orchards throughout the Northeast, Cornell Integrated Pest Management (IPM) researchers have developed ways to biologically control infestations and reduce pesticide use. This summer's work in the orchards at Cornell's Agricultural Experiment Station in Geneva successfully demonstrated the integration of many pest control methods.

"There's no doubt in my mind now," said Joe Kovach, senior extension associate in Geneva. "We have extremely good sampling methods."

One pest is the European red mite which attacks an apple tree's leaves, stunting the growth of the fruit. The IPM researchers continued to study the beneficial, predatory mite known as *Typhlodromus pyri*. It attacks its pesky cousin, not the fruit.

But, bad things can happen to good biocontrol. In the midst of their scientific success, the IPM group suffered a setback when an infestation of oblique-banded leafrollers and spotted-teniform leafminers was discovered in the orchards.

"This is what growers face—these types of problems," Kovach said. Leafminers and the leafrollers could easily destroy the apple crops. Since certain IPM-compatible pesticides to eliminate them have not been approved for use in this country, Kovach and the IPM research team faced a difficult decision. To save the crop, they were forced to use a pesticide that not only killed the leafminer

**'We are trying to see how the trees are responding to the stress of the pests and how the tree's tolerance may be changed due to the other stresses.'**

— Alan Lakso

and leafroller population, but also killed almost all of the beneficial, predatory mites.

The apple crop was better this year than in the past. In 1993, New York's apple orchard crop grossed \$110 million, down 6 percent from 1992. The figures are not final, but industry professionals say this year's crop could exceed 1993.

Improved crop value is good news, considering New York's apple orchards face a wide array of natural pests and problems. In fact, the state's apple orchards have an inherently tougher time growing than those in places like Washington, where orchards thrive in low-moisture, low-humidity areas far from an apple's enemies. New York's orchards rank immediately behind top-ranking Washington state's when comparing crop value. Funding for the IPM program comes from the



Kevin Colton/NYS Ag. Expt. Station/Cornell  
Graduate student Ana Francisconi assesses the effects of European red mites on the health of apple trees at Cornell's Agricultural Experiment Station in Geneva.



Kevin Colton/NYS Ag. Expt. Station/Cornell  
Horticultural scientist Alan N. Lakso measures apple leaf health with a portable photosynthesis analyzer to determine the effects of red mite damage.

New York State Department of Agriculture & Markets and USDA grants.

As the IPM researchers made progress toward the pest problems, new ones cropped up. "With modern IPM and reducing-spray programs in general, we may have low levels of damage to the leaves due to several pests. As plant physiologists here, we are trying to see how the trees are responding to the stress of the pests and how the tree's tolerance may be changed due to the other stresses," said Alan Lakso, a Cornell fruit crop physiologist.

Armed with eight large, clear plastic balloons and modern analyzers, Lakso and Ana

**'As we establish biocontrol, less spraying is better for the beneficial predators. In many cases, the main pest has to build up before the predator can get going.'**

— Alan Lakso

Helena Francisconi, a doctoral student in pomology, and support specialist Steve Denning branched out and sought to understand pest management from the red delicious apple tree's perspective. The balloons—which enclose an entire tree and flow air around it—allowed the researchers to measure precisely the temperature, relative humidity and the carbon dioxide in the flowing air. Trees convert carbon dioxide into carbohydrates, which, in turn, make the fruit.

The researchers hypothesized that pests reduce the leaves' ability to make carbohydrates and this was the reason that fruit size and quality was affected. If there are many fruits, the trees would not have as much ability to cope with the pests on the leaves.

Test results supported the hypothesis. "The more fruit a tree bears, the more sensitive it is to stress. The effects of European red mite damage on the trees with a heavy fruit load were more severe than trees with a lighter crop load," Lakso said.

Lakso explained there are stress thresholds for a tree which a grower needs to know—information such as how much pest damage a tree can sustain before a grower needs to target for pest control. Growers must balance the need to produce quality fruit with the need to maintain worker protection and environmental protection, Lakso said.

"As we establish biocontrol, less spraying is better for the beneficial predators. In many cases, the main pest has to build up before the predator can get going," he said. "There may be a little damage to the fruit tree, but in the long run, a little damage doesn't hurt—it helps build biocontrols."

Understanding how stresses beyond pests affect apple trees could ultimately lead researchers to help growers reduce costs, improve crop production and stabilize financial yields, in the safest way possible, Francisconi said.

In the future, growers will be able to check their own fruit trees for stress.

## Chemical disposal lecture set

New techniques for disposing of unneeded laboratory chemicals will be demonstrated Friday, Dec. 9 at Cornell in a lecture by Margaret-Ann Armour, a University of Alberta research chemist, educator and author of laboratory manuals.

Armour's presentation at 1:15 p.m. in 146 Morrison Hall is free to the public and is sponsored by Cornell's Chemistry Department and Department of Environmental Health and Safety. Campus visitors who need parking arrangements should contact Environmental Health and Safety (EH&S) at 255-4862.

"Dr. Armour is well known for her

efforts to educate the community of chemical users in methods of detoxification and disposal of the by-products of laboratory chemical reactions and processes so that they do not become 'waste,'" according to Tom Shelley, coordinator of laboratory and chemical safety at EH&S. "She has been invited to Cornell as part of our waste-minimization program," he said.

The assistant chair of the University of Alberta Department of Chemistry, Armour heads a research group that develops and tests methods for recycling or disposing of waste and surplus chemicals.

## HIV/AIDS project wins award

The Cornell Cooperative Extension parent education project, *Talking with Kids About AIDS*, received an HIV/AIDS Materials Development Award for Merit from the New York State Department of Health AIDS Institute at its fifth annual statewide conference on Nov. 14.

The Cornell project is directed by Jennifer Tiffany, RN, in the Department of Human Service Studies, College of Human Ecology. The project trains and coordinates volunteer educators to conduct an interactive workshop series based on the *Talking with Kids About AIDS* curriculum.

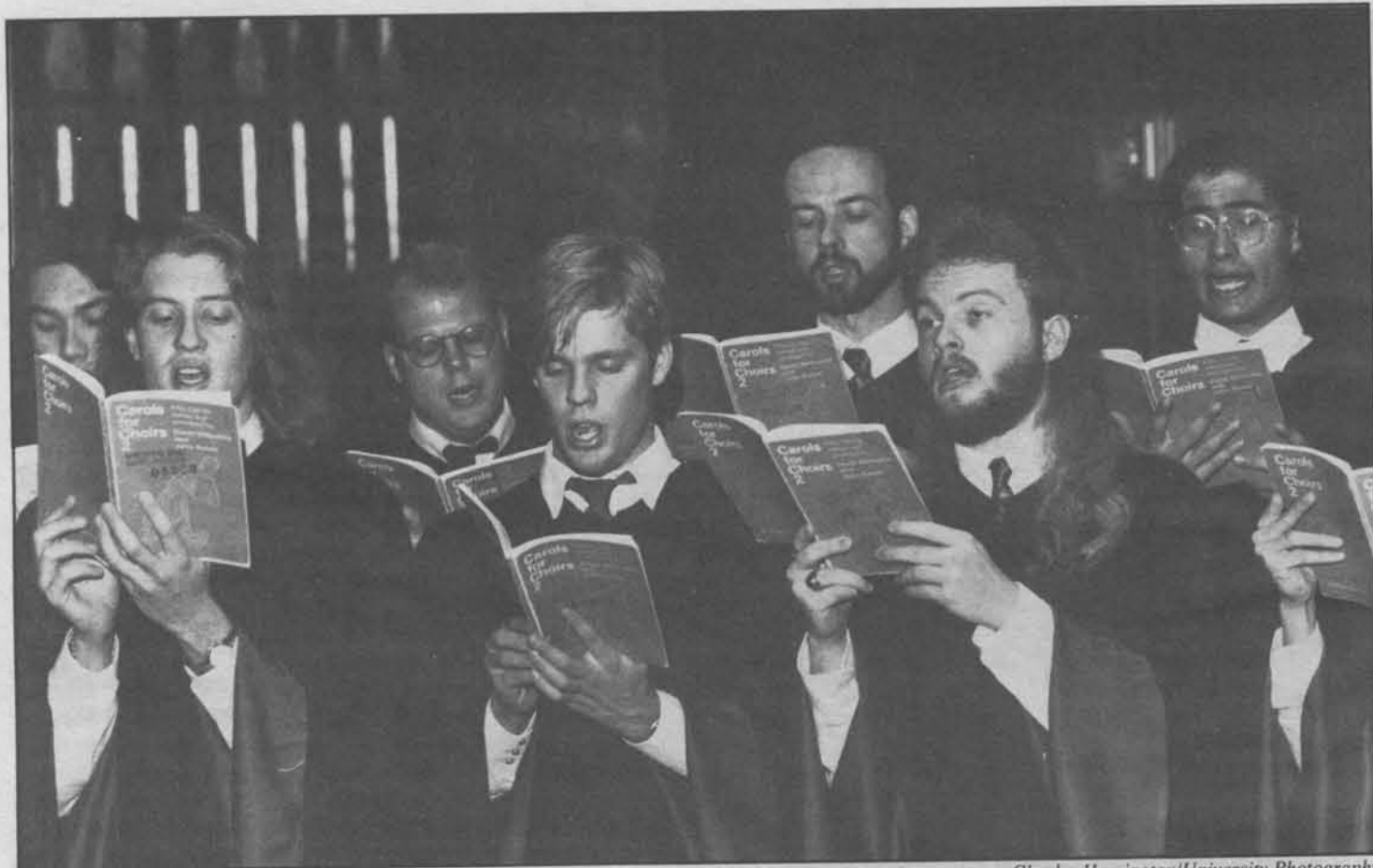
The Cornell curriculum was developed to help parents and guardians foster better and more frequent age-appropriate communication with children and teens about HIV.

Because New York has the highest number of AIDS diagnoses among young people in the nation, the program's objective is to reduce risk behaviors which could lead to HIV infection. Since its founding in 1989, the project has provided leadership training to more than 1,250 volunteers in New York State; almost 37,000 New York residents have attended its workshops and programs. In addition, the materials have been disseminated both nationally and internationally.

The curriculum, available in English and Spanish, consists of a resource manual and teaching guide. The project also produced a video, that shows how to facilitate key activities from the curriculum.

The materials can be obtained through the Cornell Resource Center; call: 255-2080.





Charles Harrington/University Photography

## Traditional concert ushers in holiday season

'Tis the season to enjoy an Ithaca holiday tradition.

The Sage Chapel Choir will usher in the holiday season with its annual Christmas program Dec. 4 and 5 at 8:15 p.m. in Sage Chapel. The concert is free and open to the public.

The choir, directed by university organist William Cowdery and accompanied by Christopher Morgan Loy, will

perform various selections, among them traditional holiday favorites. The program also includes a candlelight procession, handbell ringing, Gregorian chants and an organ postlude. Those in attendance are invited to join the choir in the singing of traditional carols.

The musical program follows the traditional service of lessons, scripture readings and carols made famous by the Kings Col-

lege Choir of Cambridge, England. The Rev. Robert Johnson, director of University Ministries, will officiate.

Sage Chapel will be resplendent in holiday trimmings, including wreaths, poinsettias and a 20-foot fir tree.

Prior to the concert, at 7:45 p.m., the McGraw Tower chimes will ring, announcing the start of Cornell's annual Christmas program.

## CALENDAR from page 8

### lecture

#### International Affairs

"Law Practice Relating to Latin America," Raul Valdes-Fauli, partner in Miami firm of Valdes-Fauli, Cobb, Bischoff, Kriss & Bandler, Dec. 1, 3 p.m., MacDonald Moot Court Room, Myron Taylor Hall.

#### Music Department

Lecture by guest composer Marjorie Merriman, Dec. 2, 1:25 p.m., 301 Lincoln Hall.

#### Society for the Humanities

"Lawyers and the Remaking of Politics in Old Regime," David Bell, Yale University, Dec. 2, 4 p.m., Guerlac Room, A.D. White House.

#### Southeast Asia Program

"Old Wine in New Bottles: Vietnam's March to the South," Stephen Graw, rural sociology, Dec. 1, 12:15 p.m. Kahin Center, 640 Stewart Ave.

#### Theory Center

"Computational Chemical Dynamics," Donald Trunlar, Supercomputer Institute, Dec. 6, 2:30 p.m., 456 Theory Center.

### music

#### Music Department

All events are open to the Cornell Community and the general public and are free unless otherwise noted. For more information call 255-4760.

Dec. 2: "A Taste of Indonesia IV: Wayang Kulit" at 8:15 pm in Barnes Hall. You can listen to a Javanese gamelan, visit a warung (Indonesian food stall), and view a wayang (shadow-puppet play) from either side of the screen. The story, a segment of the usual Javanese all-evening play called "The Abduction of Sukeksi," is a typical one: kings and ogres, ministers, maids, and maidens—normal wins over good, criminals are elimi-

nated, some family values prevail. The play will be preceded by music on a Balinese gender wayang (the ancient ensemble which accompanies the shadow play in Bali). The 20-piece Javanese gamelan ensemble, that will accompany the shadow play, features hanging gongs, gong-chimes, drums, and other percussion instruments.

Dec. 2: A concert of international music for winds and percussion will be performed at 8:15 p.m. in Bailey Hall. Performance includes selected works for Cornell's Chamber Winds, Brass Ensemble, Percussion Ensemble and Wind Symphony. Featured works are by Mozart, Haydn, Gabrieli, Shostakovich, and R. Strauss.

Dec. 3: The Cornell Jazz Ensembles, under the direction of Karlton Hester, will give a concert at 8:15 p.m. in Barnes Hall.

Dec. 4: Cornell Musica Nova, Edward Murray conductor, will present a concert with guest artist Mimmi Fulmer, the distinguished mezzo-soprano. In a program which includes music from the 17th and 20th centuries, Fulmer will sing two superb pieces by the Baroque master Heinrich Schutz (accompanied by an ensemble of 'celli), a selection from one of Béla Barók's greatest works, *The Twenty Hungarian Folksongs*, and Debussy's memorable and seductive *Chansons de Lilitis*. She will also perform (together with Melissa Stucky, viola, and Murray, piano) an unusually beautiful work by the Boston composer Marjorie Merriman: the song cycle *La Musique* to texts of Baudelaire at 4 p.m. in Barnes Hall.

Dec. 4 and 5: Sage Chapel Choir will present the annual Sage Chapel Christmas Program at 8:15 p.m. in Sage Chapel.

Dec. 5: Students of Xak Bjerken will perform all of Brahms' piano works at 8:15 p.m. in Barnes Hall.

Dec. 6: Students of David Borden will present their latest compositions for Macintosh and synthesizer at 8:15 p.m. in Lincoln Hall.

Dec. 7: Student chamber music recital at 8:15 p.m. in Barnes Hall.

Dec. 8: Vocal chamber music will be performed by students of the Cornell Vocal Studio at 8:15 p.m. in Barnes Hall.

#### Cornell Concert Commission

On Dec. 4 at 8 p.m., the grammy-winning duo, "Indigo Girls," will perform in Barton Hall. "K-Choice" will open the concert. Tickets can be purchased at the Willard Straight Ticket Office, Ithaca Guitar Works, all Ticketmaster locations or by phone-charge; \$10 for students and \$15 for the general public.

#### Bound for Glory

Dec. 4: Andy Cohen. Good-time ragtime and blues from America's master of Rev. Gary Davis-style guitar. 8 p.m.-11 p.m., Commons Coffee House, Anabel Taylor Hall. The next live performance will be on Jan. 22. Bound for Glory can be heard Sundays from 8 to 11 p.m. on WVBR-FM, 93.5.

### religion

#### Sage Chapel

Robert Johnson, University Ministries, will give the sermon on Dec. 4 at 11 a.m. Sage is a non-sectarian chapel that fosters dialogue and exploration with and among the major faith traditions.

#### African-American

Sundays, 5:30 p.m., Robert Purcell Union.

#### Baha'i Faith

Fridays, 7 p.m., firesides with speakers, open discussion and refreshments. Meet at the Balch Archway, held in Unit 4 lounge at Balch Hall. Sunday morning dawn prayers and breakfast, 7 a.m.

"Dialog: Racism" workshops; Mondays, 8:30-10:30 p.m. through Dec., Ujamaa unit 4 lounge. For details, call 253-2401.

#### Catholic

Weekend Masses: Saturday, 5 p.m.; Sunday, 10 a.m., noon and 5 p.m., Anabel Taylor Auditorium. Daily Masses at 12:20 p.m. in Anabel Taylor Chapel. Sacrament of Reconciliation, Saturday, 3:30 p.m., G-22 Anabel Taylor Hall.

Dec. 5: Advent Penance Service, 7 p.m., Chapel.

Dec. 8: Immaculate Conception, 12:20 p.m., 5:15 p.m., auditorium.

#### Christian Science

Testimony and discussion meeting every Thursday at 7 p.m., Founders Room, Anabel Taylor Hall.

#### Episcopal (Anglican)

Sundays, worship and Eucharist, 9:30 a.m., Anabel Taylor Chapel.

#### Friends (Quakers)

Sundays, 11 a.m., meeting for worship in the Edwards Room of Anabel Taylor Hall. Adult discussions most weeks at 9:50 a.m., 314 Anabel Taylor Hall.

#### Jewish

Morning Minyan at Young Israel, 106 West Ave., call 272-5810.

Shabbat Services: Friday, 5:30 p.m., Anabel Taylor Hall; Conservative, Founders Room; Reform, Chapel; Orthodox, Young Israel, call 272-5810 for time.

Saturday Services: Orthodox, 9:15 a.m., Edwards Room, ATH; Conservative/Egalitarian, 9:45, Founders Room, ATH.

Hillel meeting: Mondays, 4:45 p.m., G-34 ATH. Dec. 1: Israeli Hanukkah party, 4:30 p.m., Founders Room, ATH.

#### Korean Church

Sundays, 1 p.m., chapel, Anabel Taylor Hall.

#### Latter-day Saints (Mormon)

All are invited to classes on the Book of Mormon: Wednesdays, 7:30 p.m., 314 Anabel Taylor Hall; Fridays, 1 p.m. 316 Anabel Taylor Hall. Sunday services start at 1 p.m. For directions and/or transportation call 272-4520 or 257-6835.

#### Muslim

Friday Juma' prayer, 1:15 p.m., One World Room, Anabel Taylor Hall. Daily Zuhr, Asr, Maghreb and Isha' prayers at 218 Anabel Taylor Hall.

#### Protestant Cooperative Ministry

Sundays, 11 a.m., chapel, Anabel Taylor Hall.

#### Sri Satya Sai Baba

Sundays, 10:30 a.m., 319 N. Tioga St. For details call 273-4261 or 533-7172.

#### Zen Buddhist

Tuesdays, 5 p.m.; Thursdays, 6:45 p.m., chapel, Anabel Taylor Hall.

## seminars

#### Applied Mathematics

"Pattern Selection with Anisotropy During Directional Solidification," Rebecca Hoyle, Northwestern University, Dec. 1, 4 p.m. 456 Theory Center.

"The Dynamics of Spiral Waves in Myocardium," Arkady Pertsov, SUNY Health Science Center, Dec. 2, 4 p.m., 456 Theory Center.

#### Astronomy & Space Sciences

"Tully-Fisher at Intermediate Redshifts," Matthew Bershad, Pennsylvania State University, 4:30 p.m., 105 Space Sciences Building.

#### Archaeological Institute of America

"Metals and Society in Ancient Mesopotamia," Tamera Stech, Bryn Mawr College, Dec. 5, 8 p.m., 23 Goldwin Smith Hall.

#### Biochemistry

"The Natural History of a Molecule," Thomas Eisner, neurobiology and behavior, Dec. 2, 4 p.m., large conference room, Biotech Building.

#### Biogeochemistry

"Wetland Biogeochemistry: A Hydrologic-Chemical Interaction Perspective," Alan Hill, York University, 4 p.m., Morison Room, Corson Hall.

#### Cellular and Molecular Medicine

TBA, Don Ganem, University of California, San Francisco, Dec. 5, 4:30 p.m., G-3 Veterinary Research Tower.

#### Chemistry

"Two-Dimensional Fourier Transform and Far Infrared ESR Studies of Molecular Dynamics in Fluids," Jack Freed, chemistry, Dec. 1, 4:40 p.m., 119 Baker.

#### Comparative Societal Analysis Program

"Rational Choice and Irrelevant Attributes," Diego Gambetta, Oxford University, Dec. 6, 2:30 p.m., 302 Uris Hall.

#### Development Economics

"Growth and Poverty in Rural India," Martin Ravallion, World Bank, Dec. 2, 4 p.m., 498 Uris Hall.

#### East Asia Program

"Japan's Policy Toward Foreign Workers: The Case of Kawasaki City," Toshio Iyotani, Toyko University of Foreign Studies, Dec. 6, 4 p.m., 374 Rockefeller Hall.

#### Ecology and Systematics

"Chemical Communication Systems in Insects," Wendell Roelofs, Agricultural Experiment Station, Dec. 1, 4 p.m., A106 Corson Hall.

#### European Studies

"Palestinian-Israeli Relations: Where Do We Go From Here," Rashid Khalidi, University of Chicago, Dec. 1, 4:30 p.m., Kaufmann Auditorium, Goldwin Smith Hall.

#### Floriculture & Ornamental Horticulture

"On Creating a Garden: Inspiration from an Ideal - Hidcote Manor," Irene Lekstutis, undergraduate seminar, Dec. 1, 12:20 p.m., 37 Plant Science.

"Grape (and other) Fruit Growing in Japan," Robert Pool, Agricultural Experiment Station, Dec. 5, 11 a.m., Geneva, Jordan Hall, staff room.

Continued on page 7



# CALENDAR

from page 6

## Food Science

"BSE and Other Spongiform Encephalopathies in Humans and Animals - Causative Agent, Pathogenesis and Transmission," C.J. Gibbs, National Institutes of Health, Dec. 1, 4:15 p.m., 204 Stocking Hall.

## Fruit & Vegetable Science

"Retro and Forward Views," Chris Watkins, fruit and vegetable science, Dec. 1, 4 p.m., 404 Plant Science.

## Genetics and Development

"Cytoplasmic Male Sterility in Beans," Sally MacKenzie, Purdue University, Dec. 5, 4 p.m., conference room, Biotech Building.  
"Development of a Biolistic Transformation System in *Tetrahymena thermophila*: Projected Use in Trapping transposons," Donna Cassidy-Hanley, Dec. 7, 12:20 p.m., small seminar room, Biotech Building.

## Geological Sciences

TBA (Japan, tectonics), Hiroshi Sato, Dec. 1, 4:30 p.m., 1120 Snee Hall.  
"Records of Late Quaternary Climatic Change From Glacial Deposits in the Tropical Andes and Loess Deposits of the Argentine Pampas," Don Robdell, Union College, Dec. 6, 4:30 p.m., 1120 Snee Hall.

## Government Affairs

"The Farm Bill: Key Issues Framing the 1995 Farm Policy Debates," Terry Nipp and David Wagoner, AESOP Enterprises, Dec. 1, 3 p.m., 401 Warren Hall.

## International Nutrition

"Scheduling of On-Demand Breastfeeding: Roles of Nutrition and Work Patterns," Virginia Vitzum, University of California in Riverside, Dec. 1, 12:20 p.m., 100 Savage.

## Immunology

"Immune Responses During Schistosomiasis," Edward Pearce, veterinary medicine, Dec. 2, 12:15 p.m., Boyce Thompson Auditorium.  
"Targeting VDJ Recombination," Kathryn Meek, Southwestern Medical Center at Dallas, Dec. 5, 12:15 p.m., Lecture Hall II.

## Materials Science & Engineering

"Mechanical Properties of Thin Films & Multilayers," Tony Evans, Harvard University, Dec. 1, 4:30 p.m., 140 Bard Hall.  
Ceramics Afternoon: "Composites: Synthesis and Properties," E.P. Giannelis, E.D. Rodeghiero, materials science and engineering; J.M. Burlitch, chemistry; and J. O'Reilly, Eastman Kodak Company, Dec. 2, 2:20 p.m., 140 Bard Hall.

## Microbiology

"Microbial Reductive Dehalogenation of Chlorinated Pollutants," Gosse Schraa, Wageningen Agricultural University, Dec. 1, 4 p.m., G-10 Biotech Building.

## Neurobiology & Behavior

"Sound and Vibration Sensing in the Evolution of Insect Hearing and Songs, Deduced from the Physiology of a Tibial 'Vibration' Detector," Stephen Shaw, Dalhousie University, Dec. 1, 12:30 p.m., Morison Seminar Room, Corson-Mudd Hall.  
"What Makes *Xenopus* Tick: A Molecular Approach to Neuroethology," Darcey Kelley, Columbia University, Dec. 8, 12:30 p.m., Morison Seminar Room, Corson-Mudd Hall.

## New York Land Use & Environmental Stewardship

"Enhancing Agricultural Land Stewardship Through Nonpoint Water Pollution Control," Robert Somers, NYS Dept. of Agriculture and Markets, Dec. 6, 12:20 p.m., 304 Fernow Hall.

## Olin Library

"Cruising the Internet for Library Resources: Humanities Resources on the Internet," Dec. 1, 7 p.m., 703 Olin Library."

## Ornithology

"Summers on the Tundra - Birds of Igloodick, Northwest Territories," Jim Dale, neurobiology and behavior, Dec. 5, 7:30 p.m., Fuertes Room, Lab of Ornithology.

## Peace Studies

"Rethinking Security Studies," James Goldgeier, George Washington University, Dec. 1, 12:15 p.m., G-08 Uris Hall.

## Physics

"Composite Versus Elementary (Application High T<sub>c</sub>) Superconductivity and Particles Physics," T.D. Lee, Columbia University, Dec. 5, 4:30 p.m., Schwartz Auditorium, Rockefeller Hall.

## Physiology & Anatomy

"Sperm Ion Channel Regulation by Eggs," Harvey Florman, Worcester Foundation for Experimental Biology, Dec. 6, 4 p.m., G-3 Vet Research Tower.

## Plant Biology

"Characterization of a Vegetatively Expressed Receptor Kinase form *Arabidopsis* similar to the S locus receptor Kinase of *B. oleracea*," Christian Tobias, plant biology, Dec. 2, 11:15 a.m., 404 Plant Science.

## Plant Pathology

"Genetics of Resistance and Effects of Water Potential on *Macrophomina phaseolina* on bean," Gilberto Olaya, plant pathology, Dec. 6, 3 p.m., A133 Barton Lab.

## Psychology

"The Nest Call: A Case Study of the Physiological Consequence of Vocal Communication," Mei Fang Cheng, Rutgers University, Dec. 2, 3:30 p.m., 202 Uris Hall.

## Rural Sociology

"Cornell Cooperative Extension: Challenges for the Future," William Lacy, Cornell Cooperative Extension, Dec. 2, 3:30 p.m., 32 Warren Hall.

## Society of Engineers

"Making Sense: Getting the Word Out," M. Dan Morris, McGraw-Hill Book Company, Dec. 1, 4:30 p.m., 155 Olin Hall.

## Urban Studies and Planning

"Is Planning Ready for Reform?" The East St. Louis Action Research Project, Kenneth Reardon, University of Illinois, Dec. 2, 12:20 p.m., 115 Tjaden Hall.

## Watershed Science & Management

"Linking Soil Hydrological Processes, Solute Transport and Stream Response: A Watershed-Based Approach," John Hollis, Soil Survey and Land Research Center, England, Dec. 5, 10:30 p.m., 135 Emerson Hall.

# theatre

## Theatre Arts Department

"Dancing at Lughnasa." The story of five unmarried sisters, eking out their lives in a small Irish village in 1936. Their spare existence is interrupted by brief, colorful bursts of music from the radio, their only link to the romance and hope of the world at large. An exploration of the human spirit that cannot be vanquished by time or loss. Dec. 1, 2, 3 at 8 p.m.; Proscenium Theatre; \$6/\$8.  
"Dance Theatre Concert Fall," A compilation of original faculty and student choreography. Dec. 1, 2, 3 at 7:30 p.m.; Class of '56 Dance Theatre; \$3.

# miscellany

## Alcoholics Anonymous

Meetings are open to the public and will be held Monday through Friday at 12:15 p.m. and Saturday evenings at 7 p.m. in Anabel Taylor Hall. For more information call 273-1541.

## Alpha Phi Omega

Clothing drive to encourage members of the Cornell community to bring back from Thanksgiving break at least one piece of high-quality, warm clothing for distribution to people in need in Tompkins County. Drop boxes will be located through Dec. 1 in residence halls, greek organizations, student unions, Terrace Restaurant, Big Red Barn and Triangle Books. Organized by Alpha Phi Omega, Ecology House and Ithaca Rotary Club.

## Astronomical Observing

The Cornell Astronomical Society hosts an open house every clear Friday evening at Fuertes Observatory, located on north campus next to Helen Newman Gymnasium. Enjoy stunning views of the planets, moon and other heavenly bodies through an historic 12-inch diameter brass refracting telescope. Visiting hours are from 8 p.m. to midnight.

## Cornell Campus Club

Cornell Campus Club Holiday Tea, Dec. 8, 2 p.m.-4 p.m., at the home of Rosa and Frank Rhodes, 603 Cayuga Heights Road, Ithaca. All Campus club members are invited to attend.

## Gannett Health Center

"Stress Busters," brown bag lunch series, Dec. 7: "Music and Movement in Managing Stress," Maurice Haltom, AGAPE Institute, 12:15 p.m.-1 p.m., The North Room, Willard Straight Hall.

## Student Assembly

The NAMES Project AIDS Memorial Quilt will be on display until Dec. 3 in the Memorial Room of Willard Straight Hall; Wed. through Fri., 7 a.m. to 10 p.m.; Sat., 9 a.m. to 2 p.m. Those interested in

# CU to host World AIDS Day display of Memorial Quilt

To commemorate the World Health Organization's seventh annual World AIDS Day, Cornell will display portions of the NAMES Project AIDS Memorial Quilt on Nov. 30, December 1, 2 and 3. The Quilt is an international memorial to those who have died of AIDS.

The Cornell exhibit will include 80 three-foot by six-foot panels, each commemorating the life of someone who has died of AIDS. "Our community has been and continues to be hurt by this epidemic, more than most people are able to say, more than many people want to see," says Sharon Dittman, coordinator of Cornell AIDS Action. "Having the Quilt here, in our midst, is a reminder that many of the people who have died are individuals and are loved by individuals who are members of our community. We all are living with AIDS. The Quilt display gives us an occasion to come together to remember, to support, to see - perhaps for the first time, and to strengthen our resolve to do our part to stop this epidemic."

Cornell's World AIDS Day Display of the NAMES Project AIDS Memorial Quilt will be open Dec. 1 and 2 from 7 a.m. to 10 p.m. and Dec. 3 from 9 a.m. to 12 p.m. in the Memorial Room of Willard Straight Hall.

Members of the Cornell and Tompkins County communities who have made pieces of the quilt in memory of their loved ones that they would like to dedicate at the display are encouraged to contact Cornell AIDS Action, 255-4782.

World AIDS Day displays of the Quilt will be held concurrently around the world. The theme of this year's World AIDS Day is "AIDS and the Family." The panels of the AIDS Memorial Quilt illustrate the epidemic's devastating impact on families - both traditional and non-traditional. They include a wide variety of materials such as leather, favorite T-shirts, photographs and teddy bears. The panels on display represent only a small portion of the almost 28,000 panels that make up the entire NAMES Project AIDS Memorial Quilt.

The Quilt began in San Francisco as one person's protest against the AIDS epidemic. Propelled by the death and tragedy that confronted so many around the world, a man named Cleve Jones searched for a way to make people understand the overwhelming loss and frustration affecting him and so many of his friends.

In June 1987, Jones spray-painted his friend's name, Marvin Feldman, onto a piece of cloth approximately the size of a grave. Friends, acquaintances and strangers joined the effort by making panels of their own. Soon, thousands of people across the United States and around the world were adding names and expressing their emotions by creating hand-made memorials for the loved

ones they had lost to AIDS.

Today, the Quilt continues as a powerful, visible symbol of the worldwide pandemic. It includes panels from all 50 U.S. states and 29 countries.

The NAMES Project Foundation coordinates displays of portions of the Quilt worldwide to encourage visitors to better understand and respond to the AIDS pandemic; to provide a positive means of expression for those grieving the death of a loved one; and to raise funds for people living with HIV and AIDS. Through displays in countries outside the United States, the NAMES Project Foundation encourages people around the world to adapt the idea of an AIDS memorial to their own cultures.

Special events in connection with the quilt display are as follows:

**Dec. 1:** "Service of Remembrance" - sponsored by Cornell United Religious Work, 1 p.m. Willard Straight Hall Memorial Room.

**Dec. 1:** "World AIDS Day Candlelight Vigil," Ithaca Commons, 5:30 p.m. (followed by Open House at AIDSWORK offices, DeWitt Office Complex)

**Dec. 1:** Showing of the 1993 film "Philadelphia," 8 p.m., Willard Straight Hall Memorial Room.

**Dec. 2:** Showing of the 1989 film "Common Threads," Academy Award winning film about the Quilt, 7:30 p.m., Willard Straight Hall Memorial Room.

**Dec. 2:** "Party for Life: AIDS Support '94," featuring Blindman's Holiday, 9 p.m.-1 a.m., Delta Kappa Epsilon fraternity, 13 South Ave. Benefit for AIDS Work of Tompkins County, (admission at the door).

**Dec. 3:** "Young People Taking the Lead," teen-led discussion from 10 a.m. to noon about the Quilt; parents/guardians encouraged to attend, Willard Straight Hall Memorial Room.

The display and the movies are free and open to the public. T-shirts will be sold to benefit AIDSWORK of Tompkins County and the NAMES Project.

For more information, call Cornell AIDS Action: (607) 255-4782.

**Sponsors:** Cornell AIDS Action, Student Assembly, Willard Straight Hall Programming Board, Student Health Alliance at Cornell, Gannett Health Center, Community Development, Risley Residential College, Cornell United Religious Work and many cosponsors.

displaying newly made pieces of the quilt and/or in dedicating them during the display may do so.

## Writing Workshop

Free tutorial instruction in writing is offered through the Writing Workshop Walk-in Service as follows:

• 178 Rockefeller Hall: Sunday, 2 to 8 p.m.; Monday through Thursday, 3:30 to 5:30 p.m. and 7 to 10 p.m.  
• Robert Purcell Community Center, Student Lounge: Sunday through Thursday, 8 to 11 p.m.  
• 320 Noyes Center: Sunday through Thursday, 8 to 11 p.m.

# sports

Home games are in ALL CAPS.  
Records are as of Monday.

## Men's Basketball (0-1)

Dec. 2-3, Mile High Classic at Colo.

## Women's Basketball (1-1)

Dec. 2-3, at Georgia Tech Classic

## Women's Fencing (1-2)

Dec. 3, at Princeton, with Columbia and Harvard, 9 a.m.

## Men's Hockey (2-3-1)

Dec. 2, YALE, 7:30 p.m.  
Dec. 3, PRINCETON, 7 p.m.

## Women's Hockey (1-4-0)

Dec. 3, COLBY, 2 p.m.  
Dec. 4, NEW HAMPSHIRE, 2 p.m.

## Men's Squash (0-2)

Dec. 3, HARVARD, noon.  
Dec. 3, FRANKLIN & MARSHALL, 4 p.m.

## Men's Swimming (2-1)

Dec. 2, at Columbia, 7 p.m.

## Women's Swimming (1-1)

Dec. 3, at Columbia, noon.  
Dec. 6, ITHACA COLLEGE, 6 p.m.

## Men's Indoor Track

Dec. 3, Cornell Relays

## Women's Indoor Track

Dec. 3, Cornell Relays

## Wrestling (2-1)

Dec. 4, at Penn State Open



## CALENDAR

December 1  
through  
December 8

All items for the Chronicle 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 should be sent to arrive 10 days prior to publication and should include the name and telephone number of a person who can be called if there are questions.

Notices should also include the subheading of the calendar in which the item should appear.

## dance

**Cornell International Folkdancers**

All events are open to the Cornell community and general public and are free unless otherwise noted. Beginners are welcome; partners are not necessary. For information, call 387-6547.

Dec. 4: 6:30 p.m., planning meeting; 7:30 p.m., Fall Ball, North Room, Willard Straight Hall.

**Hispanic American Studies Program**

Sabor Latino Dance Ensemble is having their fall concert, Noche de Gala, on Dec. 2 at 8 p.m. at the Statler Auditorium. The concert will include performances by Grupo H, Sabor Latino members and a flamenco dance troupe from New York City. Tickets are \$4 and may be purchased from members or by calling Vanessa Correa at 253-8505.

**Israeli Folkdancing**

Thursdays, 8 p.m., Edwards Room, Anabel Taylor Hall; instruction and request dancing, beginners welcome; free and open; info 255-4227.



The award-winning film, *The Blue Kite*, which tells the story of an ordinary family caught in the political turmoil of 1950s China, will be screened on Friday, Dec. 2 and Saturday, Dec. 3 at 7 p.m. in Uris Hall and on Sunday, Dec. 4 at 4:30 p.m. in Willard Straight Hall. The film shared the Palme D'Or award at the 1993 Cannes Film Festival. For more information, call Cornell Cinema at 255-3522.

## 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. Telephone: 255-6464.

• "The Cult of Personality: Portraiture in 16th Century Europe," through Jan. 1. Featuring Dutch, English, French, Italian and German paintings and prints from the permanent collection.

• "Contemporary Prints from the Quartet Gallery," through Jan. 1. This exhibition includes work by Gregory Amenoff, Richard Bosman, John Buck, Louisa Chase, Christo, Red Grooms, Sol Lewitt and Sylvia Plimack Mangold.

• "Cornell Art Department Faculty Exhibition," through Jan. 8. This annual mixed-media exhibition presents the work of the department's faculty and emeritus professors.

• "Keith Haring: Prints from the Collection of Beth Hyman," through Jan. 8. Haring (1958-1990) attempted to raise awareness about racism and the discrimination surrounding AIDS.

• "William H. Johnson: Homecoming," through Jan. 8. Forty paintings made by Johnson, one of the most important African-American painters of the 20th century.

• 12 O'Clock Sharp, Thursday Noontime Gallery Talks: Dec. 1, a tour of the Keith Haring exhibit.

• Sunday Afternoon Artbreaks: Every Sunday through Dec. 4. Gallery talks focused on aspects of the permanent collection or special exhibitions.

**Anthropology Department**

"Voices From the Past: A Slave Cabin Excavation, Cumberland Island, Georgia," featuring materials gathered by Professor Robert Ascher, is on view in McGraw 215 through Dec. 21.

## films

Films listed are sponsored by Cornell Cinema unless otherwise noted and are open to the public. All films are \$4.50 (\$4 for students), except for Tuesday night Cinema Off-Center (\$2) and Sunday matinees (\$3.50). Films are held in Willard Straight Theatre except where noted.

**Thursday, 12/1**

"Dream Girls" (1993), directed by Kim Longinotto and Jano Williams, 7:15 p.m. Shown with "Eat the Kimono" (1989), directed by Claire Hunt and Kim Longinotto.

"Airheads" (1994), directed by Michael Lehmann, with Brendan Fraser, Steven Buscemi and Adam Sandler, 9:50 p.m.

**Friday, 12/2**

"The Blue Kite" (1994), directed by Tian Zhuangzhuang, with Lu Liping, 7 p.m., Uris.

"Dream Girls," 7:15 p.m.

"My Life's In Turnaround" (1993), directed by Eric Schaeffer and Donal Lardner Ward, 9:45 p.m.

"Slacker" (1990), directed by Richard Linklater, with R. Basquez, 9:55 p.m., Uris.

"Airheads," midnight, Uris.

**Saturday, 12/3**

"Art & Music!" a collection of children's films featuring "Linnea in Monet's Garden," "Mona Lisa Descending a Staircase," "Music, Music" and "The Concert," 2 p.m., \$2/\$1.50 kids 12 and under.

"The Blue Kite," 7 p.m., Uris.

"Poor Little Rich Girl" (1965), directed by Andy Warhol, with Edie Sedgwick, 8 p.m.

"My Life's In Turnaround," 9:45 p.m.

"Singles" (1992), directed by Cameron Crowe, with Matt Dillon and Bridget Fonda, 9:55 p.m., Uris.

"Airheads," midnight, Uris.

**Sunday, 12/4**

"To Live" (1993), directed by Chen Yao-Cheng, with Chen Ling-Chih, 1:30 p.m., free.

"The Blue Kite," 4 p.m.

"Before the Revolution" (1962), directed by Bernardo Bertolucci, with Adriana Asti, Francisco Barilli and Alain Midgette, 7:30 p.m., Uris, free.

"Student Films I" (1994), Beginning students in Marilyn Rivchin's Theatre Arts course, 7:30 p.m.

**Monday 12/5**

"Poor Little Rich Girl," 7:30 p.m.

"Drugstore Cowboy" (1989), directed by Gus Van Sant, Jr., with Matt Dillon, Kelly Lynch and William Burroughs, 9:15 p.m.

**Tuesday, 12/6**

"Bodies, Rest and Motion" (1993), directed by Michael Steinburg, with Eric Stoltz, Bridget Fonda and Tim Roth, 7:20 p.m.

"Drugstore Cowboy," 9:30 p.m.

**Wednesday, 12/7**

"Metropolitan" (1990), directed by Whit Stillman,

with Carolyn Farina, Taylor Nichols and Isabel Gillies, 7:20 p.m.

"True Lies" (1994), directed by James Cameron, with Arnold Schwarzenegger and Jamie Lee Curtis, 9:40 p.m.

**Thursday, 12/8**

"Bodies, Rest and Motion," 7:30 p.m.

"True Lies," 9:45 p.m.

## graduate bulletin

**Spring 1995 ID Validation and Registration, new procedures:** Thurs. and Fri. Jan. 19-20: Go to ID validation in one of the following: Noyes Center or Robert Purcell (Thurs., 8:30 a.m.-noon), or Willard Straight Hall (Thurs. and Fri., 1 p.m.-5 p.m.). Graduate students with 'holds' and all new graduate students should go to registration in the Lounge, Sage Hall, on Thurs. and Fri., 8:30 a.m.-4 p.m.

**Reduced Tuition:** An application form for reduced tuition must be filed with the Graduate School when applying for reduced tuition for the first time. To receive reduced tuition for the spring semester, 1995, the form must be received by Feb. 10, i.e., the end of the third week of the semester. Qualifications: doctoral candidate, completed six semesters in the Cornell Graduate School, passed A-Exam, no longer taking courses.

**Thesis/Dissertation:** The thesis/dissertation submission deadline for a Jan. 1995 degree is Jan. 13, 1995. Students should see the Graduate School thesis adviser (walk-in office hours: Mon. through Fri., 9 am to noon; also, 1:30 to 3:30 pm on Mon., Tues., and Thurs.) for approval of the format of their thesis/dissertation before submitting the final copies to the Graduate School.

**Conference Travel Grant:** Applications are due at the Graduate Fellowship Office, Sage Graduate Center, by Jan. 1, for February, 1995 conferences. Applications available at graduate field offices; registered graduate students invited to present papers are eligible.

**Office Closing:** The Graduate School offices in Sage Graduate Center will be closed during the official University winter holiday, closing Dec. 23, at noon and reopening on Jan. 3.

**Foreign Language and Area Studies Fellowships:** Applications are available in the graduate field offices and the Graduate Fellowship Office. Application deadline is Jan. 27. Award includes 9-month stipend of \$8,000 plus full tuition for 1995-96 academic year; available to citizens or permanent residents of U.S.

**GCA Positions:** Graduate and Professional Student Housing will hold information sessions for those interested in a uniquely great experience and job as a Graduate Community Assistant for 1995-96. This is a live-in position in one of the graduate resident buildings/complexes. All full time graduate students are welcome. To apply you must attend one of these sessions: Dec. 5, 12 p.m.-1 p.m. at Hasbrouck Community Center; Jan. 18, 5 p.m.-6 p.m. at the Big Red Barn; Jan. 24, 7:30 p.m.-8:30 p.m. at the Big Red Barn; Jan. 30, 1995, 12 p.m.-1 p.m. at Hasbrouck Community Center.

The position requires approximately 10-20 hours per week and may not be combined with another assistantship; graduate students may work no more than 20 hours per week and receive full residence credit.

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*Dream Girls*, a documentary about a Japanese Broadway-style music school for women only, and *Eat the Kimono*, a biography about the controversial Japanese avant-garde dancer, Hanayagi Genshu, will be shown at 7:15 p.m. on Thursday, Dec. 1 and Friday, Dec. 2 in Willard Straight Hall.