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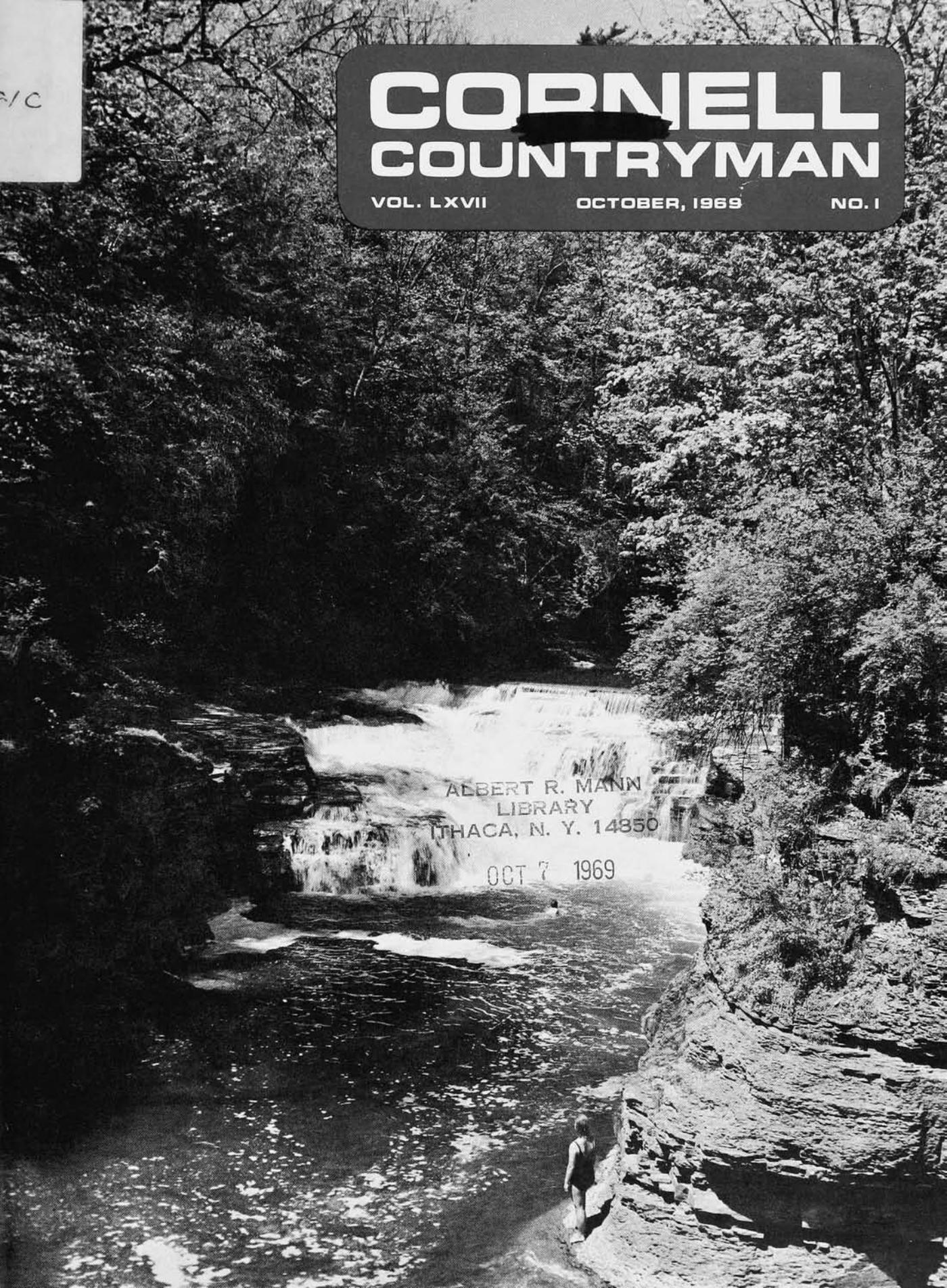
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Fall Creek falls above Beebe Lake

CORNELL COUNTRYMAN OCTOBER 1969/VOL. LXVII — NUMBER 1

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Faculty Questions April Vote

by GARY FISHER '70

"Cornell's anguish of the past week has unquestionably drawn the attention of the nation because here we have reflected the anguish of the nation. Will America be able to resolve its problems of race, and if so with what accommodations on the part of whom?"

Thus spoke James A. Perkins, former president of the University. The legitimacy of his statement is impeccable for indeed there are no easy answers to the questions that plagued Cornell last spring. No members of the Cornell community felt the ill effect of that term's activities more than the University faculty. Bitterly divided in opinion over the decision to nullify judicial reprimands given to five black students, Cornell's professors and teaching assistants held numerous teach-ins and colloquies in a concerted effort to explain their views and to breach the gap which had developed between faculty and students concerning university-wide education.

A number of Cornell's top professors resigned to protest the faculty decision which, many felt, was reached under coercion and threats of violence. Many instructors and teaching assistants terminated formal class meetings at the time of the confrontation in favor of informal meetings and discussions with their pupils. Others, feeling an overriding commitment to their students, continued to teach courses despite their opposition to the decision.

The standardbearers of the professorial group opposed to the decision, Walter Berns, Professor of Government, Allan Sindler, Chairman of the Department of Government, and Walter LaFeber, Chairman of the Department of History, publicly stated that the posed infringement on academic freedom — rather than personal threats of violence — was the chief reason for most resignations.

"I do not believe," declared Sindler, "that I can perform effectively my teaching, scholarly, and institutional duties in the changed context at Cornell."

Berns concurred, citing the encroachment upon academic freedom and the intimidation of faculty power as the personal reasons behind his leaving.

"Anyone who claims that he voted one way on Monday," he charged, "and, by having had an opportunity for rational discussion in an atmosphere of coercion, changed his mind, is not telling the truth."

The right of academic freedom is essentially that liberty allowing the university professor to teach whatever he deems necessary in an atmosphere free from coercion and threatened actions. Many faculty members feel that this right has been dissolved, that the faculty reversed its judicial decision in an undemocratic atmosphere for fear of violence, and that the stature of the faculty has been generally downgraded.

An equally important issue at hand was firearms on campus. Berns spoke for many members of the History and Government departments when he asserted that guns would create a climate that hinders academic freedom. Cornell professor, Andrew Milnor queried: "If there are some questions you can't ask, why have a mind? Why live?" Some 24 professors had signed a petition that was forwarded to President Perkins informing him of their intentions to "cease normal teaching activity" until Cornell University had assured them that all unlicensed firearms would be removed from the campus. "For the sake of both students and teachers," the petition had declared, "we must have freedom to inquire, to teach, and to learn without intimidation. We must maintain standards of professional judgment and scholarly achievement."

The members of the faculty that advocated the decision reversal were just as staunch in their viewpoints. They seemed to feel that everything in society — customs, traditions, and governmental processes — is up for restructuring, *including* the University. These supporters had favored the decision chiefly for its peace-making results and had been glad to see the campus quiet and united once again. The rational campus, they asserted,



President Perkins announces the faculty's April 23 vote

was the first prerequisite for the "business of education."

Leading the faculty members who were in favor of the decision were Clinton Rossiter, Professor of Government and Douglas Dowd, Professor of Economics. In

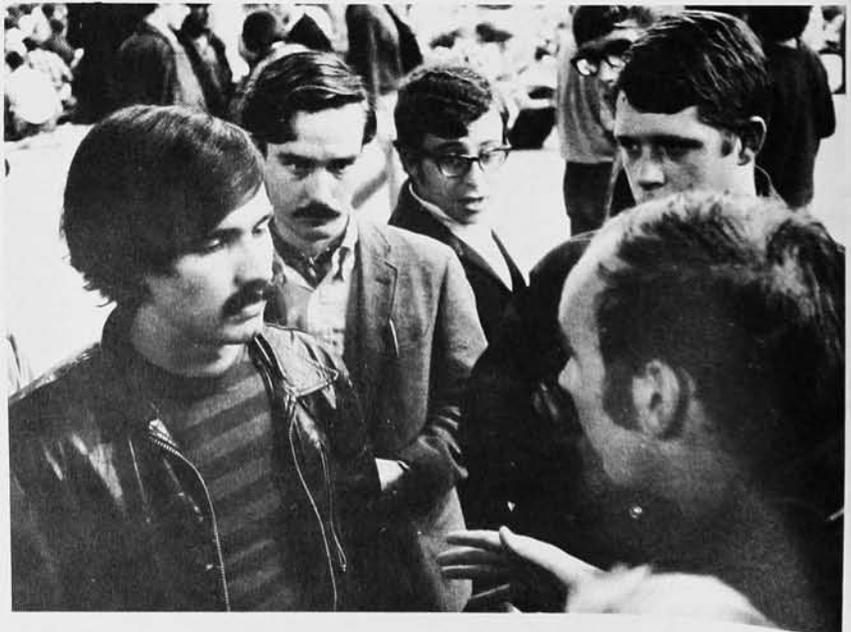
commenting on the faculty's decision to retract the reprimands Rossiter declared: "I feel not only that we corrected what was a doubtful action Monday, but we moved immediately to restore peace and harmony on the campus." He had explained the logic behind the faculty's change of heart by pointing out that the introduction of new issues after the first vote was taken and the need to retain the loyalty of the students were of paramount importance.

Dowd agreed, and stated that the faculty had not had a choice. He termed Wednesday's vote "a proper and just action. It should have happened a long time ago." He deemed it "essential to the well-being of Cornell."

Many of the decision's advocates considered the retraction a moral and political wager on the university's future role in education. Others, such as Walter Slatoff, Professor of English, had endorsed the action for sociological reasons. He said, "Reasonableness can be a hindrance to change for the blacks, because it can lead to endless talks and endless committees which lead to no change in the community by maintaining the status quo."

Where are the true answers? They seem to be shrouded in a haze of counteracting forces — including the student sentiment, academic freedom, black equality, and alleged coercion. Only through continued debate, enlightened discussion, and conscientious restructuring of the university will the enigmas that surfaced last spring cease to plague Cornell. Meanwhile, let us hope that what we saw and heard in Ithaca last April were not the agonies of antagonism but the birthpains of equality.

Students in Barton Hall discuss the issues which divided the campus



Ithacans Question Tom Jones

by MARGARET LOU '70

As usual the radio woke me up Saturday morning, and as usual the same boring, public opinion program, "Talk to the Leaders" was on the air. However, this particular Saturday, the guest speaker was not the typical prominent Ithacan from the Chamber of Commerce, the post office or police department, but Tom Jones, known to Ithacans as one of the notorious black students who took over Willard Straight Hall last spring. Instead of the usual lull between phone calls from the audience asking questions of the guest, the phone was in constant use.

As I had expected, the first caller was one of the "regulars". She wanted to know if "they" had let Tom Jones into "those meetings". After five minutes of confusion, the woman finally made herself understood — "they" meant Cornell and "those meetings" meant the Constituent Assembly meetings. Jones answered that they had let him into the meetings. The woman, vastly relieved, thought that that was good and a start in the right direction.

After a few insignificant calls, a man called in with some pertinent questions. He wanted to know why the black students wanted a black studies program. Jones answered that it was about time black students had the opportunity to study black culture and learn about their own race and background. The caller didn't seem to think that there was much to study that hadn't been taught in high schools. Jones quickly disagreed and said that high schools were taught by whites who discriminated in what they taught or offered. The caller kept disagreeing. Jones finally asked him whether he knew that Africans were the first to perform a cataract operation, or that they were the first to smelt iron ore. The man, somewhat taken aback, admitted that he hadn't known.

Then gathering his wits about him, he pointed out to Jones that black students seemed to think they were a privileged group, expecting their own black studies program and isolating themselves from the rest of the student body. Jones replied that it was not a privilege to study about one's own race and culture, but a right. He pointed out that neither high schools nor colleges offered courses about African cultures and the history of black people, while they did offer courses in the cultures of China, Greece, and other civilizations.

Jones also pointed out that the black students were not isolating themselves from other students, but that

they were an ethnic group, similar to Young Israel.

The caller began to lose patience and temper, and told Jones that he didn't deserve to go to Cornell. He contended that the Ithaca City School system (which he had gone through) did not discriminate and gave blacks every opportunity that it gave whites. The caller finally got so worked up, he shouted to Jones, "You're not only black, but rude," and hung up.

The next two callers were both black Ithaca housewives who had gone through the Ithaca City School system. Both felt that the Ithaca school system was discriminatory toward blacks and did not offer equal opportunities for learning to both blacks and whites. They also voiced an interest in learning about black culture and black history. One of the women said that she was sure white people who were listening would immediately assume that she was a black militant, which she said amused her very much, because she was actually a moderate and totally non-militant in her actions and ideas. Jones agreed with her and thanked her for calling.

The last caller was a man who was interested in why or why not John F. Hatchett was going to be hired as the director of the black studies program. Jones replied that the problem surrounding Hatchett involved a group of professors who were upset over the fact that Hatchett is supposedly anti-Semitic. These professors were threatening to resign if Hatchett was hired. Jones felt this was wrong because the black students knew who best fulfilled the qualifications of the director and the professors' complaint of Hatchett's anti-Semitism was irrelevant because it had nothing to do with his qualifications as a director of the black studies program.

The caller then brought up an incident that occurred two years ago involving an economics professor. He said that it was analogous to the Hatchett problem because in both cases a group of unqualified people (in Hatchett's case the group of professors, and in the economics professor's case, the black students) wanted the person in question fired. Jones quickly pointed out that the black students had not originally wanted the economics professor fired, but instead, merely wanted 20 minutes of the professor's class time to present "an opposing point of view." The caller finally agreed with Jones that the situations were not analogous.

The keen interest shown by Ithacans in Tom Jones' views indicates that people want to hear all sides of a complex situation.

CIGARETTE ADVERTISING

Selling Without TV —

Can It Be Done?

by MARCIA WITTES '71

If you think you're hearing more cigarette commercials, but enjoying them less, you may be in for some relief. Next year at this time, you probably won't be hearing any cigarette commercials at all.

The cigarette industry itself proposed to ban cigarette commercials from TV and radio by September, 1970. The proposal was interpreted not so much as a "do-gooder" act by the industry in the public interest, but rather as an attempt to upstage the broadcasters. Yet the broadcasters' proposal was initiated to avoid governmental control.

The issue of cigarette advertising has been raging for some time. It is no clear-cut contest merely of government vs. industry; or of cigarettes vs. the people. There are several parties intrinsically involved here that cannot be so easily polarized into pro or con positions: the advertising agencies, broadcast stations, print media, Federal Communications Commission, and the Federal Trade Commission. How are they affected? Where do they stand? In addition the cigarette industry, tobacco growers and American Cancer Society all feel they have much at stake in this controversy. To overcome possible economic upset and to find an effective outlet for the available money and talent, many constructive changes in the advertising campaigns are needed.

The question of public health is undoubtedly at the root of the controversy. Cigarettes have long been recognized as something of a health hazard. Yet for years people have been telling themselves, "If there were really anything wrong, the government would do something." Then in January of 1964, the government did do something. The now famous Surgeon-General's report was issued and followed up three years later with a report from the Public Health Service. They both presented strong evidence linking cigarette smoking to several types of cancer. The PHS reported, "Cigarette smokers tend to die at earlier ages . . . than comparable non-smokers."

The anti-smoking campaign is not only based on health issues. In its role of regulating the air waves, the FCC invokes a "fairness doctrine." Issued in the

late 1940's, the regulation permits stations to present opinions on controversial issues so long as comparable time is allowed to express opposition. This was interpreted to mean the stations were to donate free time to anti-smoking messages to offset the cigarette commercials.

What is involved? The legislation regarding cigarette advertising, which expired June 30, 1969, raised much controversy when it was first passed in 1965, and was itself a compromise. It established the familiar nine words, found printed on every package, "Caution: Cigarette Smoking May Be Hazardous to Your Health." On the other hand, it prohibited any Federal or state agency from interfering with cigarette advertising in any way. Thus, although the industry had to print a health warning on their product, it was assured of freedom from government control.

So as the 1965 legislation was scheduled to expire on June 30 and a replacement bill was sought, many lobbyists exerted their influence and expressed their opinions. It was felt that the fate of not only an industry, but also the multi-million dollar incomes of broadcast stations and advertising agencies were at stake. The livelihood of tens of thousands of workers in the tobacco industry (in growing, processing and selling) was in jeopardy, too. Yet, millions of people felt very much threatened by an allegedly great health hazard.

With the June 30 expiration date in mind, the FCC held hearings on the issue last spring. At first the Commission was acting almost independently as protagonist for the anti-smoking cause. If Congress did not take definite action clamping down on the tobacco industry (i. e. legislate a tough new law, or at least withdraw the regulation forbidding the FCC's interference in cigarette commercials), the FCC planned to carry out its own proposed regulation which would have banned all broadcast advertisements from radio and TV.

The FTC took similar actions, as they proposed to strengthen the warning by including some key words. However, since the old law had prohibited any government agency from interfering in cigarette advertising, the FCC and FTC had to wait until the law expired.

The tobacco industry has now made any such proposal unnecessary since it announced its plan to eliminate all cigarette commercials by next year.

Now that cigarettes will have to be sold without TV, some interesting shifts will undoubtedly be seen in creative uses of print media (newspapers and magazines) and promotional devices. The broadcasters face a challenge to avoid the financial "red" that loss of cigarette advertising revenue threatens.

By giving up its most powerful and effective sales tool, television, the tobacco industry has freed millions of dollars of their budgets that were formerly spent for broadcast commercials. The funds may be allotted to diversifications and new campaign strategies.

The media will not allow themselves to be caught off-guard either. The broadcasters are already tapping potential advertisers to buy TV time vacated by the cigarette advertisers; the print media are eagerly anticipating a rise in their advertising insertions.

Of course, this issue involves more than a simple financial shift and switch of media for the cigarette advertisers. The question of cigarette advertisements initially was based on a question of public health. The obligation that the governmental agencies felt in light of the mounting evidence associating cigarette smoking with cancer has hardly been forgotten. The 1965 law, providing for the relatively mild health warning to be printed on all packs is regulated by the FTC. Now, in view of the proposed ban for next year, can the printed statement be eliminated from the packs? The FTC would like to not only extend the regulation, but strengthen it by including such specific words as "cancer", "is", and "death". Their statement would read: "Cigarette Smoking Is Dangerous to Health and May Cause Death From Cancer and Other Diseases."

Furthermore, the FTC has a regulation pending which calls for a similar warning in all advertisements. This would mean that every ad in newspapers, magazines, billboards, etc. would have to bear a statement of caution as to the use of cigarettes. Some observers think that if such a regulation becomes law, it may eliminate cigarette advertising completely.

As to the impending economic jolt, it was the broadcasters who felt they were in for the big upset. Undoubtedly, the \$196 million that the tobacco industry spent in television and the \$20 million they spent in radio last year is no small sum for the broadcasting industry to lose. Their organization, the National Association of Broadcasters, made the first proposal to withdraw cigarette commercials from the air several weeks before the tobacco industry made its announcement. The broadcasters suggested a gradual elimination of cigarette ads that would have reduced the number of commercials aired so that by September, 1973 no more were shown at all. This was seen as progressive, being a non-governmental move in the anti-smoking cause. However, it was criticized by an investigating Senate

subcommittee as unnecessarily slow. (Contracts with the broadcasters for air time are usually made for only one year.)

Filling up this newly emptied time is the challenge facing the broadcasting industry. (They probably foresaw this predicament and tried to ease it as much as possible, while also trying to maintain good public relations, by proposing the very gradual elimination of cigarette commercials.) The upshot of it all was the tobacco industry's own proposal for a quicker withdrawal. Where does this leave the broadcasters?

Many of the other advertisers (cigarettes, after all, account for only the fifth category in TV advertising) had to use "spots" previously because they couldn't get network time. Now they would be able to fill up the open time left by cigarette advertisers. Also the stations are trying to attract retail stores as potential advertisers. Traditionally, department stores have been major advertisers in newspapers. However, the time openings on TV may well "woo" the department store ads away from newspapers to TV, but the additional print space could be bought by cigarette advertisers. In fact, cigarette advertising has in the past several months already shown an increase in newspaper insertions. Both newspapers and magazines showed a sizable increase last year in cigarette ad billings. They eagerly are anticipating more of the same when the commercials are removed from TV, unless the stronger health warning goes on all cigarette ads, which would stifle the effectiveness of any advertising.

What about the messages publicized by the American Cancer Society? When cigarette commercials are off the air, anti-smoking notices may also be withdrawn. (Some do advocate leaving them on the air, as a public service ad, even when the cigarette ads disappear.) The messages are not shown in a 1-to-1 ratio with each other, yet if the freely-donated anti-smoking spots are cleared, this time could become a new revenue source for the broadcast media.

What effect will this ban have on cigarette sales? In all probability, it will freeze the relative sales positions. For example, it would be difficult to introduce a new brand to the market, or set any spectacular growth records. More specific predictions are not being made.

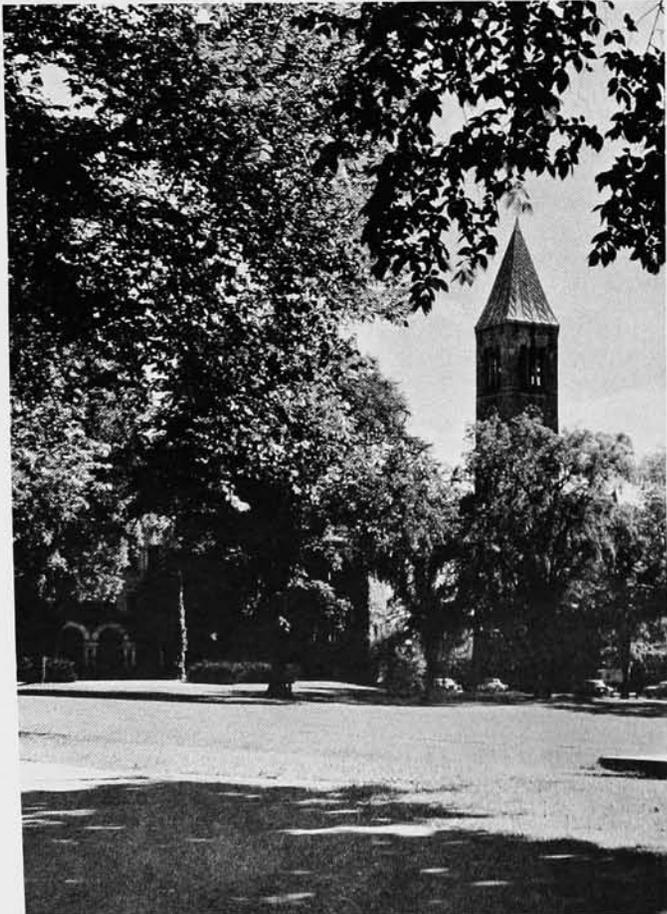
Television is certainly not the only device available to promote a product. Magazines and newspaper campaigns promise to be stepped up. However, the possibility has been suggested that the across-the-board increase in print advertising may only create "clutter" in the media. Other familiar marketing devices will probably be relied on more and more. Coupons for premiums, price-off coupons, prizes in the packs and give-away samples are likely to be used.

"They could even copy from gas station games and run sweepstakes," writes Philip H. Dougherty of the *New York Times*, "maybe matching halves of Blue Cross Membership Cards."

Changing Views At Cornell



1880's



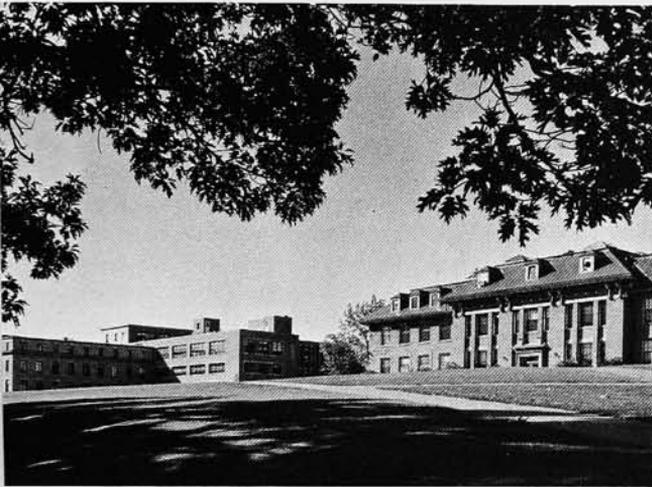
1957

From a single quadrangle, Cornell's campus has evolved into a family of several quads. Each has developed its own appearance at its own rate. Buildings have been added and later torn down. Trees have lived and died, changing the face of the campus with their coming and going.

The growth of trees and the building of Bradfield Tower have obscured views of the past on Tower Road.



1938

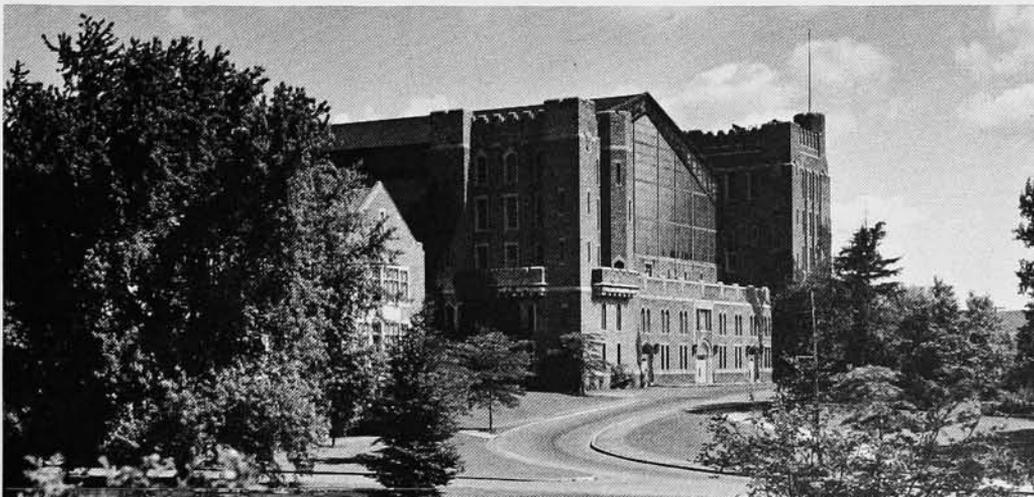


1964

A new social sciences building will soon block this view of Barton Hall.



1968



1947

PESTICIDE FALLOUT



The gas chromatograph may be used to test for the presence of chlorinated hydrocarbon insecticides.

Did some of the food you ate for lunch contain DDT? Is the chlordane you used in the garden being absorbed by your vegetables? Today there is wide concern about the amounts of pesticides that are currently being used. The Pesticide Residue Laboratory of Cornell's Entomology Department is studying pesticide fallout, the amounts of pesticide that are left once the pests are killed.

The laboratory was set up in 1956 by Dean Charles E. Palm, who was then head of the Department of Entomology, to provide accurate research on which New York State could base recommendations regarding the use of pesticides.

The residue of the pesticide that remains with a food substance is of great concern to many. Residue analysis measures the amount of pesticide in a commodity at harvest. The commodity may be meat, milk, fruit, vegetables, fish or other foodstuffs. Residue is made up of the pesticide plus other compounds that result from chemical changes in the pesticide. These changes may be caused by plant enzymes, bacteria, sunlight and other agents. The United States Department of Agriculture insists that a pesticide must effectively eliminate the pest it was designed to destroy. The Food and Drug Administration looks at the question from a health standpoint and decides whether or not the compound can be used. The company manufacturing the pesticide

usually screens the chemical, making the initial tests, while college laboratories test it to determine residue data. In order to clear a pesticide for general use, the company must present this data to the FDA. Since pesticides are made especially for killing, their effects are watched closely. Many pesticides are tested more thoroughly than many drugs. Food preservatives, air pollutants, and a wide range of similar substances could conceivably prove toxic over long periods of exposure, but unfortunately, the amount of study they receive is tiny when compared to pesticides.

Only small amounts of pesticide are applied to crops. Usually the chemical is very toxic, and only a small amount is needed. Some may be toxic to humans in large quantities. The FDA generally sets very low tolerance levels for pesticides. For instance, if 100 parts per million of a pesticide is enough to produce the first symptoms of an adverse reaction in humans, the FDA may set a tolerance at one hundredth of that, or one part per million. One hundred parts per million is many times less than the amount needed to do substantial harm to a person, but the FDA takes no chances.

There are three main steps in measuring and analyzing pesticide residue. First, the pesticide must be extracted from the material being analyzed. Unfortunately, other substances such as pigments, proteins, waxes and fats are removed at the same time, and may interfere with analysis. Second, these interfering substances must be removed. Third, the remaining pesticide must be measured. This was once a long complicated procedure, taking perhaps two or three days for testing only a few samples. Today, a process called gas chromatography is often used, and with this system 20 to 30 samples per day can be analyzed.

In gas chromatography, a machine called the gas chromatograph separates the mixture obtained in step one, and analyzes the pesticide or pesticides once they are separated. It is able to do this because pesticides often contain at least one element not generally found in nature. Chlorine, for example, when added to an organic molecule, will usually produce a toxic substance, the basis for DDT and other like pesticides. The machine detects the presence of these elements, measures the amount of DDT present, and records it on a graph. The machine is very sensitive, and a small, almost insignificant amount of a pesticide will produce a dramatic indication on the graph.

There are basically two types of pesticides in general use today. One type, which includes DDT, is made up

of persistent chlorinated hydrocarbons, and will retain their potency for many years. The second type, often containing phosphorus or nitrogen is very toxic, but for a shorter period of time, usually only weeks or months. Environmental factors such as sunlight or bacteria usually decompose these compounds rather rapidly.

Originally, little was known about the long-range effects of the various pesticides. Little was, and still is, known about the life cycle of many insects, and therefore, it is difficult, if not impossible, for scientists to know where to disrupt the life cycle in order to kill a particular insect. Chlorinated hydrocarbons, remaining in the environment for long periods, made it unnecessary for scientists to know exactly where the weak part of the cycle was to be found. Pesticides built up in nature and few people took notice of them. Then more sensitive methods of detecting pesticide residues were found, and small amounts of residues started turning up everywhere. The gas chromatograph, the most sensitive of these instruments, enables scientists to find as little as one part of insecticide per one billion parts of sample tested.

What effect does DDT have on animals? Obviously, very great doses would kill the animal exposed. It was found that small amounts, as little as 2.9 parts per million, will prevent lake trout eggs from hatching. Orthopara DDT acts as a contraceptive in several animal species when present in very small amounts. Many studies, unfortunately, are inconclusive. In most cases, the bad effects attributed to DDT could have conceivably been caused by other factors.

In a study of trout in Cayuga Lake, it was found that older fish have more DDT in them than younger fish. In another study of various species of fish, it was found that amounts of DDT present were in proportion to the size of the fish. This phenomenon, called biological magnification, occurs because the larger fish pick up DDT from water, as well as from the smaller fish that

they eat. As bigger fish eat the smaller fish, more and more DDT is absorbed, until the largest fish also contains the most DDT.

The liver is the main organ for the de-toxication of foreign substances. For instance, enzymes in the liver break down toxic substances in the blood into largely harmless materials. When certain toxic substances are taken in, the amount of these enzymes increases. New toxic substances entering the body will be broken down faster because of the increased amount of these enzymes. Everyone has some DDT stored in his body's fat. However, people taking phenobarbitol and other drugs seem to have less DDT than others. This is because certain drugs activate the enzymes in the liver, and they will break down the DDT more readily.

In the future, DDT will probably be completely banned. Before it is, however, it should be recognized that it may be one of the most effective emergency insecticides. In India, for example, the use of DDT on mosquito-breeding swamps has reduced the incidence of malaria. In case of an outbreak of encephalitis, the treatment of swamps with DDT may prevent an epidemic. California is striving to enact effective laws regarding the use of persistent pesticides, as is New York. Most of the other states will probably follow this example.

It is also essential that new pesticides be developed that will be converted into harmless substances in a short period of time. With this development, it is also necessary to educate the users of these pesticides, so that they can apply the proper amounts at the right time, in order to achieve most efficient control. The cost of the chemicals, plus the time involved, make it essential that these pesticides be used to their fullest potential. Research into other means of controlling insects, such as spreading diseases or sterilizing male insects, is being conducted, and may prove to be of much use to future farming endeavors. Such new developments, plus the efforts of the Pesticide Residue Laboratory in analyzing foodstuffs, will provide more help to the farmer in protecting his crops from pests, and will assure the consumer that his food is as free as possible from potentially harmful materials.

Shown in operation is the microwave-powered emission detector as developed by Dean W. D. Cooke for pesticide residue analysis.



FOUR

WALLS

AND

CALORIES

by **CLAIRE GARRETT '70**

Returning students found it harder than usual to secure apartments for this fall. Partly responsible for this was the recent easing of residence requirements for women. More and more students are finding that they can live less expensively and with greater privacy off-campus. This has led to speculation as to whether the Department of Housing and Dining Services can continue to fill the dorms. As well, this trend is helping to create a housing crisis among the lower income people of Ithaca.

This July a report to the president, Responding to Opportunities in Student Housing and Dining, was released. President Perkins appointed a committee last year to continue the work of the Trustee Commission on Residential Environment to "define the essential qualities of a residential environment that would support a student's academic life." David J. Allee, professor of Agricultural Economics, headed the committee which included representatives from the Dean of Students Office, the Department of Housing and Dining, and the Department of Student Unions, as well as undergraduate and graduate students.

The report called for striking changes in student living patterns in response to the changing nature of the student body. The report suggests that students come to college better prepared to learn, to adjust to the opposite sex and to work in a group. "Fewer students come to begin to form their values about society. They are ready for experiences that will test their values."

As housing and dining now functions it does not test or teach anything. It merely provides four walls and

calories. Therefore, the committee concluded that the housing and dining services should aim at being a type of "mini-university" providing an educational experience.

Making an educational experience out of the necessary day-to-day services performed by housing and dining would require a two-fold change. The first involves replacing the present bureaucratic structure of the Department of Housing and Dining Services with a three-level governmental system. Housing and dining would be dissolved as the "self-supporting related activity" that it now is and would be combined with the Dean of Students Office, making it no more or less than one branch of the university, the primary objective of which is to educate.

The bottom of the three-level governmental system would be comprised of individual living units, the middle would be groups of units with similar interests, and the top would be a University Committee on Housing and Dining (UCHD) composed of students and housing and dining officials. This structure is intended to give the student more real power in determining the conditions under which he lives and hence will be part of his educational experience.

The middle level, for instance, could receive authority from the top to let the individual units be redecorated by ambitious students. Groups of students with similar interests would be aided in finding rooms together and an advisor, if desired. Special interest groups requiring special expenditures would have the power to tax their members for the funds to maintain them-

selves. Why, asks Allee, should the girls in Dickson have to pay for the deficit budget of girls choosing to live together in Phillips House? Why shouldn't the law students or the law school pay for the annual debts incurred by the Hughes Hall cafeteria which is used primarily by law students?

However, changing the power structure is only part of the changes that would have to be made. The committee also recommended more tangible changes like integration of class and sex and refurbishing of outdated facilities.

The report states, "the case for different varieties of co-educational living units is strongly supported by students throughout the country, who view monastic styles of housing as unrealistic in terms of long-range life patterns in which associations with members of the opposite sex is a dominant theme, whether through marriage, or business and social connections or both." Hence the committee urges immediate conversion of two or three of the University Halls dorms to accommodate women and moving men into the girls' dorm area no later than the fall of 1970. The renovation necessary to put women in the University Halls dorms, however, would cost approximately \$45,000 as present bath and closet facilities are inadequate. Furthermore, the space converted into baths would cease to bring in rent.

In order to acquire a greater class mix, the least desirable buildings like the University Hall dorms would have to be renovated to make them more appealing to upper-classmen who have the option of living elsewhere.



At the time each of Cornell's dormitories was built it represented the ultimate in living quarters. The dorms, and the ultimate in living, have changed over the years. Risley Hall appears much the same today as it did in 1938.

To achieve this the committee suggests density reduction in these dorms by 20 to 25 per cent. It proposes combining three doubles intended for six people into one suite intended for four people. This would cut down on noise and provide a greater degree of privacy more conducive to learning. However, the income lost on forfeited rents would amount to more than \$205,200 per year, not to mention renovating costs. The report acknowledges that density reduction cannot be accomplished without additional financial commitment from the University. "Yet failure to achieve this particular objective will leave the fundamental problem of these halls unsolved, no matter how many lounges and other areas are created or refurbished."

The committee also recommended eliminating doubled singles and tripled doubles in excess of those requested by students for reduced rates. There should be different rates according to the quality of the room, but the report suggested rent scholarships in order to maintain an economic mix.

The report made numerous other suggestions of lesser priority such as converting rooms in Lyon and Mennon halls to lounges where there are no lounges. Rugs should be installed in rooms and in the Baker corridors to cut down on noise.

These propositions all sound very good, but where will the money come from? These changes are very costly and a reasonable increase in room rents and food prices cannot possibly cover them. Taxation of special interest groups might be able to support some of these activities, but money for the renovation of buildings and covering the annual loss of room rent from those rooms converted to lounge and bath areas must come from outside endowment. Allee expressed confidence that a benefactor could be found and said that while subsidization is being sought, the University would be wise to proceed with the other recommendations such as changing the bureaucratic structure of Housing and Dining and establishing the three-level governmental system which would set up the machinery for further changes.

After exhaustive research and careful deliberation, these are the suggestions that the Allee Report made to salvage the deteriorating housing and dining situation at Cornell. The proposals are sound but expensive. It remains to be seen whether the University will be able to find funds to put them into action.

“When I Taught College Students . . .”



J. Eliot Coit Ph.D. '07

While I was visiting in Southern California this past summer, I had the opportunity to talk with J. Eliot Coit who was the editor of the *Cornell Countryman* in 1905-1906 while a graduate student. Coit came to Cornell to take some horticultural courses in order to meet the requirements for a position at North Carolina State College. However, at Cornell he saw greater opportunities open to him in the field of horticultural science. He received his Master's degree in 1905 and his Ph.D. in 1907. His doctoral thesis was done under the direction of Liberty Hyde Bailey, dean of the College of Agriculture, and required the planting and testing of 3600 different kinds of peonies from nurseries in the United States and Europe, for the American Peony Society. Coit planted all 3600 of them on upper Alumni Field. Shortly after he had finished, he was ordered to dig them up and move them three miles east. His work contributed significantly to man's knowledge of peonies, and as a result he was given honorary life membership in the American Peony Society.

From Cornell Coit went to the University of Arizona where for two years he did research work in horticulture at the Phoenix Station. From there he went to the University of California at Berkeley for the opportunity to set up a new department, which became the Department of Citrus and Subtropical Pomology. He headed this department and taught at Berkeley until World War

A *Countryman* Editor of 64 Years Ago Discusses Today's College Education

by NANCY KRUSE '70

I when, as a war job, he organized the Los Angeles County Farm Bureau and served as agricultural extension agent until the end of the war. Later he worked at the University of California's Citrus Experiment Station. Recently retired, Coit has been active as head of a consulting firm for fruit growers in California, Mexico and Europe.

Moving from the past to the present, we talked at some length about the student unrest currently plaguing so many college campuses. Specifically, he was distressed by what had happened on the Cornell campus in April and believed that the situation had not been properly handled.

Speaking more generally, Coit believes there are many college students who are frustrated and with good reason. The outgrowth of this feeling is dissent. He thinks that the great emphasis placed on research is an important source of the students' frustration because of its tendency to rob them of a fair share of the professors' time and interest. Coit explained his belief this way.

When he was at Berkeley in 1914 he taught seven courses, and students were his primary concern, both in and out of the classroom. However, in the past 50 years industry and government have required a great deal of research. In order to fulfill this need, money and facilities have been flooding the colleges and universities. These in turn have granted the money to the most willing and capable professors. The notoriety (and money) attracted to both the professor and the college as a result of good research work and publication has encouraged a greater effort in the direction of research, where success is measured by publication rather than teaching. Coit believes that to an overly great degree this has been done at the expense of classroom teaching. When students feel they are not getting what they are paying for in a college education, they become frustrated and want to change the system.

In his opinion, the time, effort and money put into research and the recognition it receives are out of balance with those allotted to teaching. The result is student frustration which leads to dissent.

COUNTRYMAN CAPSULES

ARTHUR J. DOMMEN '55, *Los Angeles Times* foreign correspondent, has been covering the Paris Peace Conference. After studying in the Communication Arts Department of the College of Agriculture, Dommen was hired by the United Press International. He has managed both the Saigon and Hong Kong news bureaus for UPI. He later joined the staff of the *Los Angeles Times* where he has served as correspondent for Japan, Korea, Okinawa and South Asia. He has also written a book entitled, *Conflict in Laos: the Politics of Neutralization*.



W. GIFFORD HOAG has been named Assistant to the Governor of the Farm Credit Administration, supervisory agency of the cooperative Farm Credit System.

The Farm Credit System is comprised of 12 Federal Land Banks which make long term farm mortgage loans through local Federal Land Bank Associations; 12 Federal Intermediate Credit Banks which discount short and intermediate term loans for Production Credit Associations; and about 100 other financial institutions and 13 banks for cooperatives which provide a complete loan service to farmer cooperatives. The banks and associations of the system are owned by nearly a million farmers and 3,000 of their cooperatives.

A graduate of Cornell University, Hoag has been employed by the Farm Credit Administration for 35 years. His contributions in agricultural journalism and film making have earned him other outstanding awards.

The United States Department of Agriculture has announced that **WALTER A. STERN '43**, has been cited by the Administrator of the Foreign Agricultural Service "for high quality performance above that ordinarily found in his position." Stern, who received his B.S. degree in Agricultural Economics, is employed by the Department of Agriculture's Foreign Agricultural Service as Agricultural Economist in the Dairy and Poultry Division.



The users of the Warren Hall computer terminal are facing the same frustrations that any other computer users must face. A sign appeared on the computer during the summer stating, "To err is human—to really foul things up you need a computer."



LUCIUS A. DICKERSON '39, of Lockport, New York, has been appointed New York State director of the Farmers Home Administration. Dickerson will administer statewide this Department of Agriculture agency's credit programs for family farm operations, and for housing and community facilities in rural areas.

Dickerson has held the post of County agricultural agent for Niagara County since 1944.



Joseph P. King '36 of Rochester, General Chairman of the **College of Agriculture Fund**, reports that the Fund Program is gaining momentum as the Chairmen and sub-Chairmen of various phases of the effort get

their committees organized. The general solicitation program under the leadership of Earl C. Foster '26 of Baldwinsville, New York will have two new Vice-chairmen to assist H. Joseph Pendergast '38 of Cobleskill and Russell O. Smith '54 of Rochester.

Thomas A. Rich '38, President of P & C Food Markets, and Lew S. Mix '46, Director of Research for Agway, Chairman and Vice-chairman respectively of the corporate phase are in the process of selecting industry group chairmen. Both the general solicitation and corporate campaigns should be in high gear this year.

The Officers and Executive Committee of the Alumni Association of the College of Agriculture will be considering the Association's relationship to the Fund at their fall meeting. President of the Association is Don M. Bay '55 of Macedon. He is General Manager of the General Valley Cooperative, Incorporated of Rochester.

The College Fund program has two goals; to provide needed additional financial support for scholarships and innovative educational programs in the College and to increase the awareness and interest of alumni.

PICTURE CREDITS

Cover — Department of Communication Arts; page 4 — Chris Ager; page 8 — Department of Communication Arts; Page 9 — Fenner Studio, Department of Communication Arts, George Lavris; Page 10 — Department of Communication Arts; page 11 — Photo Science; page 13 — Fenner Studio.

CONSERVATION LEADERS' FORUM on ENVIRONMENTAL QUALITY



... with an emphasis on POLLUTION

During the morning session:

- A national figure will summarize concerns of citizens for the health and stability of our life-support systems in air, water, and land.
- An award-winning ecologist will speak on the intricacy and severity of pollution problems.
- An outstanding engineer will discuss the technological challenges to be met in controlling pollution.
- The luncheon speaker will wrap up the imperatives for action.

During the afternoon session:

- The public is invited to question the experts.

ALICE STATLER AUDITORIUM
CORNELL UNIVERSITY
WEDNESDAY, OCTOBER 29, 1969
9:30 A. M. UNTIL 3:30 P. M.

The New York State College of Agriculture at Cornell University presents another in a series of educational forums planned to keep citizen-leaders informed. The public is invited.

10

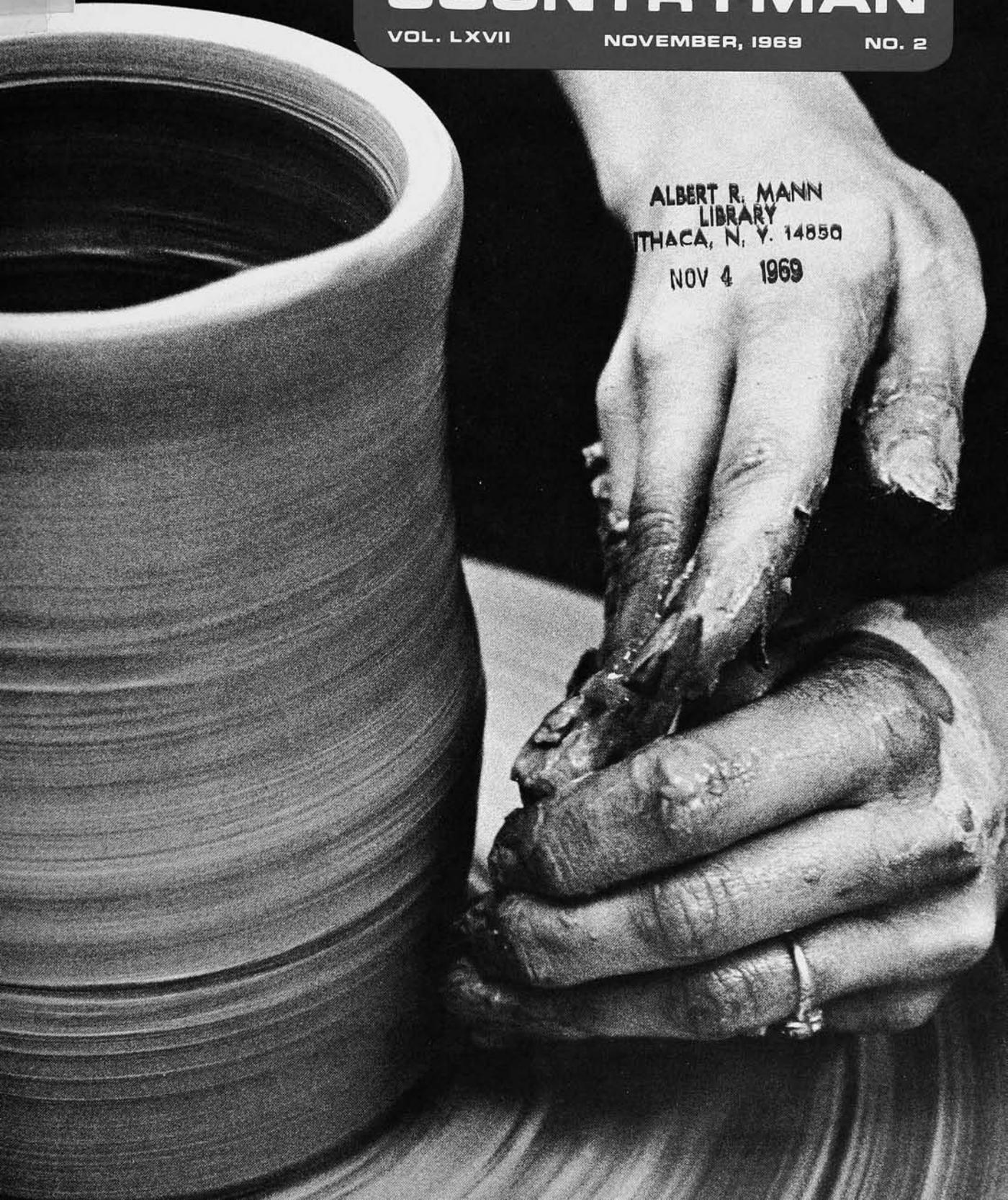
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ON THE COVER

A Potter's hands shape the clay.

PICTURE CREDITS

Cover – Michael Parkhurst; *page*
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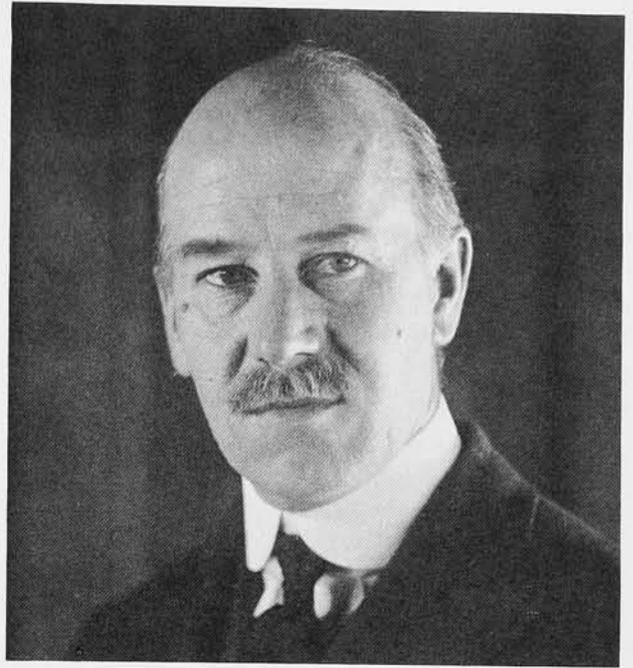
EDITORS-IN-CHIEF: Jeff Manfredi '70 and Dave Stewart '70

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Fuertes Collection Comes to Cornell

by ANN JOHNSON '69



Louis A. Fuertes

In May, 1968, the new Louis Agassiz Fuertes room was opened in the Lyman K. Stuart Observatory. The entire room with the collection of Fuertes' paintings was left to Cornell in 1958 by Frederick Brewster, a wealthy New Haven financier.

Cornell architect, Lewis S. Roscoe, designed the new building. Under his guidance, Mr. Brewster's study has been recreated in every detail. The warm mellow tones of the panelling, the bookshelves lined with rare ornithological volumes, and the paintings, each carefully lighted, blend to create the harmonious whole that Brewster envisioned in his bequest.

Each of the pictures brings the viewer a whole pattern of life, not a lifeless portrayal of an isolated bird, but a sensitive interpretation of a moment in time.

"Skillful paintings, more than any other medium that acknowledges the beauty of birds," commented Dr. Olin S. Pettingil, Jr. at the May dedication, "suggest ideas to be investigated, prompt the viewer to go to the field and see the subject himself, and open new vistas of our natural world."

To help open those new vistas of which Dr. Pettingil spoke, many of Fuertes admirers have given their own paintings to the Laboratory. Alpha Delta Phi fraternity, of which Fuertes was a member, contributed an engaging panel showing the evolution of his art from a rather labored passenger pigeon done when he was only fifteen to the lively working drawings for *The Birds of Massachusetts*, an unfinished plate of sparrows and juncos he was doing when he died.

Dr. Donald Guthrie, founder of the famous medical clinic in Sayre, Pennsylvania, and a devoted admirer of Fuertes willed his extensive collection to the Laboratory. This included a particularly striking panoramic view of Fisher's Island with one of Fuertes' favorite Peregrin Hawks winging after a pheasant in the foreground.

Both the first commissioned painting Fuertes did, and the last, are on exhibit at the Laboratory. The first was given by John Young and the last, completed days before he died in 1927, by Mary Young. With the Fuertes paintings providing a rich and vital heart for its collection of bird portraits, the Ornithology Laboratory is broadening its scope to include some of today's outstanding bird artists, many of whom were associated with Louis Fuertes, and were participants at the Spring dedication in 1968.

One of the dedication speakers, Dr. George M. Sutton, curator of birds at Cornell from 1931 to 1945, has been painting birds all his life. When he was a youngster his parents encouraged him to send some of his sketches to Fuertes for comments. Fuertes, who often devoted much of his time to others interested in birds, helped and encouraged him in his work. Sutton himself has helped and encouraged other artists and through his generosity the Laboratory has available for purchase four handsome color lithographs of Mexican birds.

As Dr. Pettingil remarked at the May ceremonies: "The gift of this room not only insures but will almost certainly accelerate the Laboratory's role in widening student and public interest in birds."

Cornell's Class on Wheels Studies Midwestern Agriculture

34 On the Road

by LUIS CABALQUINTO '70

Take 31 graduate and undergraduate students representing 14 countries, put them all together with three American professors on a chartered bus that goes 4,000 miles across the Midwest region of the United States from August 18 to September 7 and you have the beginnings of Cornell's 1969 class in Regional Agronomy Studies (Agronomy 461), more familiarly known as Cornell's "Class on Wheels."

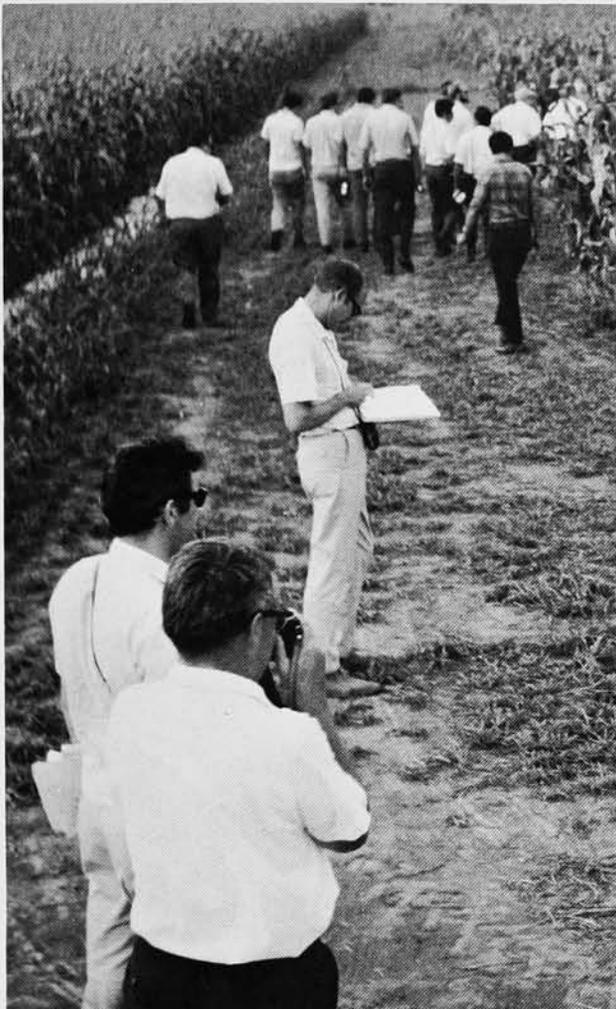
This year's class consists of students from the United States, Philippines, Canada, Ceylon, Australia, Malaysia, Sweden, Argentina, Ethiopia, Chile, Mexico, Poland, Ireland, and Columbia. Interacting closely as a cross-cultural group for three weeks, thus giving the learning experience an added dimension, they took a close look at agriculture in a region vastly different from New York State. Among the aspects of Midwest agriculture they studied are soils, crops, agricultural institutions and agricultural industries.

The field trip itinerary this year included approximately 100 study stops and 20 overnight stops. The trip was planned in such a way that its route carried the group in a counterclockwise sweep of 13 states: Michigan, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Colorado, Kansas, Iowa, Missouri, Indiana, and Ohio. On the first day the group also toured the southern part of Ontario where three Canadian agriculture specialists accompanied it on visits to farms.

Agronomy 461, considered unique for its extensive summer field trip, is now in its fourth year. Each year a different region of the United States is designated as the focus of study. Last year's class toured the West Coast. Next year's class will have the Southeastern region for its area of study.

The first-hand survey is designed to provide each participant in the class with an over-view of the agri-





cultural conditions and trends presently existing in a given region of the United States. The trip is also intended to help the student select a specific area of interest upon which he will focus his study for the duration of the term.

A different group of students goes each year. A student, however, may be allowed to take the course more than once if he wants to study more than one U.S. farm region.

To be accepted as a participant, a student does not have to be an agronomy major. The specializations of this year's group range from agricultural economics to communication arts. The transportation is free and limited scholarships are available.

Coordinating and supervising this year's regional Agronomy Studies Class is a staff of three professors composed of Dr. Madison J. White, field crops; Dr. Matthew Drosdoff, soils; and Dr. George J. Conneman, farm management.

Cornell's "Class on Wheels" this year is supported in part by the Shell Aid in Plant Sciences and the Dyson Foundation of New York City. The Shell grant covers transportation costs. The Dyson Foundation has provided the money for scholarships aid to students and for the prizes to be awarded to the best term paper produced in the course.

The success of Cornell's "Class on Wheels" is credited in large measure to the support and cooperation that has been received each year from farmers, agricultural industries, as well as extension and research specialists of many public agencies. These technicians and specialists arrange the individual study stops at which the students can view local agriculture on a first-hand basis.



WHERE CORNELLIANS

GO TO POT

Turn, turn my wheel, turn
without a pause, without a sound
spins the flying world away
the clay, well mined with mud and sand
follows the motion of my hand
for some must follow and some command
though all are made of clay

Longfellow

by JANICE JOHNSON '73

Smoothing the rim with wet sponge.



The Craftshop is tucked away in the basement labyrinth of Willard Straight Hall near the rooms of the campus radio station, WVBR. Though few people are aware of its existence, this workshop was added to the Cornell campus about ten or eleven years ago.

Mr. Ed Whiting, Director of the Straight, reported that the founding of the shop was not included in the original plan but was added simply in keeping with the general philosophy of the student union. It provides students and their wives with an opportunity to experiment in crafts such as ceramics and enameling through private lessons or at their own leisure.

Gretchen Geysler is the full time director and instructor. A graduate of the University of Minnesota, she came to Cornell when her husband began his graduate work here. Gretchen became interested in the shop a few years ago and she gradually worked up to employment in the top capacity.

Small classes are held Tuesday afternoon and Wednesday evenings through the school year. The ceramics class teaches the principles of hand building, glazing, and throwing on the potter's wheel. Unlike most craftshops where earthenware is primarily used, the Cornell craftshop uses a much stronger, higher firing clay called stoneware. It acquires a very earthy look after baking at 2350 degrees F. in the kiln for about a day.

The major emphasis at the craftshop is on ceramics. However, an enameling class that introduces basic techniques plus investigations into limoges and cloisonne



enameling is also available. By charging a small fee for classes and private lessons and charging students for the materials they use, the craftshop is largely self-sufficient.

At present there are only beginning classes in pottery making, but with the increasing number of interested students, Mrs. Geyser plans to expand next semester into teaching a beginning and intermediate classes. Several times a year her classes will exhibit their work at Olin Library and in the Straight.

In addition to classes there are open shop periods during the week when the facilities are available to any student who wants to attempt to work on his own. Mrs. Geyser and her assistants are always available for advice.

Another important service the craftshop provides is with its printing press. Jeffrey Manfredi, a student, makes most of the signs on campus that advertise plays, movies, lectures, and other current events.

Mr. Whiting outlined future hopes for the craftshop. Since further expansion is severely limited in its present location, plans are to move the three pottery wheels to the new North Campus student center when it is completed. The remaining craft area will transfer to another area in the Straight that is presently being used by the Constituent Assembly. This much more advantageous location will enable the shop to receive shipped supplies easier and to work in conjunction with photography, since the developing room will be handier.

Impressions of a Grand Prix Weekend



Watkins Glen – October 3-5, 1969

by JODY SIEGLE '73

Saturday morning. Had gone to sleep in a field with maybe fifteen other tents pitched. Woke up to the sound of clanking metal. Looked out, surrounded – tent city. Cars coming in from two directions. Fires wafting warmth and coffee.

Exploration time. Tents in all shapes and colors. The next one over is a two-man job with one support collapsed – a breathing, green potato sack. People crawling out everywhere, and everyone shivers. Visible air. Bare feet in 8 a.m. dew. Clouds hang low and ominous, and yesterday's rain still threatens.

Cars – beautiful, funny, weird, big and little cars. Porsches pulling trailers of Yamaha and mini-bikes, dune buggies, wing-backed Dodge spoilers, Triumphs, Sprites, hearses, golf carts, jeeps – some striped with maple leaf flags, econoline vans, U-haul trucks with capacity crowds.

The other cars, the ones everyone came for, come out later. In the meantime, build fires, find a john (follow the rent-a-john truck, eventually it goes there), change to boots from wet sneakers.

Practice begins at 1 p.m. – but started an hour early. Whining, roaring, the champions flash by. Graham Hill's striped helmet, Jackie Stewart's famous Matra-Ford, McLaren's orange duo. I watched the Gold Leaf team's Lotus-Ford while standing next to the smaller

commercial version. Walking the track, listening, spotting – the names, numbers, colors and sponsors fall into place.

Lunch of sandwiches thick with cold cuts and soup not quite warm enough. Again around the track, speculate on getting into the pits. No way. Helicopters hop in with drivers and VIP's. Cold beer, cold day – no one minds. Cans everywhere by 3 p.m. Cameras dangle from passing necks – telephoto lenses so long they almost reach the track.



Wander back and meet the neighbors. Community campfire. Cook warm dinner. Across the way a once-dead tree has risen blooming empty beer cans. Portable generators rev stereos for the night. Wander off. If I find the rest room with running water I can wash the pot. Around the Kendall Tech center, fans shiver in lines hundreds of feet long — 10¢ for a glance at the cars. Warm in the building if you don't freeze outside first. I opt for the campfire. Someone found a guitar and fifteen strong we try to sing. The only song everyone



knows is "I'm in Love with a Big Blue Frog" and after three renditions, the argument over whether the frog was a boy or a girl loses its popularity as a conversation topic. People drift off, tent time. I watch the tiring flames. In the distance a PA system broadcasts a musical tribute to the Great Pumpkin. Sky so thick with clouds it looks like a roof. Cold night. It is cold and dark outside the tent, inside the tent, and inside the sleeping bag. I burrow inside the bag to territory so distant only my six-foot brother's toes had been there before. Still cold, only darker.

Morning, I guess. Voices anyway. Crawl up through the sleeping bag and into dawn's early light, which is straight out the tent door and into my eyes. Through fingers, I sense blue. Clouds aren't blue. Blue? Slowly lowering my chilled digits, I discover a cloudless sky. Perfect race day.

Breakfast on scrambled eggs of a whole new texture. Back to Kendall Tech. Mangled and squashed from all directions, my hands on chain-link fence, I watch the crews work on three of the cars. Jackie Ickx, Jackie Stewart go by, Graham Hill winks at all the nearby girls. The cars drive to the pit. Moving slow, put-put vroom, put-put vroom. Colors — McLaren orange, Matra blue, Ferrari red.

Race time, I clamp onto a fence by the first straight-away. McLaren blows his engine on the warm up.

"Rindt," I say to a friend, "I have a feeling. . . ." With a roar and a fishtail the cars approach and are gone. Some never make it around again. Within laps Andretti, Hulme, and McLaren are gone. Rindt is ahead, Stewart behind, Stewart ahead, Rindt behind, Rindt again, and Stewart smoking, Rindt alone and no Stewart at all. Rindt laps and laps and laps. No rhythm, no sound track, just roars, whines, backfires, and missed gears. Excitement but not tension. Remember Indy and hope the bearings hold.

I never saw the checkered flag. Rindt first, Courage second, who was third? Camera, running to the place and somewhere in the middle Miss Grand Prix kisses Rindt. Heat by my leg, the man backing up the winning car to the pit nearly got me. Watching adulation is dull so I jog up the track to my camp. Black-streaked asphalt. Tow trucks pass but I don't see their quarry. Somewhere — Ickx, Hill — the sun had been in my eyes at the finish so I don't know who finished.

Snap a picture of the beer can tree. Cars still all weekend become traffic. Woodstock-inspired State Troopers clear roads efficiently while I cook dinner. Aluminum field, perhaps the beer can tree really grew there. Tomorrow's visitor will think so. Scratching the ground brings up debris from the Can-Am last summer. The field clears — where do the drivers go? Back to the tech center for a final attempt in. Usual results. A pass-decorated lady asks a crew member, "Are you going to Mexico in November?" He considers, nods no. "Mexico," I think, "Yeah, Mexico."



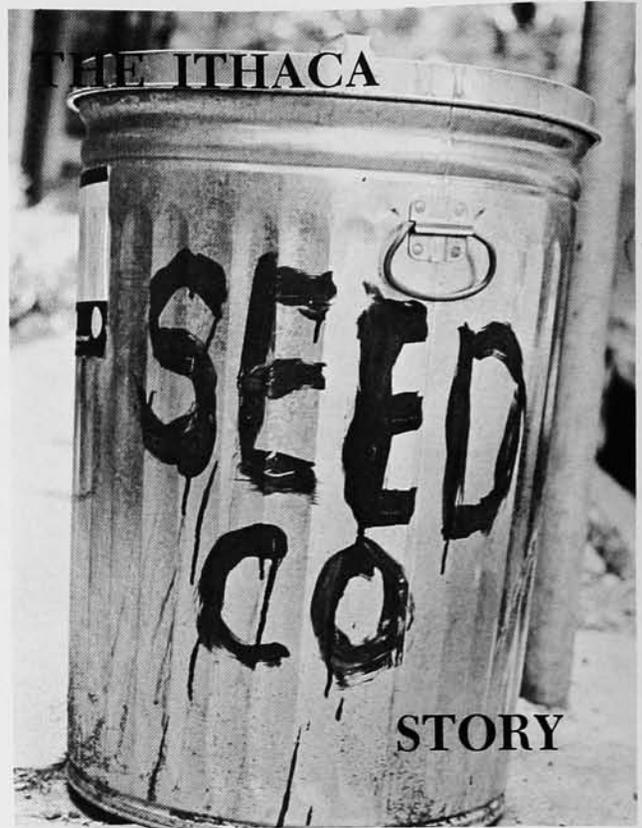
by
SUE
SMITH
'70

Snugly situated beyond the curve near the bottom of Dryden Road and marked by an unimposing black and white sign, rests the Ithaca Seed Company. From the outside, the Seed Company appears to befit its designation — an old warehouse, probably perfect for grain storage. Take a look inside though, and that's another story. . . .

When three Cornellians pooled their ideas less than a year ago, they had some pretty high expectations. Frank Moss '68, Steven Tobin '69 and Neil Rubenstein each had individually developed ideas for creating some type of business to enhance the Cornell Community. Craftshop, avant garde movie theatre, cafe, bookstore . . . each had been viewed as possibilities. The three found each other and the right place, 107½ Dryden Road, at just about the same time and thus was born the Ithaca Seed Company.

What is the Ithaca Seed Company? Ostensibly it's a combination restaurant-bookstore. Spend a small amount of time inside and you realize that the most important aspects of the Seed Company can't really be verbalized — they've got to be experienced.

For instance, the atmosphere at the Seed Company is amazingly relaxed. We've all been to the usual bookstore which invites discreet browsing — look as long as you like — or rather, stand up and scrunch in every other minute when someone passes in between you and the narrow aisles of books. Such situations are unheard of at the Seed Company. Take a few books from the shelves, curl up on an old sofa or chair, stay as long as you like. (Hours — flexible: open — sometime between 10:00 a.m. and noon; lights out — sometime, anytime, after midnight.)



The Seed Company's book selection is noted for its wide selection of poetry, avant garde literature, a varied assortment of left wing books and periodicals, plus a large assortment on oriental thought. In general, this collection aims for broad appeal while emphasizing books that can't be found at other bookstores in Ithaca. Many of the books are published by small, obscure companies and some don't sell well, but the owners feel they are important or creative. Recently several books on topics relating to living a life close to nature have been added to the collection. A note on the door offers to locate any volume not found on the shelves.

But the books are just a small part of the whole. For instance, there's the restaurant. Originally conceived of as a cafe for late night "rapping," the Seed Company's eating facilities have become a center for people maintaining macrobiotic diets. Steve, who thinks of himself as a cook instead of a businessman, is responsible for this aspect of the Seed Company.

He tells that he, Frank and Neil were once torn over whether the Seed Company should serve as a restaurant with one "good, cheap" meal a day or as a simple cafe with tea, coffee and cake. Finally they decided that as long as they were serving food, it might as well be food that is good for people and from this emerged the enthusiasm for a combination macrobiotic restaurant-cafe.

And thus the present menu — including such old savories as miso soup, vegetable nituke, tempura, azuki and quite a few others. Reflecting dietary practices used by the people of ancient civilizations, macrobiotic eating is reputed to be much healthier and much less expensive than our western culinary habits. Should macrobiotic eating capture your fancy, the Seed Company will serve you as a supplier for the necessary ingredients and instruction.

When talking to either Steve, Frank or Neil about the Seed Company one is immediately impressed with the flexibility of the place. While Frank is telling you that he conceives of the Seed Company as a type of community center where people can read, discuss and do creative things in an open, receptive atmosphere, he's busy setting up a projector to show a movie by one of Cornell's independent film makers. Soon he yells for somebody to go out on Eddy Street and tell people there's going to be a flick, and in a few minutes the place is full of kids.

Soon afterwards the Seed Company is quiet again with people doing what they want to do — be it reading, using the guitar or piano readily available for anyone who wants them, talking about plans for the Free University (many ideas for which were formulated at the Seed Company), sipping tea, or just sitting and thinking.

One question the Seed Company owners are frequently asked is how the name Ithaca Seed Company came into existence. Steve remembers it as one of those exhaustive compromises — the kind when hundreds of names come up and no one agrees until he's too bored or tired to disagree and the name pronounced just at that moment becomes *the* name.

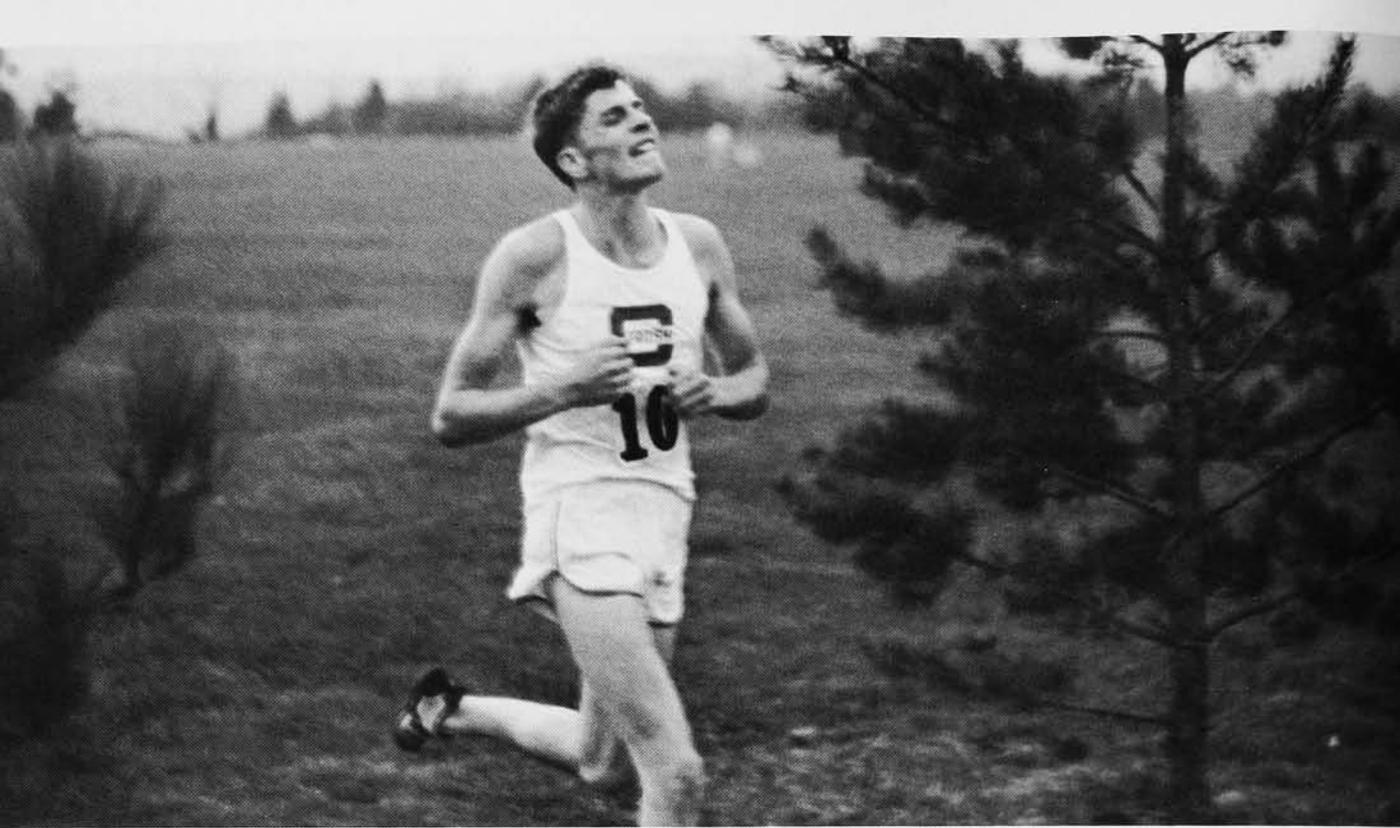


Says Steve, "The germinal implications of the word 'seed' seemed O.K. to all of us, so out of the necessity of having a name for checks and other business matters, we finally decided to call ourselves the Ithaca Seed Company. People always tell us how clever the name is while in fact, it was really quite accidental that we ended up with that particular one."

To some, it seems at least to be a very clever accident. But Steve replies, "I don't think the name makes that much difference. If anything, it's the place that's really made the name have the special connotation. . . ."

He has a point there!





This Fall, Cornell's Cross Country Team is pushing for their first undefeated season since 1963. Team spirit and unity are at an all time high. One member of the Varsity team seemed to express the sentiments of all the runners when he pondered, "I wonder if it's the great guys that make cross country such a great sport, or if it's the sport that makes such great guys?" But what is it that compels these fellows to run? Here are the answers of some of this year's team members.

Phil Ritson, So., "I started running about five years ago and I guess it's the feelings of success and personal satisfaction that make me keep running. It's a drive to be, maybe the best in the U.S. someday, or at least to make the '72 Olympics, that keeps me going faster."

Bruce Earle, Sr., Varsity Captain, "Running has taught me self-discipline and I suppose that's the main reason why I do it. It's beginning a race and forcing yourself to keep on going, not only for the personal gain but also for the team."

Jerry Mimnaugh, Fr., "I run because it's the best thing I know how to do. It gives me a great feeling to see my improvement in every meet."

Tom Baker, So., "I run because I like the feeling of having control over my body—the control of my breathing; the feeling of strength."

Rodney Rauls, Fr., "When you see a man up ahead of you in a meet, all you think about is what he's doing and whether you can get ahead of him."

George Zakielarz, Sr., "I guess I'm just an outdoor person. Running outdoors is so much freer than on an indoor track."

Joe Dorowski, Fr., "I run because it's beautiful. There are times out there on the course when you're almost floating."

Tim Cahill, Fr., "I like the competition, I guess. The striving to do your best—the best that you possibly can."

Doug Winn, So., "It's a struggle against yourself. It's a sport where you don't have to be a muscle man to gain a feeling of pure masculinity."

Ralph Adams, So., "It's the only means of self-discipline I have. Without it I'd go crazy."

Paul Adams, Fr., "I like to run because it helps me to relax. It's always easier to sit down and study after a good run."

Tom Bolan, Sr., "Running is what I'm good at. I like the environment and the closeness of the team and the traditions. These things have kept me going for four years."

Tom Wolfe, Fr., "Running has given me an optimistic attitude about a lot of things. It's a feeling you get when you see your improvement and know you've met the mental test."

Dave Hammond, Fr., "Running has improved my mental agility, by being the purest form of competition. No one's born a runner; you're as good as you make yourself."

Don Alexander, So., "I run because I love it."

THE CORNELL CROSS COUNTRY TEAM

... WHY THEY RUN

by MARYA DALRYMPLE '70

If you walk out to the Cornell Golf Course on a late weekday afternoon this Fall and look out over the 5th and 7th fairways, you most probably will catch a glimpse of a figure clad in a red sweat suit — running.

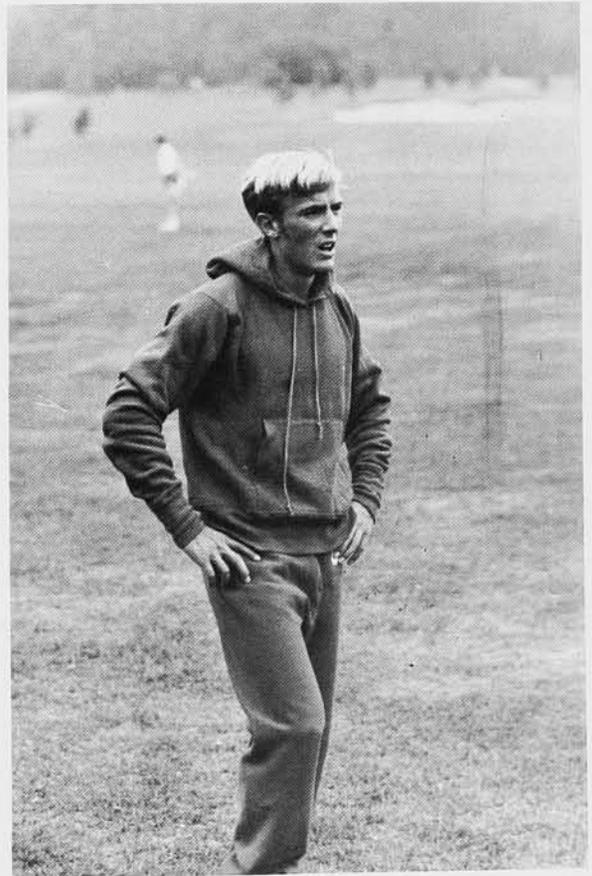
It is here that the Cornell Cross Country Team practices and holds its meets under the guidance of Coach Jack Warner. Warner, himself an ex-runner, and one-time track coach at Colgate, has great confidence in the abilities of this year's runners. When asked to name a few of his Varsity stars, he quickly named the whole team.

With two successful meets behind them, against Syracuse and Colgate, it appears that the Varsity runners are meeting Coach Warner's expectations. And despite the losses of the Freshman team so far, they, too, have been improving in each successive meet. "The good attitude of the boys as individuals, is probably one of the major reasons for our team's success this year," states Warner.

If the beginning of the cross country season is any indication of what is to come, then a hike out to the

course to watch a meet might prove to be more exhilarating than cheering at a Cornell football game. For it is the beauty of form each athlete exhibits, as well as the determination of the team to be champions, that makes each meet a special event.

Very little glory is bestowed upon the cross country runner. Yet, perhaps more than any other sport, cross country running demands the greatest amount of dedication and hard work from its participants. This year's team has these attributes; attributes which could easily add up to an undefeated season!



THE CORNELL CO-ED:

Angry Young Woman



by
JEANNE MASSEY '70

Once again, the Cornell co-ed is marching, this time in her own behalf. The situation for women at Cornell is less than ideal:

—A 22-year old female student who requested contraceptives from a clinic doctor was asked how long she had known the man, whether she planned to marry him, and how many others she had had intercourse with. He declined to prescribe any form of contraception, and referred her to a doctor downtown, who gave her a lecture and charged her for it.

—A female doctoral candidate was recently requested to turn in her stack pass because she was pregnant, and was thereby demonstrating her "lack of motivation and commitment to research."

—The wife of a graduate student, arriving in Ithaca before her husband, was not allowed to pick up the key for their married student apartment because only men can sign.

—One Cornell Junior describing the welcome given freshmen women stated, "Upon arrival we are hailed as the new herd of 'co-eds' branded with a huge, degrading name button so that fraternity men may select their dates from a distance, and confronted with a dorm-sweetie, usually chosen from a sorority, to orient us to a female's life at Cornell. . . . Even upperclass women seem to be conspiring to engulf us in a system where women are treated as objects to be dated, partied, and spirited."

Cornell presents a depressing atmosphere for the young woman who comes to college expecting a serious and complete education leading to the kind of interesting and useful life of which she dreams.

The discriminations faced by women were presented to the Cornell Constituent Assembly in a report on "The Status of Women at Cornell." Barbara Francis, grad, president of the Ithaca chapter of the National Organization for Women, examined the complaints of female students and employees, and found that there was indeed cause for concern.

There exists a system of quotas that are considered in accepting women at Cornell. In the School of Hotel Administration, for example, the quota is one woman accepted for every ten men. This policy does not allow women to compete with men on the basis of their ability. Instead, women students in general have to have higher qualifications than men in order to be accepted.

In the area of financial aid, women are definitely at a disadvantage. Of the awards listed in the catalog for the college of Arts and Sciences, only 15% of the money offered is available to women. While superior ability isn't necessarily limited to either one sex or the other, many scholarships and awards throughout the university are limited to members of one sex, generally the male.

Until recently, sophomore women had to live in university housing, while sophomore men were free to live where they chose. There was also a quota set limiting the number of upperclass women who were allowed to live off-campus each year. Mrs. Francis states, "*In loco parentis*" arguments in support of discriminatory residence requirements (and house rules) can only be made on the basis of age, not sex. To follow the latter course is to reinforce the double standard and

the notion of woman as an 'object' or 'property.' " Currently, married women graduate students are not allowed to live in so-called "married student housing," unless they happen to be married to another Cornell student.

Cornell's placement counseling is sadly a relic of the traditional segregation of male and female jobs. Women may find "exciting secretarial opportunities" for which they may be extremely over-qualified. Women are given little encouragement by counselors, or faculty, to work for a career outside the home. Since women usually end up in a "career" as wife and mother, counselors encourage women students to "be practical" about the future rather than expecting them to make use of the education for which they are working.

Not only is the co-ed discouraged in her attempts to plan for a useful occupation, she receives very little exposure to women who are successful in careers. There are few women faculty members outside the College of Human Ecology and few women in positions of responsibility in the administration.

Fortunately, the curriculum is one area in which women can be exposed to role models of women who have contributed more to society than just raising a family or helping a husband. Human Ecology will offer a course which will "trace the evolution of the personality of the American woman as shaped by biology, mythology, sociology, and psychology." It will study the history of feminism, the image of women in liter-

ature and the media, an analysis of family structure, the changing role of women in urban and rural society, and a survey of the aims of women's liberation movements today.

Yet as one disillusioned Junior notes, the university continues to neglect the subjects of sex and contraception. "As a university which aspires to provide a setting where 'any person may find instruction in any study', Cornell has missed the chance to offer its students some of the most 'relevant' information any college man or woman will need, want, or use." She calls for more information for students and a more realistic attitude toward students' sex problems. She concludes, "If the university continually reinforces this society's absurd definition of femininity it virtually ignores our real biological distinction. The medical clinic has no gynecologist, has avoided hiring one over the years, and when approached with a gynecological problem proclaims self-righteously, 'We don't consider this sort of thing to be a student problem.' "

The Cornell co-ed is angry. She has been educated in schools that treat her education seriously, then arrives at Cornell only to be advised to learn to type in order to get a future job. She wants to be looked at as an individual with a mind as well as a body, but becomes an object to be "dated, partied, and spirited." She is forced to overcome the restrictions placed on her because of her sex, yet is ignored with respect to her biological needs. The Cornell co-ed is ready to march — now.

ALUMNI

J. Lee Leonard, '63, has transferred from the Harrisburg, Penna. office of United Press International wire service to become Ohio Political Writer for the UPI in Columbus. Lee joined UPI immediately after receiving his degree in Communication Arts and has spent the past six years covering political news in the Penna. State Capitol.

Wilburn Potter, 22, of Truxton is scheduled to leave for Sao Paulo

shortly to take part in a pioneer Youth Development Project conducted by the National 4-H Club Foundation. Potter, who received his bachelor of science degree in agricultural engineering last spring, is one of the first three U.S. young people sent to Brazil for the project.

Second Lt. **Michael S. Hall** has graduated first in his pilot training class at Craig Air Force Base, Ala.

A 1968 graduate of the State College of Agriculture at Cornell University with a major in biological science he held the rank of cadet

colonel in the Cornell Air Force ROTC. His address is: Lt. Michael S. Hall, 4780 Air Defense Wing, PO 277, Perrin AFB, Sherman, Texas 75090.

On October 1, the College of Agriculture Faculty passed a motion designating certain faculty committees that students should participate in and serve as full members. This was quite a historic moment, for the first time in the College's history, students will be involved directly with the faculty as equals in making policy concerning courses, college requirements, and college operations.

A PROCLAMATION NATIONAL FARM-CITY WEEK

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

As our society becomes more complex, it also grows more interdependent. The behavior of each individual has a direct impact on the lives of others. What happens in one area of the country affects events in other areas. Occurrences in every walk of life and every section of society are inextricably intertwined.

One significant example of such interconnections can be found in the interdependence of urban and rural America. It is important that the people of our country come to understand that interdependence more fully than we do at present.

It is not well known for instance that agriculture serves as a \$50 billion customer to our economy. The marketing and processing of food and fiber provide almost 5 million non-farm jobs and a \$25 billion annual payroll. At the same time, technological changes on the farm have so increased agricultural efficiency that record production has been achieved by fewer people. Many rural residents have therefore migrated to the cities. While some have become productive contributors to urban society, many others have been unable to find new economic roles.

The relationship between urban and rural America will never be constant – but it will always be important. It will always require close examination and careful rethinking. It is to that end that I, RICHARD NIXON, President of the United States of America, do hereby designate the week of *November 21 through November 27, 1969*, as National Farm-City Week. I call upon all Americans to participate in this observance.

I particularly urge the Department of Agriculture, the land grant colleges and universities, the Cooperative Extension Service, and other appropriate organizations to carry out programs to mark this occasion, including public meetings and exhibits, and presentations in newspapers and in magazines, on radio and on television.

I urge that such programs emphasize:

- the development of better understanding and more effective working relationships between those who live on the farm and those who live in non-farm areas;
- the enormous scientific and technological advances in agriculture and their significance for the lives of both rural and urban dwellers;
- the vital need to plan more effectively the way we will use our land, conserve our natural resources, and protect the quality of our environment;
- the importance of maintaining and enhancing the social and economic health of farms and rural communities;
- the urgency of providing opportunities for disadvantaged people in both rural and urban areas to participate more fully in the economic life of the nation.

IN WITNESS WHEREOF, I have hereunto set my hand this sixteenth day of September, in the year of our Lord nineteen hundred and sixty-nine, and of the Independence of the United States of America the one hundred and ninety-fourth.

(Signed)
RICHARD NIXON

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Peace on Earth



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**CORNELL
COUNTRYMAN**

VOL. LXVII

DECEMBER, 1989

NO. 3

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"There can be no doubt that many of the logistic and social conditions affecting humanity are deeply rooted in our biological past."

Dr. Durward L. Allen speaking at the Agricultural Leaders' Conservation Forum (see page 15).



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Countryman Interview: Dr. Jack Barwind

When the report of the Special Trustee Committee on Campus Unrest at Cornell, otherwise known as the Robertson Committee, was released, it contained an extensive consideration of the problem of communications at Cornell. Not only in the special section on communication, but throughout the report, there was concern expressed that communication channels within the University were in drastic need of reorganization.

Since classes resumed in September, there have been a number of steps taken by the administration to improve communications, including the creation of the Cornell Chronicle and the University Ombudsman. In evaluating these changes, the thoughts of a professional communications theorist, such as Dr. Jack Barwind, are most pertinent.

Born in Milwaukee, Wisconsin in 1943, Dr. Barwind attended Solomon Juneau High School in Milwaukee and Carroll College in Waukesha, Wisconsin where he received his bachelor of arts degree in speech in 1965. He then went to Bowling Green where he received his masters degree in speech and his doctorate as well.

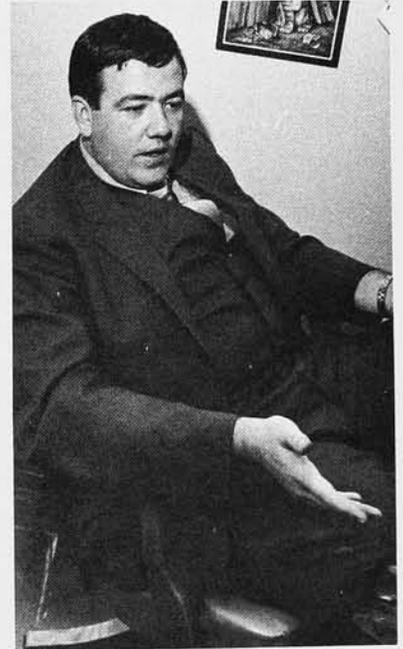
Dr. Barwind has published a number of papers dealing with speech and communications and has been actively involved in the field of industrial communications, serving as a research consultant to the Ohio Bell Telephone Company from 1968 until the present.

He is now an assistant professor of Communication Arts in the College of Agriculture, where he teaches basic speech and human communication theory.

If you take almost any event that's happening on campus you really do not have the rationale for why the event happened . . .

The problem is . . . for the administration to show students that it really means well.

The administration often has a different level of criteria for judging things than the student does. Because their levels are different there is often friction created.



Countryman: Dr. Barwind, at the beginning of the communications section of the Robertson Committee's report, the statement is made that communications is a leadership function. Throughout the report emphasis is placed upon communication leadership and information management. Is this emphasis proper, or does it indicate a lack of understanding of the communications process?

Barwind: I think one problem is that it is unclear what is meant by communication as a leadership function. If they mean that leaders communicate or that it is an essential way for them to lead, then it's a very accurate description. But exactly what entails the leadership aspects of communication I'm not sure. You see, you can view communication as a means of presenting a message, or persuasion, and that is just one way of looking at it. But you can also view communication as that which tells a man who he is, what he is, and where he is, and that is an aspect that might have been overlooked.

Countryman: Where does the concept of information management fit into all this?

Barwind: Well, the term information management may be very accurate when applied to the process of filtering out and selecting that which the leaders or communicators wish to send out to the public. But there is a problem here in that the report places a great deal of emphasis on establishing a bureau of men to function primarily in the communicative capacity. Now this presents a problem in that a man who functions as an interpreter and communicator interjects a little bit of himself in any message he sends, and so the message is inherently distorted through that process. It does serve a necessary function, however, because without it people would not be able to reach each other, particularly in a university as large as Cornell.

Countryman: Doesn't the Committee's use of the term information management tend to indicate that they see communication as a oneway street, with information flowing out of Day Hall but not necessarily coming back in?

Barwind: No, I think they emphasize the notion of feedback, or getting information back to the source. But they are also concerned with the dissemination of information, and justifiably so. If you take almost any event that's happening on campus you really do not have the rationale for why that event happened unless there's been a directive sent out or some means of communications has been established. A case in point is the black studies program. I would guess that before the *Cornell Chronicle* article appeared delineating the rationale and scope of the program, virtually 90% of the faculty were really not informed about what this program would entail. So it is necessary to send that type of information out. But when we're dealing with communication, we cannot just categorize it and say we have

a source and he sends a message to the receiver, and that's where it stops. What is more important is the feeling of communication, the sense that one is able to communicate. That's the critical variable. You can draw an analogy between Cornell and a major industrial complex. In industry, the employees are constantly receiving communication from management in terms of directives, bulletin boards, and so forth. But if the employee doesn't feel that he has the ability to communicate back, he will be frustrated and displeased. He may eventually come to dismiss management communications altogether because of hostilities developed toward the establishment.

Countryman: Do you think there is an effective method of feedback now for the student? Can he "communicate back?"

Barwind: This is a real problem and there is a basic reason why. The leaders sending out messages from Day Hall are on a different status level than those people receiving the message, the students. When a message is sent out from Day Hall it is downward communication because of the hierarchy involved, and usually such a message is received quite accurately. However, feedback in this case represents just the opposite, sending messages upward. When this happens, we run into a certain amount of difficulty because of vested interest. The message tends to be distorted as it moves upward. For instance, as a student, if you are in one of my classes, you know that I have certain powers over you in terms of grades. You know, that while it might not be a desirable thing, grades are going to happen. So your concern with me is, first of all, how can I get or achieve the best grades from this course. When you communicate with me, back in your mind is the notion that I have power over you in some respect, so the information you send to me will often be that which tends to put you in a more favorable light with me. If you have certain undesirable things that you want to say, you may not say them because you don't want to jeopardize your position. This gets to be an awful hang-up with feedback, plus in this case the administration doesn't really have the mechanism to receive honest feedback from the student population.

Countryman: How about the Ombudsman? Won't this help?

Barwind: I think this is getting at the problem, but again, every time we go through sources we're just stratifying levels. This provides the chance for distortion. The ideal situation would be one in which a student could walk into an administrator's office and sit down and talk to him about problems. But even in this situation there might be difficulties. The student might perceive a threatening situation and the message might be distorted that way, or even if it wasn't, the interpretation assigned to the message might be distorted.

“I think that the Chronicle has been fairly successful in certain respects but it’s also limited in others.”

Countryman: You mean the administrator might distort it?

Barwind: Yes. It’s not that people are insincere or don’t want to interpret it correctly. It’s just that they put values on different things. The administrator often has a different level of criteria for judging things than the student does. Because these levels are different, there is often friction created. If I, as a teacher, receive a message that you, as a student, send, I often interpret it in terms of my criteria for judging rather than yours. So I can take a message you give me and respond to it in several ways, none of which may be the right way in terms of what you were looking for when you asked the question.

Countryman: Obviously there are a lot of problems involved in getting effective feedback. What do you think it would take to have an effective feedback system operating in the University?

Barwind: I think there has to be some way of allowing students to express satisfaction or dissatisfaction, and encourage both. Plus, there must be some way in which that expression can be maintained so that the student is guaranteed a degree of anonymity and doesn’t have to put himself on the line. A way of doing this might be as simple as setting up suggestion box areas, where a student can just drop something in. The problem here is that there will be a lot of crank responses where people are just smarting off, but every once and awhile, there will be one or two very worthwhile suggestions. I think it might be an effective gauge to have this type of facility available to students. Industry has found this to be successful to a certain extent, and I don’t see why it wouldn’t work with the University. I must emphasize though, that if this is to work, the student must know that some attention is being paid these things and consideration is being given.

Countryman: Do you think that the Constituent Assembly or a University Senate could function effectively as a feedback system?

Barwind: Only partially. There are problems inherent in the feedback mechanism because there is a selective process operating. It’s true that individuals can get expression, but that expression is often limited, and the individual must expose himself to express himself. Many people need anonymity to give them security. In all

frankness, I doubt if there will ever be a full answer.

Countryman: Getting back to the Robertson Committee’s report, we find that one of the Committee’s big concerns was the lack of an official news source that could disseminate the administration’s position on current issues. To meet this need, the *Cornell Chronicle* was created. Do you think that this will solve the problem?

Barwind: I think that the *Chronicle* has been fairly successful in certain respects but it’s also limited in others. In terms of getting various issues out very soon, it’s fine. Issues such as academic freedom or Black Studies can be discussed using that vehicle. But the main point here is that information is being presented so that people will have the *opportunity* to see it, so that they will feel that an effort is being made to let them in on what is happening. That is its primary function, even more than the transfer of information itself.

Countryman: Do you think students may tend to distrust the *Chronicle* because it is an official publication?

Barwind: I think there is always that possibility. By now, students may tend to distrust almost anything that reaches them, perhaps because of some very conscious efforts in the past by the administration or establishment to restrict the flow of information. The problem is then for the administration to show to the students that it really means well. That is what it is doing now, I think, it is saying something and then behaving consistently with what it says. If this behavior is maintained, the credibility gap should diminish. But there is still a problem, because any time we have people in different status levels, some with power and some with virtually no power, you are going to have trust problems in terms of the motives of the individuals involved. In any communication you may deal with, there is the critical notion of motives; whether or not an individual is motivated by internal desires or external pressures. The perception of these motives by the communicating parties will effect the interaction to a very great degree.

Countryman: Thank you, Dr. Barwind. I think we can see from this brief discussion that there are some grave problems involved in establishing an effective communications system at a university the size of Cornell and that there is a long way to go before the problem is solved.

Cornell Cow-boys

Cop Top Honors

by JAMES POGGI '71

Initiative, self-reliance, self-expression and mental discipline. These are keys to excellence in any activity, mental or physical. The Cornell dairy cattle judging team, returning as national champions from the North American Dairy Show at Columbus, Ohio, has shown that they possess these qualities. This victory, rather than being unusual, proved the excellence of the team once again, for this is the sixth national championship that the Cornell team has won in nineteen years of competition.

The dairy cattle judging team is composed of four students, three regulars and an alternate, chosen every spring from Professor George Trimberger's dairy cattle judging course. The judging course itself stresses practical experience, with a series of trips to some of the best dairy herds in New York State. Professor Trimberger has been teaching the judging course and coaching the team since 1947. Although he has instructed many good teams before, Professor Trimberger says that this year's team is the best.

The members of this year's team are John F. Fullington, Antwerp, N.Y.; Stevenson W. Close Jr., Churchville, Md.; and Dale E. Putnam Jr., Heuvelton, N.Y. Lee H. Kilmer of Towanda, Pa. was the alternate.

Although the team is chosen in the spring, activity doesn't really start until the fall, when as organized practice schedule is set up for all the competing colleges in the region. During this time, the teams from each college in the region visit prominent breeder herds four or five days before the competition, thereby assuring all of the teams equal practice.

After the practice schedule, the real competition begins. In the past year, Cornell went to three important competitions, two of which were regional contests and the third which was the final.

At all the contests there are five breeds of dairy cows that are judged: Brown Swiss, Guernsey, Ayrshire, Holstein and Jersey. The first regional contest that the team took part in was the Eastern States Exposition, held at Springfield, Mass. on September 15. Universities from ten states were represented in this important early contest which Cornell has won half of the time since a team was first fielded. With this year's victory at the exposition, Cornell ran its string to three straight vic-

tories. The awards won included: high team in judging all breeds, high team in two breeds, high individual in three breeds and high man in all breeds.

Among all the other colleges present, Cornell was the only one to place all of its team members in the top ten, except Ohio State in second place.

On September 22 Cornell entered its second regional contest, the Pennsylvania All-American Dairy Show. Held at Harrisburg, and all new this year, the show was a regional contest for nine northeastern states. Again the Cornell team won, with a showing as impressive as their first competition. The judging team captured honors for high team for all breeds, high team for three breeds, and high individual for two breeds, and had a 25 point lead over their nearest rival. Cornell was first, followed by Maryland, North Carolina, Penn State and Virginia Polytechnic.

During the regionals, the individuals on the team compiled a record of outstanding achievements; John Fullington placed high in judging Ayrshires at both regionals and had a perfect score for both reasons and placings at the Pennsylvania regional. Dale Putnam Jr. was high in judging Guernseys at the Pennsylvania show, and at the Eastern States where he had a perfect score.

The third judging contest that the team participated in was the National contest, the North American Dairy Show held in Columbus, Ohio on Oct. 13. Of the thirty-one universities that were represented at the show, Cornell finished first.

The team placed highest on reasons, with all three team members individually placing in the top ten for all breeds. Cornell was the only team to achieve this distinction. John Fullington placed one point out of first place, for which he received membership in the Dairy Shrine. Cornell finished first by 13 points, followed by Pennsylvania, Minnesota, Kansas, Delaware Valley, Ohio, Wisconsin, Iowa, Washington and Tennessee. With this victory at the Nationals, the 1969 team has a perfect record, as they have not lost a contest that they participated in all year.

The word "team" in referring to the participants of intercollegiate dairy cattle judging contests is misleading. They are only a team in the sense that they all come from the same school. In dairy cattle judging it

is the individual and his decisions that are important. The members of the judging team work individually and are not permitted to consult on decisions because each individual's initiative, self-reliance and decisions are scored and team totals are then determined. Since much of the individual's score depends upon his reasons and his ability to defend them, much of the team's work is centered around being able to give good reasons for their decisions. The individual's total score is based upon his analysis, evaluation, decision description and defense of his decision.

Since Professor Trimberger began coaching the judging team in 1947, Cornell has had the best cumulative record of any team in both the Regionals and the Nationals. Professor Trimberger made the program a regularly scheduled one and his results have been gratifying. He has had six national championship teams in his years as coach.

Professor Trimberger is well qualified to coach the team since he has an extensive background of judging experience himself. During his undergraduate years he was a member of the University of Wisconsin dairy and livestock judging teams, and on ten occasions he has judged national and international dairy cattle shows. In addition to work in the United States, dairy cattle judging has taken Professor Trimberger to Argentina, Cuba, Colombia and Venezuela. His professional services have been in demand throughout the world in setting up type programs for dairy cattle. He helped to set up the system of type evaluation for 73,000 Holsteins in Israel



Professor George Trimberger



The 1969 Cornell Dairy Cattle Judging Team, which captured an unprecedented triple-coup at the Eastern States Exposition, the All-American Dairy Show, and the National Intercollegiate Dairy Cattle Judging Contest: (from left to right) Dale E. Putnam, Jr., Heuvelton, N.Y.; John F. Fullington, Antwerp, N.Y.; Stevenson W. Close, Jr., Churchville, Md.; Dean Palm of the College of Agriculture; Professor George Trimberger; and Lee H. Kilmer, Towanda, Pa.

and the National Holstein Association called upon him to revise their type classification program. Professor Trimberger's book, DAIRY CATTLE JUDGING TECHNIQUES, is the only up-to-date text in the field and is often used by the competition.

Over the years many former dairy cattle judging team members have gone on to become prominent judges, leaders in the dairy field and dairy cattle breeders. Dick Keene, who was a member of the 1955 team, is a well-known judge for several breeds and, as Director of the National Holstein Association, he often judges at state fairs and national shows. Maurice Mix is also a former judging team member now in charge of type classification for the National Holstein Association. Dave Gibson, executive secretary of the Ayrshire Breeders Association, was on a Cornell judging team. These individuals represent just a few of the successful people who have received their early training and experience through the Cornell judging program.

Many judging team members go throughout New York State and work with 4-H teams on judging, and in return, many 4-H members come to Cornell and join the judging team. This was the case with all the members of this year's team.

The success of this year's team in winning the national championship is only one indication of the value of the judging program. The practical experience that the team members gain is useful in finding a career, since many companies value this skill highly. In addition, the mental discipline required is of great benefit in other endeavors as well as judging. The benefits of judging go far beyond winning contests.

A New Look At Agricultural Pesticides

by WILLIAM OVERSTREET '71

And the locusts went up over all the land of Egypt, and rested in all the coasts of Egypt: very grievous were they; before them there were no such locusts as they, neither after them shall be such.

The fear of the locust swarm, the dread of hunger and starvation after insect defoliation, is as old as agriculture itself. It was only a century ago that Paris green, one of the first insecticides, was used against the potato beetle by settlers moving westward. Half a century ago, pesticide usage had been expanded to combat vectors of such human diseases as malaria and yellow fever. Today in the United States, however, another element — that of environmental pollution — has become a vital factor in determining how the problems of pest control are handled.

Early last month, Charles E. Palm, dean of the New York State College of Agriculture at Cornell University, announced that, with a few exceptions, all recommendations for the use of DDT are being withdrawn as of 1970.

The decision to remove DDT and five other pesticides from Cornell recommendations is actually the culmination of work that has been progressing at Cornell and around the country since the 1920's when the federal government began looking into the possibility of health hazards from chemical pesticide residues on fruits and vegetables.

In the late 1920's and early 1930's, the first laws were passed that set tolerance levels on the amount of insecticide residues that could be considered safe. At the same time, agriculture was being modernized to cope with the consumer demand for high quality, pre-packaged foods. The pressure to develop more effective pesticides that would not violate federal restrictions therefore became intense. The breakthrough came in 1939 when Nobel Prize winner Dr. Paul Muller, working for the Geigy Company in Switzerland synthesized DDT.

During World War II DDT — dichlorodiphenyltrichloroethane — was considered a top-secret project and

was withheld from public use. Its first major use was in controlling body lice, mosquitoes, and other vectors. Following the war, however, DDT was made available as a pesticide to farmers. It was at that time that Cornell became directly involved in DDT research, and synthetic pesticide studies in general.

"We found here in the forties, when we could begin to examine some of these materials, that DDT, as well as the others, entered as a very important and interesting compound," Dean Palm said in an interview the day after the DDT announcement was made. "This was the opening of the era of synthetic organic insecticides as compared to nicotine, pyrethrum, and Paris green, which were natural. This whole family of chlorinated hydrocarbons — the one that we call 'hard core' today — emerged and were included in our program of screening at the College of Agriculture and the Geneva Experiment Station."

In the 1950's, government, industry, and the universities were mainly concerned with studying the properties of the synthetic insecticides and in setting tolerance levels for man, livestock, and food crops.

"I think that we were concerned here, in an expanding period, with trying to understand the chemistry of some of these new compounds," Palm said. Many of the insecticides had varying properties, he pointed out. "Some worked as contact insecticides, others were ingested and became stomach poisons, still others were absorbed by the plants and taken in by sucking insects."

It was in this period that scientists began wondering whether or not prolonged and continued exposure to these pesticides, which are long-lasting, could be harmful, even though applied safely to crops and forest lands.

"This whole problem is an evolution of the demand that has come from society for effective and safe pest control, and we've done everything we could along the way," Palm noted. "Back in the 1940's we set up a very active pesticide research program with one of the finest



Countryman reporter William Overstreet (right) questions Dean Palm (center) and Dr. James E. Dewey about pesticides.

labs that has been developed in residue analysis and degradation, or the breakdown of pesticides and where the products go in plants and animals.”

“We’ve worked closely with industry and with the Food and Drug Administration,” Palm said, “and I feel the College has supplied national and international leadership.”

As early as the 1930’s, there were indications that heavy levels of pesticides could accumulate in the environment. In the Northwest, for example, some irrigated lands had been so extensively sprayed with lead arsenate to kill a particular variety of moth that young seedling plants were dying. Arsenic was toxic to the roots. It was not so easy, however, to draw conclusions about low levels.

“Although we suspected some of these things about DDT, the technology we had for determining residues just wasn’t good enough to measure them,” Dr. James E. Dewey, professor of insect toxicology and College pesticide coordinator, noted. It wasn’t until 1962 when the Shell Chemical Company developed a process that could be adopted as an accurate means of determining low residues that these suspicions could be studied.

At the same time, the College of Agriculture continued to broaden its screening of pesticides, and the public was expressing a greater concern with the problems of pollution in general. Dean Palm traced this concern to the controversial “Silent Spring,” by Rachel Carson, who challenged the whole concept of chemical pest control in relation to the environment.

“Five years ago,” Palm said, “it became quite obvious

to all of us that the continued widespread use of chemical pesticides needed coordination in terms of studying safety, in terms of effective use, and in terms of keeping ahead of any development that would indicate the need for either change or withdrawal of a recommendation, as well as to embrace the expanding criteria that we have established with reference to pesticide use.”

At that time, Dr. Dewey was named pesticide coordinator to organize the research efforts of several departments including entomology, plant pathology, conservation, and ecology, and to represent the College of Agriculture on the State Pesticide Control Board.

One of the most important results of this College-wide research has been the discovery of what Dean Palm terms the process of “biological magnification.” If, for example, a small amount of DDT appears in lake water, it can be ingested by plankton. The amount of DDT in each organism is minute, but large quantities of the plankton are eaten by insect larvae and the level of DDT increases. The same process occurs at each level as the larvae are ingested by minnows, the minnows by small fish, and the small fish by large fish, such as the lake trout which is at the top of the forage chain.

“Until you learned the process,” Palm said, “you wondered how in the world DDT was becoming concentrated when there was such a small amount in a particular food item. We discovered that some of these chlorinated materials could be stored, that their half-lives were quite long, and that they could build up through biological magnification.”

Such research has resulted in an ever-increasing list of

criteria that must be met before the College of Agriculture will recommend a particular insecticide.

"We've got to know that it's chemically stable, that it's safe for use, that when applied as recommended it will give effective results, and that the residues that might be left are safe. And then we've got the added area of environmental quality — what it's going to do in the environment, how long it stays, what organisms does it effect, and so forth."

"Our screen is both broadening and becoming finer," Palm continued. "Now we've got to do ten times as much as we did even five years ago — long-term studies, short-term studies, acute, sub-acute, external, and internal studies — with several animals — swine, dogs, rats, guinea pigs — to see if we pick up anything in this broad range of operations."

It is this type of comprehensive research that resulted in the decision to remove the vast majority of DDT uses from Cornell's recommendations. Only 11 uses have been approved for 1970 as compared with 180 in 1964 and 120 in 1969. As soon as alternatives to DDT are found,

those 11 recommendations will also be withdrawn.

Commenting on the possibility of forthcoming legislative action, both Palm and Dewey expressed the belief that total banning of DDT and other pesticides is not the answer.

"We feel that the state and federal governments would be wise not to ban these materials on the basis of present knowledge, but to put them under restrictive regulations," Palm said. Citing the continued need for chemical pesticides, especially in emergency situations, he continued, "We're going to need some of these materials in agriculture if we're going to produce a good, wholesome food supply. There's no question about it; we just have to have them."

"What we hope is that we can withdraw those that create problems in the environment even though they are registered for use. That is what we did with DDT. We haven't withdrawn it because it showed any injury to health. We've withdrawn it because we felt that we had alternative methods that we could use that would reduce any complications in the environment," Palm said.

Alternatives to DDT currently being examined at Cornell include chemicals that are biodegradable, or can be broken down naturally, and are also selective with regard to the organisms they affect. Other non-chemical means of pest control, such as reducing breeding through sterilization and the use of sex attractants and the production of insect-resistant crops, are also a large part of the College of Agriculture's research program.

"The fact that we've withdrawn recommendations for DDT doesn't mean we're cutting back on our research or responsibility for an efficient pest control program," Palm emphasized. "In fact, we're going to have to step it up."

While it is difficult to predict the results of future research at Cornell in the pest control field, it is safe to say that DDT and other chlorinated hydrocarbon insecticides are on the way out.

"These changes go on more or less continuously," Dewey noted. "You don't lock something into a position and leave it there until the end of the world. Science is a dynamic thing; it's changing all the time. The difficulty is to recognize the problems as they develop, take whatever action you have to, and correct them."

And that is precisely what the College of Agriculture has done with the controversy over the effects of DDT on the environment; the problem was recognized and action has been taken.

Changes have been rapid in the area of pest control during the past century. It's been a long way from Paris green to DDT, but today in the United States the ancient fear of locust swarms and the dread of hunger in their wake are gone. In the words of Exodus, "Neither after them shall be such."

Relevant Quotes

"Despite the present need for persistent pesticides, their availability must not inhibit the search for more desirable means of pest control... it is conceivable that society may wish to put restraints on the use of certain pesticides regardless of economic considerations and crop quality."

National Research Council
Committee on Persistent Pesticides

"We would all agree that the American public should be concerned about human safety and about the purity of the environment. We would all agree that the American people need to know the true extent of contamination and pollution — and the truth about who and what are responsible."

J. Phil Campbell
Under Secretary of Agriculture
U.S. Dept. of Agriculture

"Whatever the public chooses to have in the way of environmental quality, it will have. When these choices are made, it will then become the responsibility of industry to aid in the development and use of the required environmental quality techniques. As a significant member of the community, however, all of industry, including the chemical industry, has the right and obligation to participate in the formulation of decisions."

K. R. Fitzsimmons
General Manager
Agricultural Chemicals Division
Shell Chemical Company

The New Order

by GARY FISHER '70

Perhaps the most tangibly advantageous result of last spring's uprising on the Cornell campus has been the emergence of Cornell University's first Judicial Administrator. Joseph B. Bugliari, professor in Cornell's School of Business and Public Administration, has undertaken his new office with zest and gusto. And what better way is there to measure the true worth of one's contributions to the Cornell community than through graffiti?

Witness the following, innocently inscribed on the hallowed halls of Plant Science:

"Why don't you go and"

"Me! How about you?"

"Aww, you"

"....."

"Now, look here. I'm the Judicial Administrator. What's the problem?"

If more such commendations are in the offing, one would be wise to check Olin Hall next. For it is there, in room 270, that Professor Bugliari's office has handled cases involving no less than 27 students.

Charged with investigating and clarifying alleged violations of the University's new Student Code and the recently completed "Regulations for the Maintenance of Public Order," Judicial Administrator Bugliari and administrative assistant Hartwig E. Kisker are quick to emphasize that their office protects *all* staff members, faculty members, students, and the University itself from elements in the Cornell community who deviate from lawful behavior.

"The task of the judicial administrator," explained Bugliari in a recent press conference, "is to see that a swift and complete investigation is conducted, and then if it can be said with reasonable cause that there has been a violation of the rules, judgement is rendered by the community through the appropriate judicial boards in as fair and expeditious a proceeding as possible."

Bugliari, firmly committed as he is to the basic principles of judicial practice, boasts a world of local ad-

ministrative experience. In addition to teaching three courses apiece in agricultural economics and business management, Bugliari is an important member of the local bar association. He has attended numerous meetings of the University Student Conduct Conference. Bugliari's Cornell-based judicial log further includes a one-year membership on the Student-Faculty Appellate Board.

With no precedent whatsoever on which to procede, Cornell's Judicial Administrator receives his work in either of two ways. Bugliari's office can either be presented with a formal complaint lodged by a member of the staff, faculty, or student body or his office can initiate an investigation on its own. Often, reports deputy administrator Kisker, members of the Cornell community have contacted the office through the University's Division of Safety and Security. Once a cause for concern has been established, Bugliari launches an intensive investigation of the circumstances. The inquest may at times enlist the assistance of the University's Safety Division. Or, Bugliari and Kisker may ask the individuals involved to confer with them in complete confidence. Often, the office attempts to recruit aid and information from knowledgeable people in the community at large.

"The role of this office," asserts Bugliari, "is primarily remedial and not punitive. In the vast majority of cases, what is needed is guidance and counselling. It is only in a few instances where the offense is of a substantial magnitude or the individual proves incorrigible that sanction is appropriate and necessary."

Judicial Administrator Bugliari has been handling cases since his office opened on September 15. In determining who has crossed the verifiable line between peaceful conduct and activity and forms of "advocacy that go beyond the pale," Bugliari is quick to credit the frameworks provided by the "Rules for the Maintenance of Public Order" and the "Student Conduct Code."

"We must make the University judicial system work because the alternative of surrendering all law enforcement to local civil authorities is intolerable. And yet," notes Bugliari, "if the University cannot deal with its own offenders there is no viable alternative to involving civil authorities unless we are to live in a completely lawless and undisciplined state."

The National Commission on the Causes and Prevention of Violence recently stated that "the university, precisely because it is an open community that lives by the power of reason, stands naked before those who would employ the power of force." Cornell President Dale R. Corson's appointment of Bugliari to the office of Judicial Administrator is seen in many circles as an important step toward equipping the University to protect itself, which should lead toward the betterment of relations between the University and the Town and State.

The Changing Face of Mann Library

by MARCIA WITIES '71

Keeping up with an information explosion today is quite a challenge. Yet this is the task facing Mann Library's new chief, Henry T. Murphy, Jr. who comes to Cornell from Purdue University's Life Sciences Library. As of September 1, Mr. Murphy has been responsible for a library that is facing truly dynamic growth.

Albert R. Mann Library has already changed, and will continue to change. Once a library strictly devoted to applied agriculture and home economics, it is now increasingly concerned with modern agriculture, biological sciences and human ecology, as reflected by the restructuring of the College itself. Mann Library, one of the largest in its field of study, houses a vast collection of trade publications for all the agriculture-related industries, scientific journals of the biological sciences, and foreign area publications, especially those of the developing nations.

Dr. Whiton Powell, a professor of business management in the Department of Agricultural Economics, was the Library's second chief librarian. Now retiring after 22 years of service, Dr. Powell helped to make Mann renown throughout the country for its collections in agriculture and home economics. In fact, its second floor "Whiton Powell Periodical Room" was recently dedicated in his honor. In 1952 the Library moved into its present building at the east end of the quad and was renamed for Albert R. Mann, who served as Dean of the College of Agriculture from 1917-31 and later as the University's first provost.

Today, the Library's entire collection consists of about 395,000 books and bound periodicals. Last year it added 17,000 new acquisitions and has almost doubled its volume in 17 years. Such a rapid rate of expansion, however, is not without problems. As fields of interest widen, Mann often requires material that has been requested by another one of Cornell's fifteen libraries. The Central System (in Olin Library) aims to avoid unnecessary duplications by assigning a level of intensity coverage for a given subject area for each Cornell library. This specified acquisition policy is used as a guideline for the selection of new books and periodicals.

A solution may be found in the increased use of micro-forms, which allows storage of information at a tiny fraction of its actual size and is projected to a more readable size. The familiar micro-film that is now used to store newspapers is only one example of the

technique. Another one that will be in increased use is "micro-fische", opaque 3x5 cards that can store some 60 pages of printed material on each card. Subject matter can thus be retained in a more permanent, almost non-destructible form, while requiring a minimum of space. The cost of construction for expanded space is so huge that an investment in projecting machines and micro-form material may be a more economical alternative for storing a wealth of new materials.

Another plan to facilitate information storage and retrieval is the planned introduction of a centralized computer system. Through this system, materials held at any library in the network could be requested by an individual at any other network library. This network might conceivably transmit information by means of a teletype, a photo-transmission system or even a method of satellite distribution. The information could be retrieved almost as easily as a stack request is processed!

Yet this prospect is not as far a vision as it might seem. In fact, the interconnecting library network has very real possibilities for the near future, according to a national study. And Cornell's Albert R. Mann Library of Agriculture and Human Ecology, constantly concerned with these growing areas, will certainly be involved. As Mr. Murphy projected, "We already have our foot in the door!"



The use of computers is changing the face of library science.

Hybrid Hopes for Hungry Millions

by RODGER BECK '70

The 20th century has seen many miracles: the harnessing of the atom; computers doing work in an instant that previously took weeks to accomplish; discovery of the biological secrets of life; the landing of men on the moon; and many other things too numerous to name. But what of the most basic of all man's problems — hunger?

It has been estimated that 1.8 billion people, 56% of the world's population, live in a world of hunger and starvation with their caloric intake far below recommended normal daily requirements. However, there is now a solution at hand for substantially alleviating this problem, too. The solution comes in the form of new high-yielding, high-protein cereal grains. These grains are a major part of the diets of millions of people, especially in Europe and Asia. The most important of these are wheat and rice.

Through a series of crossbreeding procedures, these two grains have been developed in a dwarf variety. The actual grains themselves are the same; the only difference being that their straw, or stem, has been shortened considerably.

The whole project started back in 1951 when the United States Department of Agriculture (USDA) and Orville A. Vogel of Washington State University brought into production a new variety of dwarf wheat called Gaines. In test plantings Gaines substantially outyielded previously existing varieties by over 100 bushels per acre. Vogel used numerous varieties of parent stock in developing Gaines.

The most significant factor which makes Gaines such a high-yielding wheat is in its straw — not in the actual grain. Nitrogen can be applied to older long stemmed varieties in amounts up to about 28 pounds per acre. After that, however, the effective use of nitrogen is negligible and even deleterious. Since the stems are so long, they tend to break and fall over or lodge under the increased weight of the grain heads. This may result in either partial or total loss of the crop.

The shorter stemmed wheats, however, are capable of utilizing a larger percentage of the applied nitrogen in grain development rather than in stem growth. This

has the effect of not only increasing yields per acre and lessening spoilage but also making more efficient use of fertilizers such as nitrogen.

In his efforts to develop the new short stemmed wheat, Vogel used a series of complicated procedures including controlled pollination and fertilization to cross several known varieties, each of which had a certain characteristic that he wished to incorporate into the new variety.

In 1953 Norman E. Borlaug, a crop breeding specialist at Chapingo, Mexico, made another significant contribution to the already prospering Gaines variety. He proceeded to cross Gaines with other more geographically distant varieties. The short stemmed variety that Borlaug finally developed, not only had the high-yielding capacity of Gaines, but was also more suited to a wider range of climate and soil types.

Since Borlaug had successfully developed his new variety of dwarf wheat in Mexico, he consequently decided to test it there on a large scale. The results had a colossal effect. In a matter of eight years, Mexico was transformed from a major importer of wheat to a full-fledged exporter. Since Borlaug's variety of wheat was such a resounding success in Mexico, it was tried in India in 1966 and in Pakistan in 1967. Similar results were shown there, too. Pakistan by September of 1969 had accumulated enough Mexican wheat to plant its entire wheat acreage. In 1968 India was able to plant 7.5 million acres of Mexican wheat which was almost twice the amount that had been hoped for in 1969!

Upon seeing what had been done with the dwarf varieties of wheat in Mexico, the International Rice Research Institute (IRRI) in 1962 decided to try and duplicate the feat — this time with rice. In a process similar to that used by the developers of Gaines, the researchers at IRRI developed an especially vigorous dwarf variety of rice called IR-8.

Under adequate conditions of soil, temperature and climate, IR-8, on the average, yielded about 7000 pounds of rice per acre, compared to about 5000 pounds with old varieties.

This variety also matures very early. IR-8 can be harvested in a little over four months from the time of planting as contrasted to established varieties which take about five and one-half months to mature. The over-all effect of the early maturing characteristic enables farmers to take full advantage of the early seasonal rains and to harvest two or three crops a year as compared with the traditional single crop. This new variety of high-yielding rice was released to farmers all over the world in 1966. Since that time rice yields have skyrocketed.

In traditional societies such as those in Asia, it is often hard to introduce a technological innovation. Once farmers saw what Gaines and IR-8 could do for their economic plight, they eagerly adopted them. For example, from 1965 to 1969 the acreage devoted to these new varieties increased from 200 acres to 34 million acres. Also, based on test plantings, there are very good indications that the new varieties can be planted in both South America and Africa with considerable success.

However, even with monumental increases in yields there have been definite problems. The most basic of these has been the unwillingness of consumers to adopt the new varieties. For instance, many Asians refuse to eat IR-8 because it falls apart when cooked rather than sticking together as conventional varieties do. But this problem can probably be overcome by more crop breeding which modifies the variety to suit the tastes of local consumers.

Another problem facing the new varieties is that of labor. With the increased yields more labor is needed to maintain and harvest crops. Since more crops can be harvested per year, it is sometimes necessary to intersperse other crops such as oats or potatoes between plantings of rice or wheat. These extra crops are necessary to maintain soil fertility and balance. Even though nearly 85% of all Asians are farmers, seasonal labor shortages do occur. This becomes a serious problem because as the amount of time between the harvest of one crop and the planting of the next increases, there is a significant reduction in yield of the latter crop. If a 10 acre field of rice is left unplanted for seven days, the amount of rice lost would feed a family of three for a year.

The problem of storing, assembling, and transporting the increased harvests has also come to light. Farmers find it most difficult to transport the extra grain to market, and storage facilities which were very limited from the beginning are now being taxed beyond capacity.

A fourth problem is the inherent lack of protein in all cereal grains. The lack of sufficient protein in the diet can cause a variety of health problems such as Kwashiorkor and other crippling protein deficiency diseases. If a baby or young child does not consume enough digestible protein in his early formative years,



Short stalked Gaines variety wheat contrasted with standard strain of wheat.

he may run the risk of insufficient physical and mental growth or even premature death.

An effective measure of the quality of a person's diet is the amount of grain that he uses directly as compared to the amount that is fed to animals to be converted into animal protein. Countries such as Mexico, Thailand and Japan consume less than 400 pounds of grain per capita per year and of this amount nearly 350 pounds is used directly just to sustain life.

On the other hand, countries such as the United States and Canada consume more than 1600 pounds of grain per capita per year and of this amount less than 200 pounds is consumed directly. The over-all effect is apparent. The less economically developed countries are getting significantly less protein in their diets. It is the job of crop breeding scientists to develop a high-yielding, high-protein cereal grain. Already scientists of the IRRI are devoting a large part of their efforts to increasing the protein content in already existing varieties. To a large extent they have succeeded. They have been able to raise protein content in these varieties several times. If it were possible to incorporate these increments of protein into the dwarf varieties of wheat and rice, then we would be well on our way to alleviating world hunger, starvation and misery.

These and other new grain varieties are paying big dividends in the effort to relieve hunger and malnutrition. They have also paid off handsomely in economic gains that help to build a nation's selfconfidence in solving the common problems that most backward nations face. The new grains with their increased yields have helped to foster the belief that only by adopting new technology can a nation improve its lot and assume its place with the rest of the productive world.



Left to right: John A. Logan, Howard W. Robison, Edward H. Smith, Charles E. Palm, Charles W. Foster, Durward L. Allen.

Conservation Leaders Forum Oct. 29, 1969

In its incessant quest to keep citizen leaders well informed in the areas of agricultural science and human ecology, Cornell University's College of Agriculture presents educational forums throughout the year. The latest in this series, the "Conservation Leaders' Forum on Environmental Quality," took place on October 29, 1969 at Alice Statler Auditorium. In presenting outstanding professionals from the fields of politics, education, and research, the forum attempted to delineate the problems posed by pollution of our natural resources. Following greetings by Edward H. Smith, the Director of the College's Extension Service, and Charles E. Palm,

the Dean of the College, Congressman Howard W. Robison delivered a Washington-based report on citizen concern about pollution. Dr. Durward L. Allen of Purdue University explained how pollution is jeopardizing the ecological life cycles of many wildlife breeds and, to round out the morning session, Dr. John A. Logan of Rose Polytechnic Institute spoke on "Pollution's Challenge to Technology." Following Dr. Charles Foster's presentation on "Guidelines for Citizen Action," the audience participated in a question period directed at the experts present.

Richard D. Jones Jr., '71, Hamilton, N.Y., and Wendy Beth Trozzi, '72, Brooklyn, president and secretary respectively of the Agricultural College Student Council, enjoy a private joke with President Corson. Acting Provost Plane (extreme left) catches the punch line.



COMMUNICATION

Student leaders in the New York State College of Agriculture exchange views on problems and issues with Cornell University leaders at the Fall luncheon in Statler Inn. Dean Charles E. Palm arranges informal meetings with student leaders in agriculture as the need arises, but he insures communication between his college administrators and students by holding at least one formal luncheon meeting each semester.

Through Dean Palm the student leaders this year invited President Dale Corson and Acting Provost Robert Plane to share with them the concerns and goals of the University as seen through the eyes of Day Hall Administration. Students and administrators agreed the communication efforts were effective.

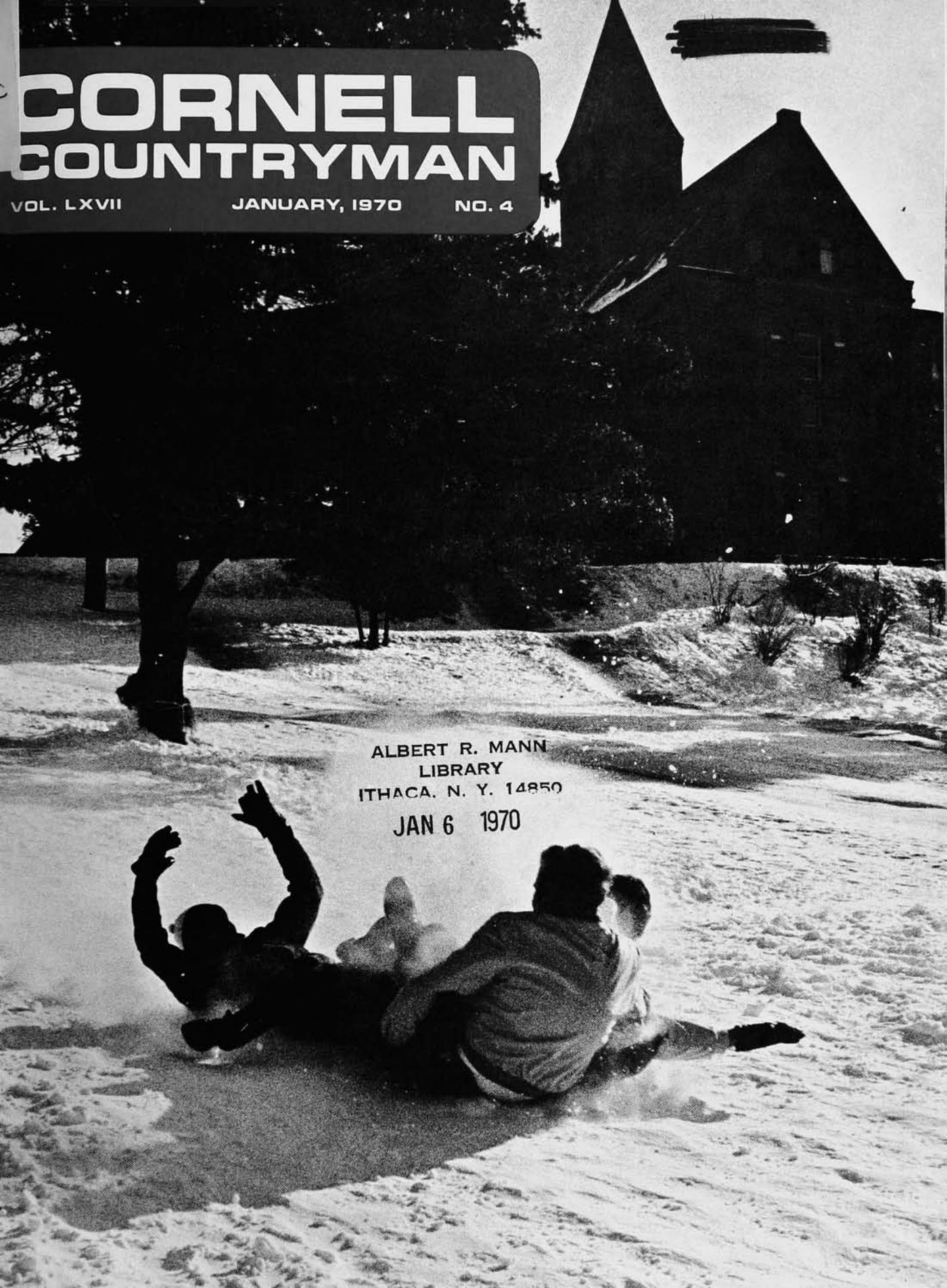


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ON THE COVER

Winter comes to Cornell

PICTURE CREDITS:

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Ezra Cornell – Trustee

“It seems as if I’ve been spending ninety-five percent of my time on the phone recently,” commented Ezra Cornell as I watched him put down the receiver and pull a handful of mail from the drawer of his desk. “And everyday my mailbox is full of the most amazing letters.” I listened as Cornell University’s newest and youngest trustee read me excerpts from a letter filled with Biblical quotations. “Now that I’m a trustee, everyone seems to think that my soul needs saving,” he chuckled, raising his eyebrows over his thick glasses.

It took me two weeks and a woman’s persistence to finally reach Ezra Cornell for an interview. As it was, I was only allowed thirty minutes squeezed in between a paper he was writing and an intramural hockey game in which he would be playing defense for his fraternity, Sigma Phi. Known as a person who has always displayed a casual attitude about the family name and who has relished privacy, Ezra has found his sudden public notice somewhat overwhelming.

As the oldest male descendant of Ezra Cornell, the University’s founder, Ezra officially became a life trustee in 1959 when his father, William Cornell, died. His twenty-first birthday on November 21, however, permitted him to become an active member. He will be filling the honored seat held before him by his father, his grandfather, William Bouck Cornell, and his great-great-grandfather, Alonzo Cornell.

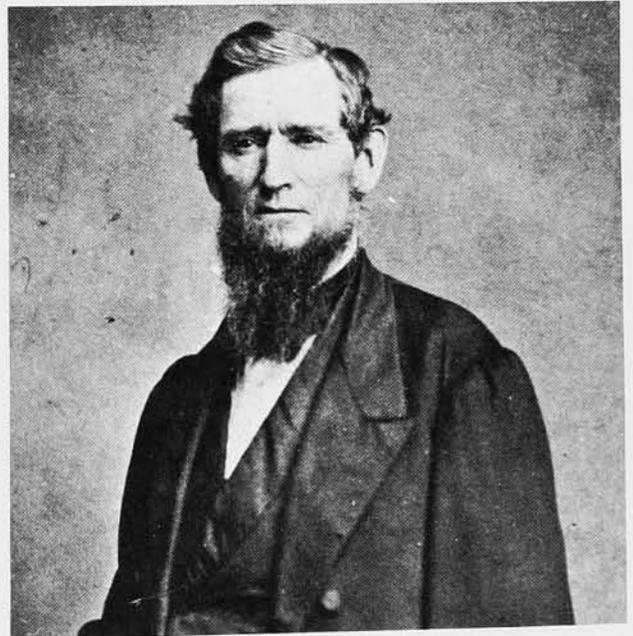
In this new active capacity, “E.C.,” as his friends call him, has already attended his first trustee meeting, an Executive Committee meeting open to all trustees. “I

“E.C.” – Cornell’s New Trustee

by *MARYA DALRYMPLE* '70

decided that I would just listen and learn at this meeting, so I haven’t made any earth-shattering proposals as yet,” he responded to my question about his first encounter with the other trustees. “Right now I don’t want to prejudice my usefulness as a board member by making any prejudgments on how I’ll serve or represent my fellow students.” Ezra does intend to support the Cornell philosophy established by the university charter in 1865: the hope that any student will be able to find instruction in any study that interests him.

Ezra Cornell – Founder



"Now that I'm a trustee, everyone seems to think that my soul needs saving."

It is his hope that as a young trustee he will be better able to express to the Board current student opinion, and that ultimately he may be able to show the value of electing more student trustees. Cornell is just one of the growing number of universities across the nation, from Vassar to Stanford, which are dispelling the stereotyped image of a trustee by placing students or young graduates on their boards.

A middle-of-the-roader politically, Ezra appears to possess many of the individual qualities of his namesake. Like his great-great-grandfather, Ezra is amicable and respected by his friends. Likewise he is a young man who gets things accomplished.

Ezra, his sister, and friend



Recently he successfully completed chairmanship of a group advertising project for Communication Arts 312. Commenting on his leadership, his friends state, "Ezra has the ability to guide without domination, to organize and to get the job done, simply by stimulating group interest and unity."

In 1864, Andrew D. White made this appraisal of Ezra Cornell's actions in the State Senate: "No one could fail to notice that the only measures in the legislature which he cared for were those proposing some substantial good to the state or nation." Today it seems that E. C. is attempting to improve Cornell in much the same way, by participating in the Constituent Assembly. Although hopeful at first that this organization might create a realistic form of student government, he now pessimistically admits that "the Constituent Assembly may never achieve its purpose due to a lack of interest, extreme inefficiency and the little opportunity that is granted for the expression of opinion."

Only time will show whether Ezra can achieve the traits or foresight, humility, truthfulness, persistence, courageousness and unbounded generosity that his ancestor is noted to have possessed. Already he has established a fine start. He has many friends among both his fellow agricultural economics majors and fraternity brothers. One fraternity mate notes, "Ezra is well liked by all of us. In fact, he's one of the nicest and most sincere guys I know." His sister Candace, a freshman at Cornell this year, can also vouch for that since she and Ezra have always been close. And even Ralph his dog seems to find Ezra a good companion. It is rare that one sees Ezra on campus without the shaggy sheep dog nearby.

As for the future, E. C. hasn't made any definite plans. Bestowed with draft number 143, he is in much the same position of uncertainty as he was before the lottery. "Somehow I have the feeling I won't be drafted," he states simply, with a look of hopeful concern on his face. Ezra did go to Washington in November for the Mobilization and feels his participation there gave him a new optimism.

Last summer he worked for his uncle near his hometown of Bloomfield, N.J., liquidating machinery. But he doubts whether he will make a career of being a "junk man" or even pursue any field related to his major in Food Distribution. He might consider founding an institution, going into telegraphy, or inventing eccentric farm machinery, like his ingenious ancestor.

Some people have labelled Cornell's newest trustee as shy or reticent. Yet, it is not a reticent Ezra Cornell who has accepted this new responsibility. Nor does it appear that the present public acclaim will affect his good-natured, easy-going personality. Ezra Cornell will attend his first full board meeting in January. It will be a great step in the trend toward progressive, youth-conscious education at Cornell today.

for help in a crisis

DIAL 



by JANICE JOHNSON '72

The time: 1:30 a.m.

The phone rings.

"Hello, Suicide Prevention."

"Help me," a woman's voice gasps over the line. "I've just taken a bottle of thioridazine and aspirin. I don't want to die. Please, oh please, help me."

The above is an actual incident in the current drama of a non-profit, telephone-service organization whose full title is Suicide Prevention of Tompkins County, Inc. As the center states, its "purpose is to provide general, short-term non-professional counseling, aid and referral of individuals in any personal crisis, distress or depression, particularly contemplated suicide."

According to Mrs. Jack Thomas, counselor, suicide is the second highest cause of deaths on college campuses, as compared to tenth highest for the total population. On Ivy League campuses, suicide is the leading cause of death.

The Ithaca center was started in January 1969 by a Cornell student whose friend had committed suicide on the campus. It was originally staffed by a core of people from Cornell United Religious Work. The 101st organization of its kind in the United States, Suicide Prevention now has a working force of about fifty volunteers, including professors, students, mothers, housewives, clergy, and even a man who drives a bread truck.

Volunteers are trained by three professional psychologists, Dr. Waldman and Dr. George Miller of the Gannett Medical Clinic and Dr. Peter Komor, a private practitioner. The course is a six-week, 18-hour program which concentrates on building up and drawing out the depressed person's strengths. The counselors are taught to control their own reactions in tense situations through role-playing in the classroom and by listening to a record of actual recorded calls. It is stressed that at all times the counselor must think of the person at the other end of the line and not let his emotions dominate his reason.

Since the majority of the calls are at night, volunteers stay by the phones from 5 p.m. until 8 a.m. Then a telephone service takes over during the day.

Averaging ten calls a week from Tompkins County residents, the service primarily counsels high school and college students. Only five percent of the calls are from people who are actively attempting suicide. Here the immediate need is to get help to these people before it is too late. The rest of the calls are from people who just want to talk to someone.

There have been a few calls from students who were "tripping" on drugs and needed someone to "talk them down." In one such instance, the counselor was unfamiliar with the newly invented jargon of drug users and could not understand what the young man was saying. Extra instruction is now given to all counselors in the language and treatment of "tripping" individuals.

Counselors may refer distressed people to the Mental Health Clinic, the Family and Child Service, the Department of Social Services, and individual psychologists or clergymen. Only in drastic situations will a counselor be sent to stay with the caller. The organization stresses that the most benefit results when the troubled persons help themselves.

Suicide Prevention operates on voluntary donations, and recently the Cornell Campus Chest gave it \$500. Depending on the amount of funds received from the United Fund, the service looks to future expansion. A part-time bookkeeper is desperately needed to keep records and to coordinate schedules of working times for volunteers.

Currently, there is no follow-up after a referral is made, and hope is that this will be possible in the future. Also, more volunteer counselors are needed to help with the huge but rewarding task of combating depression, loneliness, and fear.

CORNELL'S

SNOW

MEN

by DOROTHY KROTJE '72

The Cornell University Ski Team is now working out strenuously in Barton Hall, waiting for some snow and planning for a winning season.

The ski team at Cornell is poorly funded and, at the moment, without a coach. The team gets little support or publicity at the university, simply because Cornell is not a skier's school. Poor skiing conditions in the area attract few good skiers, yet the team had, in the words of Doug Bowne, '70, co-captain, a "very good" season last year.

"This year will be better — the best the Cornell Ski Team has ever had."

Right now both the Alpine team and the Cross-country team are training in Barton Hall. They run three to four miles four times a week, participate in rigorous calisthenics, and work out with weights. One of their unusual (and most strenuous) exercises consists of each skier running up the steps in Schoellkopf Stadium with another team member on his back. Once the snows blanket Ithaca, however, the ski team will be practicing every evening on the Alumni Fields, the Plantations, or on the golf course.

The ski team does not have a coach because, as Wayne Potter '71 puts it, "It is hard to get someone with sufficient experience who has time to spend with such an obscure sport at Cornell."

Being coachless places strong demands on the co-captains. Co-captain Ken Walker '71 says, "We have considerably more responsibility than normal. The paperwork and administration normally done by the coach must be done by us. Our greatest handicap will

come during actual competition, when a coach is needed for directing and coordinating team effort."

Doug Bowne explains, "It is necessary for the co-captains to act as a coach, to plan the workouts and season's schedule. We have the responsibility of developing a first place team, while being members of the team. This makes it hard for us to do our best and still push others to do better."

Despite the lack of a coach, the team attitude has been excellent, with everyone cooperating and helping the team function smoothly. As Ken Walker puts it, "Our success will be due to team effort."

The team standing in a meet depends on the performance of the top three men in each event. The Cornell team enters at least five men in each of four events: jumping, cross-country, slalom, and giant slalom. Yet, since there is a limit of ten men on the varsity team, members must enter more than one event. "Success requires full effort from all ten men. That is how we win," claims Walker.

When asked if he had any exceptionally good, or "star" skiers, Walker replied, "We have three experienced cross-country men on the varsity. Two should consistently place in the top ten. In Alpine, we have several experienced racers; four of these could place in the top ten. On the frosh team, we have two cross-country skiers who competed successfully in high school. One frosh Alpine skier, Jan Palmer, was eastern Junior Champion in the Alpine Downhill."

The morale of the team is great. They are just waiting for snow and a chance to win.

“This year will be better — the best the Cornell Ski Team has ever had.”

Why do you like to ski?

Robb Hobbs '72: “I enjoy skiing because it is an outdoors sport offering challenge to the individual. It is a constant varying challenge, changing with the ski area, the day, snow conditions, and time of season. The speed sensation is also appealing.”

James Mahen '72: “Skiing gives a feeling of independence and self-reliance like no other thing I’ve experienced.”

Skip Jonas '73: “The challenge and thrills can’t be described, and you have to rely on yourself, alone. No one else makes up for your mistakes — if you do something wrong, *you* get hurt.”

Why did you join the ski team?

James Fayal '72: “Competition adds a further dimension to the sport of skiing. Being on the ski team enables me to compare my ability to that of others, and from this comparison, I learn.”

Bill Lee '70: “I joined to gain experience, learn better racing techniques, and participate in a team atmosphere.”

What do you think of the ski team, as a whole?

Albert Goetze III '72: “The team is a good fellow-

ship of skiers trying to better themselves in ski racing.”

Bill Trommer '72: “The team is well unified and hard working.”

Brian Miner '73: “There is very good spirit among the members.”

Bill Lee '70: “The team all-around is one of our best.”

What are the problems faced by the team?

James Fayal '72: “Skiing is a rather individual sport. The team reflects this, being composed of individual competitors. We must function as a unified team, not as a group of individuals.”

Bill Trommer '72: “The team does not have enough publicity, therefore there is not much interest on campus. More interest would help attract more skiers to the team.”

Do you predict a winning season?

Skip Jonas '73: “As soon as we get snow, we’ll start winning.”

Bill Trommer '72: “Of course — everyone will be trying hard, and we have several top-notch skiers on the team.”

Bill Lee '70: “Definitely!”

Team member practicing at Greek Peak



WASHINGTON —



Friends help fallen companion



by **JEFFREY MANFREDI '69**

On November 15, hundreds of thousands of people demonstrated in Washington against the war in Vietnam. Longshoremen from Brooklyn, bankers from Wall Street, families, bald and bearded men in coat and tie, white collars, sweatshirts and dungarees — all helped give some dimension to the group, labeled by the administration as the “vocal minority.”

Early Friday morning one person, followed by 40,000 others in single-file, began the March Against Death. Each marcher carried a piece of cardboard on which was written the name of an American soldier killed in the war or the name of a village in South Vietnam that, in the well-known phrase, had been “destroyed in order to be saved.”

Those who saw the faces of the marchers could not help but be moved, and those few who listened to their silence after the week-long rhetoric of violence could not help but hear their sincerity.

For over two hours each marcher was alone, thinking mostly of the man whose name they carried. Only a few

EMBER 15, 1969



Marcher confronts police

had actually known the man they were marching for; the rest were left to wonder of his early death, his hopes, ambitions, and talents.

As each marcher passed the White House, he called out his soldier's name so that President Nixon would hear and be reminded that men have died and are still dying.

During the morning of the first day of the March Against Death, three Americans left Cape Kennedy for the moon. President Nixon witnessed the event from the V.I.P. bleachers.

But very few of the younger people demonstrating in Washington seemed interested in the moon flight, and not because it was so far away. What the moon means for them is poor housing for thousands, miles of polluted rivers, and acres of poisoned sky.

It is not important how many people participated in the antiwar demonstrations in Washington. What is important is that it took place in such a peaceful and sincere manner and that it affected so many people.



A Different Role for Cornell's Fraternities

by SCOTT HALLABRIN '72

Cornell's fraternities receive much criticism from students who think they serve nothing but a social purpose. In self defense, the fraternities contend that they function as more than a social institution.

What do fraternities do besides have parties?

Individual houses decided to change their purely social image and engage in activities involving community service or something similar. Many provided help for the United Fund, an annual nationwide collection of money for various community aid projects. Fraternity men called on Tompkins County residents to receive promises for donations to the fund.

This September, a local service group called Civitas issued a plea to the Interfraternity Council (IFC) for help. Apparently Civitas, which works with Ithaca youths in various areas of recreation, had run low on manpower. Civitas asked the IFC to provide the manpower, and they would supply the money needed to continue the project. The IFC voted to accept the request, and soon Civitas volunteers began to appear. Cornell's fraternities finally had something with which to defend their new role.

However, fraternities may progress a step further soon. At Phi Delta Alpha (formerly Phi Delta Theta) Fraternity, an accredited course will be offered for the Spring 1970 term. Open to brothers of Phi Delta and their friends, the course, Rural Sociology 350, will be given by the Rural Sociology Department of the College of Agriculture. Titled "The Military-Industrial Complex," Rural Sociology 350 will involve an evening meeting once a week. At these meetings, the students and the designated Teaching Assistant will share opinions on the assigned readings.

According to Phi Delta Alpha president, Paul Baker '70, the course will be offered for several reasons. Primarily, it is offered as a constructive academic alternative to the usual fraternity life. Also, Baker mentioned

that the course offers a subject which is not presently offered in any other department at Cornell. Other reasons include the informal give and take of ideas between the students and the instructor on a specific subject, and better rapport among the students, themselves. Originally, the course was limited to thirty students, but pre-registration numbered over forty, and the additional registrants were allowed to join.

Skepticism exists among some faculty members who have been informed of the course, because the students will select their own grading system. The proposed alternatives for grading are either S/U, A/U, or A,B/U. Also, no prelims or final will be given, although a ten page paper is required. The skeptical faculty members feel that an insincere student will certainly abuse this type of system. Phi Delta Academic Chairman Phil Bartels, one of the driving forces behind the offering of the course counters, "... the person who cheats is only cheating himself out of his money's worth in education."

Rural Sociology 350 is not the first course of its kind offered by a fraternity at Cornell. A similar course titled, "The Year 2000" was offered by Alpha Sigma Phi Fraternity. Approximately ten students participated on a pass/fail basis. The course involved a series of lectures furnished by the Sociology Department in the College of Arts and Sciences. The course explained and discussed what life on earth would be like after the year 2000. Although offered before the course at Phi Delt, "The Year 2000" doesn't have nearly as many students, nor does it focus on one concentrated subject.

Ideally, the course at Phi Delta Alpha next semester shows yet another step forward in an effort by Cornell's fraternities to justify their existence on anything but a social basis. However, if the course is abused by many of its students, this positive step will be nullified, and the skeptical feelings of some faculty members will become totally justified.



EVR can be adapted to any set

Television of the Future

New Device Lets You

Pick Your Own Programs

by **MARCIA WITTES '71**

Television does not *have* to be America's "vast wasteland." It *can* be a personalized center of entertainment and enlightenment. The day isn't so far away when you'll be able to watch the programs you want to see whenever you want to see them.

The big difference is a device that can store the picture and sound signals on video tape in cartridge form and play it back on the standard home television set. The original seven-inch cartridge device is called EVR, Electronic Video Recorder. (It was developed by the same man who, in 1949, perfected the long playing phonograph record.) Then, this fall, scientists at RCA announced the development of "SelectaVision," their version of a video tape player for the home.

Once the special play-back recorder is hooked up to the TV set, any program on pre-recorded tape can be watched. This recorder fits on top of any standard TV set, and it decodes the video signals so that the programs on the screen look like they are actually being broadcast.

This device adds a whole new dimension to home entertainment. RCA is already compiling a library of about 100 original half-hour programs on SelectaVision tapes. They cover such areas as theater, music, sports, science, and history. Some possible shows might include "Apollo's Moon Landing," "Great Moments in Baseball," "Art Treasures of the World," and "The Best of Broadway."

This would mean that you could watch a favorite program as many times as you'd like. It could be run in slow motion, or even stopped in the middle to repeat a section you may have missed or would like to see again. For variety, it would not be impossible to watch a program in reverse!

RCA claims that their SelectaVision represents a major technological breakthrough, for it is the first device to use laser beams in consumer products. A low-power gas laser is used to encode the TV images (or holograms) on a plastic tape.

Production of the players is scheduled to begin about 1972 at the target price of about \$400 for the players and \$10 for each half-hour tape.

The tapes themselves are made of an inexpensive clear plastic similar to the material used to package meats in the supermarket. It is scratch-proof, dust-proof, and virtually indestructible under normal use. It will not be harmed by the laser that encodes the images. The cartridge looks similar to those used in the automobile stereo tape players.

SelectaVision may be the most important advance in television since the invention of color TV. It promises to make TV a more personalized medium. Programs with mass audience appeal and high ratings do not *have* to be the only ones on TV.

Maybe in a few years you'll be able to purchase the programs you want to watch at the local drugstore or grocery check-out counter!

NEW HOPE

FOR

ITHACA'S

POOR



by STEVEN POLIAKOFF '71

In April, 1968, Ithaca citizens, along with several members of the Cornell University faculty, united to create MOVE, an organization aimed at helping poor people help themselves to a better way of life. Geared specifically to fighting poverty and racism in Tompkins County, MOVE is attempting to bring about social reform in the community. The organization is trying to eliminate discriminatory practices in the areas of welfare, local housing, taxation, education, and employment.

This year, Cornell students have volunteered their time and services to MOVE's Housing Information Service. The Housing Information service was set up to help families that were having difficulty locating adequate apartments. Mrs. Jemma Wilcox, the head of the Service, not only helps families locate apartments, but is a source to whom poor people can turn to locate furniture, appliances, or clothing for their children. But most of all, she provides hope and encouragement to people who would otherwise have no one else to help them.

Under Mrs. Wilcox's direction, the Housing Information Service, with the help of its Cornell volunteers, has undertaken a new project. Its final outcome may serve to unite the combined aid of the Service and Ithaca landlords. It is the hope of the Service that since they are in business to find apartments to rent, and since landlords are in business to rent apartments, the two groups should be able to help each other.

At the present time, however, several problems block a joint effort to relocate Ithaca's poor. The most serious of these are the existence of substandard housing and the fact that poor people are forced to live in these homes. With a housing scarcity that inflates rents, most decent housing becomes financially beyond the reach of families with low incomes. The lack of adequate, low-cost hous-



ing allows many landlords to capitalize on the poor, who must rent the only apartments they can afford. Faced with the choice of either substandard housing or none at all, the poor are forced to take the run-down apartment.

The Housing Information Service believes no one should have to live in substandard housing. They feel a mother should never have to stay up all night to make sure her six-month-old baby doesn't catch pneumonia because her apartment's heating system doesn't work. The Service interprets the existence of the Ithaca Building Code to mean that the city also holds this belief.

Apartments for low-income families do exist. The problem is that many of them are so physically deteriorated that they are unlivable. For this reason, the Housing Information Service has decided to initiate a program of what they term "preventative condemnation." Through this program, landlords who have allowed their apartments to become substandard will meet with MOVE volunteers and voluntarily agree upon a timetable by which they will bring their apartments up to the city's required standards.

Those working with MOVE realize that many landlords will not voluntarily initiate a program of renovation. To protect the rights of the tenants forced to live in substandard housing, MOVE is asking the Ithaca Building Commissioner to step in under the Ithaca Building Code and condemn the substandard building.

In this way, it is hoped that all inadequate housing in Ithaca will be phased out. This preventative program should eliminate many of the problems faced by low-income families before they ever develop. MOVE thus hopes to protect poor families from the hardships caused by poor housing.

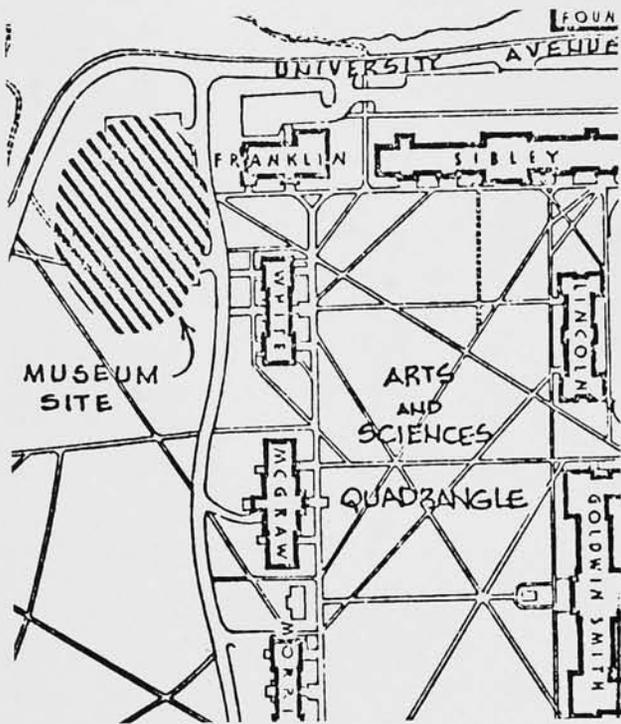
Landlords, on the other hand, feel that it is not always their fault that their buildings become run-down. They believe that the problem often lies with the tenant, who not only neglects his property but in many cases damages it.

From the experiences shared by the Housing Information volunteers, neglect on the part of the tenant comes about only after he is forced to move into a building that is already run-down. They feel that if people are given a decent place in which to live, they will keep it livable. If forced to live in a run-down building, then they will treat it as a run-down building.

Pride in one's home can develop only when a person has something to be proud of. To instill such pride, everyone should be rented a decent home. This will strengthen his desire to improve not only his home but his community as well.

Thus, the Housing Information Service, together with MOVE, will help low-income families live better by obtaining decent housing. It will also help landlords by insuring full rentals, and it will help Ithaca by improving the living conditions of its low-income families.





Proposed site of Johnson Museum

Sometime in 1972, Cornell's new Herbert F. Johnson Museum of Art will open its doors to the public. It promises to be an important event; Thomas W. Leavitt, director of the Andrew Dickson White Museum, feels that it will be "the most attractive piece of architecture on campus," and expects it to receive national attention.

The building is to be located at the corner of Central Avenue and University Avenue, an ideal site for an art museum. The building will have an outdoor sculpture gallery above the two main gallery floors, which will give an unhindered view of Cayuga Lake and the entire valley.

The Herbert F. Johnson Museum was designed by I.M. Pei and Partners, one of the most highly regarded firms in the business and one of the busiest. Pei is considered by his contemporaries to be among the very best architects in the nation, and according to an official in the University Planning Office, Pei probably played a large role in conceiving the building. Money for the museum's construction comes from a 4 million dollar contribution from Herbert F. Johnson.

This building will fill a real need on the Cornell campus. The Andrew Dickson White Museum is not nearly large enough; it was intended to be a home, not a museum, and is inherently unsuitable for its function. The Johnson building will provide plenty of gallery space, abundant room for storage and administration, and work areas for matting, crating, photography, and conservation.

Art's Next Home

by KENNETH WALKUP '73

The new art museum will continue to be largely teaching-oriented, like the White Museum. Of the 32,000 people who visit the museum annually, Director Leavitt estimates that from two-thirds to three-fourths are students. So that even more students may use it, the Johnson Museum may be opened during regular library hours, and it will have four study galleries to house temporary exhibits. There will also be a lecture room seating 150 people.

It is not yet clear what will be done with the White Museum when its function as a museum ends. Since it is a University landmark and the former home of Andrew Dickson White, Livingston Farrad, and Edmund Ezra Day, all Presidents of the University, it will be preserved.

The Andrew Dickson White Museum



Probably the most trying task Leavitt will have as director of the new museum will be filling it up. On a budget of only \$40,000 a year (from contributions — the museum receives no funds from any department, and none directly from the Treasurer's office), it may take some time. Leavitt indicated that he would particularly like to enlarge the museum's collections of prints and nineteenth century French and American

paintings. It already has a good Asian collection, and an additional wing is being considered for the Johnson building to house it.

In the meantime, the White Museum is still worth anyone's while. The big exhibit of the year is coming up in February — a special showing of die Brücke, a group of German expressionists active in the early years of the century.

COUNTRYMAN CAPSULES

Frank J. Wolff, '53, of Huntington, N.Y., has served for five years in various supervisory positions with the occupational education office of the State Education Department in Albany. Frank is now in his second year as Director of Occupational Education for the Nassau County Board of Cooperative Educational Services with offices at Jericho. One of the last counties in the state to organize such a board, Nassau already has the second largest program in the state with nearly 6,000 secondary pupils and 3,000 adults enrolled in BOCES programs. Frank was recently appointed by Governor Rockefeller to serve on the State Advisory Council for Occupational Education.

Halsey B. Knapp, '12, of Stony Brook, N.Y. is Vice Chairman of the Near East Foundation and director of Sunrise Federal Savings and Loan Association of Farmingdale. Mr. Knapp is the Cucumber King of Stony Brook.

Isaac B. Mitchell, '18, of Ormond Beach, Fla., is semi-retired but still maintains his job as the President of Mitchell Farms, Inc., and portfolio manager of Mitchell Investors Trust.

Reverend W. R. Porter, Jr., '48, is Pastor of St. John's United Methodist Church in North Valley Stream, N.Y. He reports several loyal Cornellians in the congregation.

Headley E. Bailey, '30, of New York City, sends the following: "We should ceaselessly strive to keep alive and express at all times the courage, determination, mental excellence, and other dynamic qualities of our earlier leaders, Ezra Cornell, Andrew Dickson White, Goldwin Smith, Liberty Hyde Bailey, et al, who have contributed to the living greatness of Cornell."

David E. Johnson, '66, of Ithaca, is field representative at Eastern Artificial Insemination Cooperative, working with public and member relations for a seven-state service area.

Dr. Charles A. Shoup, '60, of Sturgis, Mich., received his Ph.D. from Michigan State in September '69 and is now Dean of Student Affairs at Glen Oaks Community College, Centreville, Michigan. Charles was formerly admissions counselor at the College of Agriculture.

Larry F. Miller, '57, of College Station, Tex., is teaching endocrinology and physiology of reproduction at the College of Veterinary Medicine, Texas A & M University.

Mary E. Mosher, '67, of Greenwich, N.Y., is managing the home farm with her younger brother and enjoying a bit of success in the show ring with their registered Holsteins.

Dana G. Dalrymple, '54, of Washington, D.C., is an economist in the International Development Section of USDA's Foreign Agricultural Service.

L. L. Clough, '29, of Delmar, N.Y., retired from the New York State Department of Agriculture and Markets in 1968. He was a consultant to the Senate Committee on Agriculture and Marketing during the 1969 Session of the Legislature.

Robert G. Reid, '54, of Buffalo, is sales manager for O-AT-KA milk products.

George Chrein, '41, of Flushing, is chairman of the only agricultural department in a New York City high school (John Bowne).

Joseph Granett, '18, of Brooklyn, is executive secretary of the Cornell Alumni Association of New York City.

Charles I. Bowman, '27, of Wilbraham, Mass., retired in 1967 after 37 years with the Farm Credit Bank of Springfield.

Merrills L. Dake, '26, of Nokomis, Fla., retires from Agway on January 1, 1969. He reports keeping busy by working part time with a local cabinet firm.

Student Leaders Meet National Leader

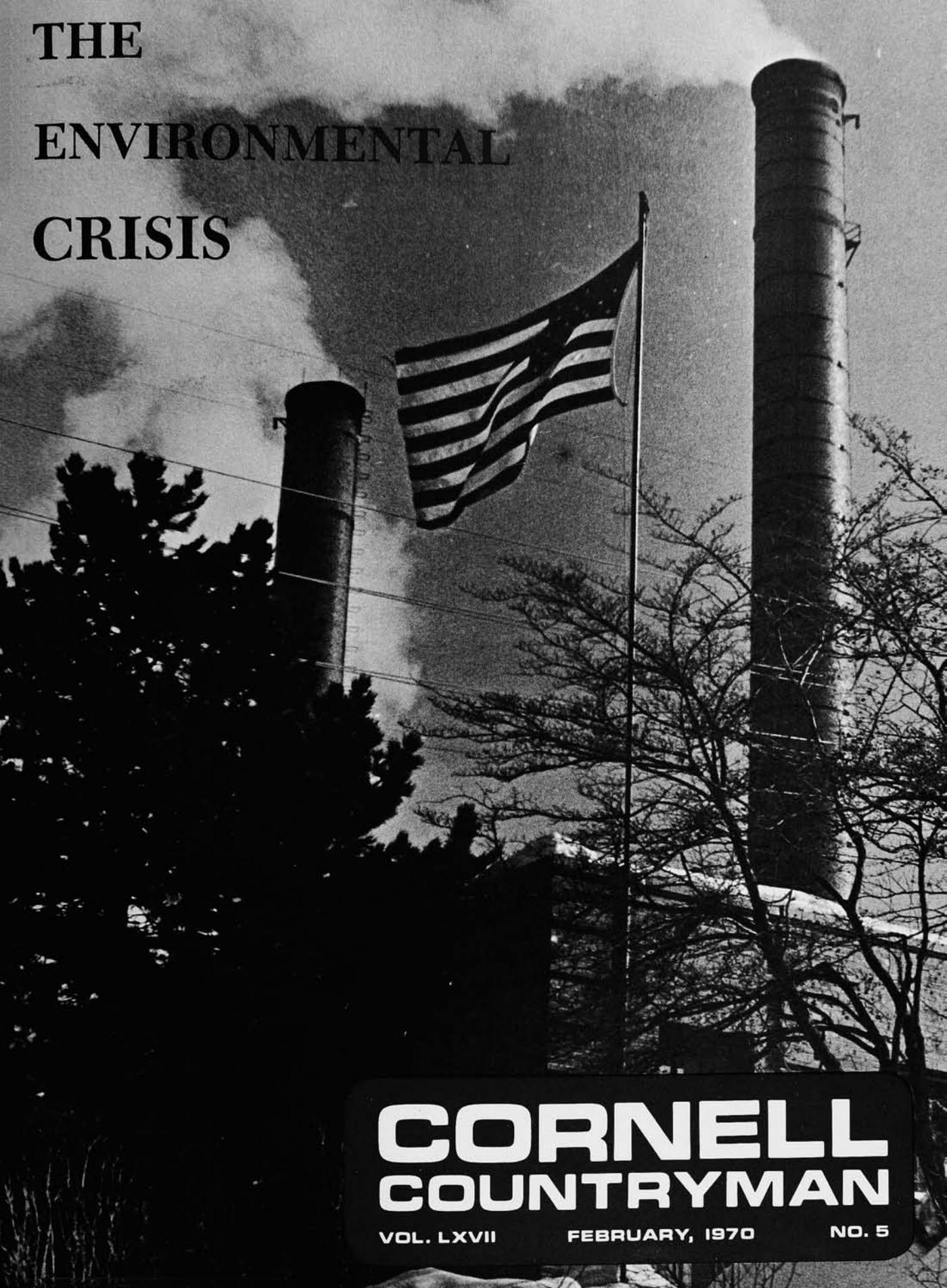


Secretary of Agriculture Clifford M. Hardin takes time from a busy schedule in Syracuse to meet with members of the New York State College of Agriculture Student Council.

Left to right: Tom Light, North Chatham, New York; Bruce Sherman, Nobel Ruler of Alpha Gamma Rho, Woodstock, Connecticut; Stuart Young, Vice President, Student Council, Cortland, New York; Secretary Hardin; Richard Jones, President, Student Council, Hamilton, New York;

Francis Robbins, Chancellor of Alpha Zeta, Schuylerville, New York; Doug Brann, Hampden Highlands, Maine.

These young men and more than 2,200 other undergraduates (men and women) in the College are serious and dedicated individuals. Awaiting them are opportunities to prepare for more than 500 career possibilities. Not insensitive to society's needs and expectations, their response shows a willingness to build into their chosen careers abilities to make intelligent adjustments to change.



**THE
ENVIRONMENTAL
CRISIS**

**CORNELL
COUNTRYMAN**

VOL. LXVII

FEBRUARY, 1970

NO. 5

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CORNELL PREPARES FOR THE APRIL TEACH-IN

Will Pollution Join the War and Racism As a Great Campus Issue?

Perhaps the most serious problem facing the world today is the continued pollution of the environment. Many corporations are using our national resources carelessly and think only of the maximum profit that can be gained. Even people on the individual level have become wasteful in their use and disposal of manufactured products.

Because they view nature as a bottomless cornucopia, businessmen and customers ignore the "hidden cost" of items — in medical and sanitation dollars, lessened pleasures and shortened lives. Throughout the country, scientists are now trying to get people to see our planet as the ecologist does: as "Spaceship Earth", having finite "life-support systems" which must be carefully nurtured.

April 22 has been designated as the date for a National Teach-in on the Crisis of the Environment to be held on college campuses across the nation. The objective of this National Teach-in is to mobilize the nation's young people to conduct a massive campaign against pollution. Hopefully the Teach-in will be the beginning of a new movement, as were the first anti-war teach-ins of the '60s.

Senator Gaylord Nelson (D — Wisconsin) and Congressman Paul McCloskey (R — California) will serve as co-chairmen of the non-partisan National Teach-in, in order to aid and coordinate the activities on the 120 participating campuses across the United States. Each campus has been encouraged to formulate its own program for April 22, focusing on the specific pollution problems existing in the campus's vicinity.

Here at Cornell, an Environmental Action Committee was formed on December 12 and will direct the Teach-in's program on campus. The committee is headed by temporary chairman Charles "Chip" Lawrence, a grad student studying Environmental Systems Engineering in the Engineering School. Other committee offices include vice chairman David Yesner, Arts '69, and recording secretary Stephanie Seremitis, Arts '72. The Environmental Action Committee will serve as an "umbrella" or coordinating committee for the many organizations taking part in the Teach-in. These par-

by **STEPHEN SCHAEFER '73**

ticipating organizations tentatively include the Cornell Conservation Club, Engineers for Education and Political Action, the Cornell Society of Zoologists, the Independent Radical Coalition, and the Ithaca Seed Company.

The goal of the Teach-in at Cornell is to make the campus and community aware of the problems of pollution and to take action to remedy these local problems. Al Vogel, a grad student from San Jose State College and a member of the action committee cited the "appalling ignorance of the pollution problems among students on campus." Many other committee members agree that priority should be given to the task of educating members of the Cornell Community in the problems of pollution. Keith Langendoeffer, Conservation '73, agrees that the Teach-in's efforts should be concentrated on the campus. "Once the task on campus is completed, the movement can then be directed to Ithaca and the surrounding communities." Dan Peters, Agr. '71, pointed out the importance of making individuals aware of their responsibility to combat pol-





Lake Ontario

lution. It was noted that pollution is not only the result of industry, but also the result of individual complacency.

The events of the Cornell Teach-in have been tentatively scheduled to include a series of lectures and discussions on the pollution problem, guest speakers, films on pollution, and a possible concert. Ed Rayburn, president of the Cornell Conservation Club, announced that Bailey Hall has been tentatively reserved for the April 22 program. Rayburn also said that he has spoken to Professor Long's office in an attempt to adjust class schedules during the Teach-in. The Environmental

Action Committee is currently trying to secure films and speakers for April 22. There has been some discussion that Senator Nelson may speak in Bailey Hall in the morning, but definite arrangements have not been worked out.

This movement to combat pollution and improve the environment is a relatively recent one. Publicity of the pollution problem has increased greatly. Almost any issue of the *New York Times* contains an article on the pollution problem. *Time Magazine* has established a weekly Environment section that has appeared regularly since November 14. Perhaps this publicity of the environment crisis will finally motivate people to do something about the problem. Some groups have already been formed outside of the college scene. One such group is the Environmental Defense Fund. Headed by former NAACP lawyer Victor J. Yannacone, Jr., the EDF was the organization that headed the struggle to outlaw DDT in Wisconsin. The EDF is currently planning to bring suit in Federal Court against the major industries that pollute the air and water supply of New York City.

It would appear that the public is finally being exposed to the hidden pollution and environmental destruction that has been going on for years. Perhaps the National Teach-in on April 22 will serve to increase the awareness and involvement of the general public in the environmental crisis. Once the public realizes that their planet is being ruined, widespread action against pollution can occur. Until that time, the many action groups across the country must continue to fight pollution on a local scale.

THE UNIVERSITY ACTS TO REDUCE HEATING PLANT POLLUTION

An \$850,000 project which has as a major goal the reduction of air pollution by changing from coal to oil heat is nearing completion at Cornell University's Department of Buildings and Properties.

Cushing Phillips, Jr., director of operations, said the project is the second phase of a continuing program to adjust the University's heating system to increasing needs and to cut pollution.

"By the time this phase is completed in late winter," Phillips said, "pollution of the air by carbon, fly ash and other combustibles will have been reduced by about 80 per cent. What's more, sulphur emission will be reduced by a third."

The current phase includes the purchase and erection of two boilers, each capable of producing 115,000 pounds of steam per hour. In addition, a million gallon fuel tank has been constructed behind the central heating plant just off Route 366, south of the campus. The tank has been

set into a hillside to avoid an "eyesore", Phillips said.

The first phase of the program was completed in 1966 and included the installation of a gas and oil fired boiler at a cost of \$200,000. This boiler has a 100,000 pound-per-hour capacity. Installation of the oil burning boilers, Phillips said, has cut drastically into the amount of coal that has to be stored at the heating plant. The amount of soot-producing coal that is burned, he said has dropped from 55,000 tons a year to about 7,000 tons.

"One thing that few people know," Phillips said, "is that the two stacks which emit smoke from our plant represents the entire heat source for a population as big as one fifth the population of Tompkins County.

"People might also be interested to know that New York State has enlightened pollution control laws. Our plant has always been between 30 and 50 per cent below the prescribed limits for pollution emission."—(Office of Public Information — December 17, 1969)

Famine, Crowding, Violence and Waste:

The Four Horsemen of Overpopulation

by STEVEN BECK '70

In 1965, the then President of Pakistan Ayub Khan said "in ten years, Pakistanis will be eating each other."

To his people and to billions of others in the world, the crisis of too many humans and not enough food is no longer a scholarly prediction, no longer a "bridge we'll cross when we come to it." It is as real as the aching emptiness in their bellies.

To Americans, longer airport delays and bigger traffic jams are the visible signs that overpopulation has become a day-to-day nightmare. The "population explosion" is finally being seen as the villain which is rapidly rendering facilities for education, housing, transportation, power and recreation inadequate for the needs of the nation. To serve the new millions with electricity, for instance, new plants like the one planned for the shore of Lake Cayuga may have to be built, even at the risk of still further maiming of the environment.

But America's problems pale beside those of the underdeveloped world. In those areas, the rapid expansion of industry and agriculture has failed to keep pace with the new mouths which cry out for food or the new hands which clamor for work. The privilege of being born in the Space Age is no comfort to people who may be hungrier than their "less fortunate" ancestors.

Paradoxically, the roots of this cruel dilemma lie in the great strides made in conquering disease and famine. In primitive times, high fertility was necessary to balance the high mortality. But in the modern era, methods were discovered which greatly reduced mortality: sterile technique, inoculation against disease, sanitation, new agricultural methods. But if *death control* has been eagerly adopted by people everywhere, *birth control* has not. There is no cultural precedent for it. The cruel balance of ancient days has been destroyed, and humans proliferate unchecked as a result.

According to Lyndon Johnson's Panel on the World Food Problem, "the population in most of the developed countries (will) double in 18-27 years." Merely to stand still economically, these nations must double their food output, industry and public facilities — often the work of centuries — in less than thirty years. Not an enviable task. Not a *possible* task, without our most determined assistance.

In discussing India, the Johnson Panel further stated that "the most critical situation will occur about 1980, before any decrease in the rate of population growth can have much effect." So a crash birth control program, while vital, is not enough. Likewise, a crisis response to the threat of famine alone will be disastrous since, as Cornell biology professor William Keeton

warned, "the factor to watch out for, in theory, is not food — it's space!" Either a Great Famine or a relentless crush of people could unravel the delicate embroidery of civilization.

(If it hasn't begun already, that is.) Harrison Ambrose III, Assistant Professor of Neurology and Behavior, stated that "it's safe to say that stress will be produced by crowding." Various authors have suggested that crowding in animal populations results in high susceptibility to disease, poor maternal care, and high infant mortality. Is it not possible that a whole host of disorders (illness, insanity, violence, apathy) are linked to crowding, which is becoming even worse in the cities of America? As is common in the case of our most vital problems, little research has been devoted to this question.

Meanwhile, the underdeveloped nations have been striving to buy time by increasing their production of food. Dr. Kenneth Turk, director of International Agricultural Development for the New York State College of Agriculture is generous in his praise of such efforts. In an interview, he pointed to Mexico's "Wheat Revolution" as an example of what could be done. In only 25 years, Mexico pushed the average harvest of wheat per acre from 7.5 bushels up to 40 bushels. Impressed by the quality of the new wheat strains which made this miracle possible, Pakistan imported 41,650 tons of Mexican seed wheat in 1967.

Nevertheless, it is difficult to get individuals to accept new varieties of grain, as Turk indicated with a story about the International Rice Institute in Los Banos, Philippines. Trainees at the Institute were served a new strain of rice when the regular supply ran out. They complained bitterly, but adjusted to the new fare in time. Happily, supplies of the old variety were obtained after some weeks, but this rice, too, was resisted by the trainees, who had to adjust their taste buds all over again.

Whether by threat of famine, or by lure of profit, the new grain varieties *are* being used and accepted throughout the developing world. As Dr. Daniel Sisler of Agricultural Economics once said, "Peasants may be illiterate, but they are not ignorant."

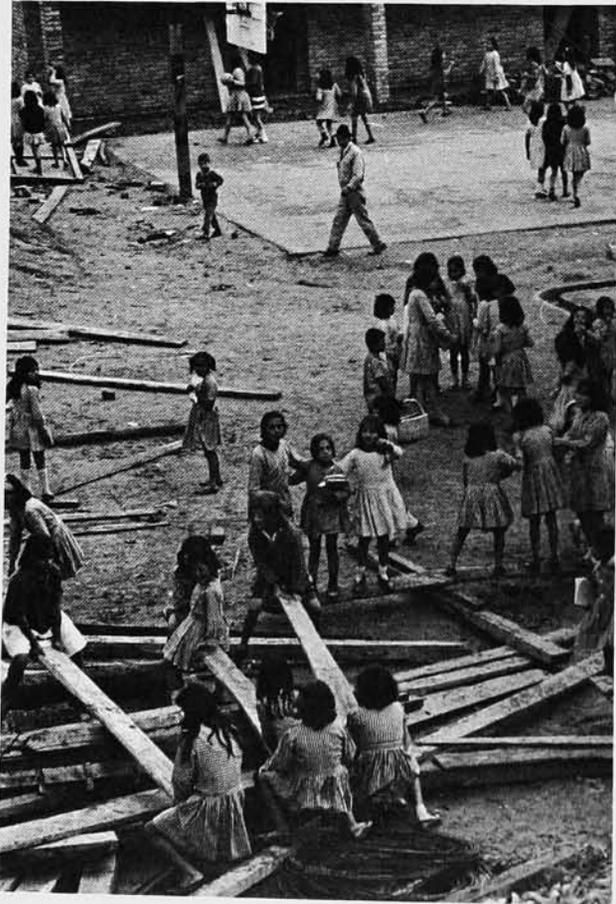
But Turk warned that "the problem is one of quality and not of quantity." Most grains do not provide sufficient protein for the needs of poor people who can't get enough meat. If it goes too far, Paul Ehrlich (author of *The Population Bomb* and professor at Stanford University) warned during a lecture on the Cornell campus, such a deficiency could blight succeeding gen-

erations. "The brain is mostly protein," he said, "so if you don't have enough protein, your brain doesn't make the grade." Fortunately, high protein strains of rice, corn and wheat are already in use. In addition, farmers are encouraged to rotate their grain crops with plantings of protein-rich peanuts and soy beans.

But poor nations face greater difficulties with their birth control programs. Methods of contraception common in America, such as "the Pill" or the rhythm method are either too expensive or too complicated to be used by their beleaguered citizens. As a result, some have been introducing "the coil" (also known as the I.U.D., or intrauterine device.)

The I.U.D. is a small plastic coil which is inserted into the uterus of women requesting help in birth control. The coil irritates (though not perceptibly) the uterine wall, stimulating the production of hormones which prevent fertilized eggs from developing into embryos. Unfortunately, many coil-fitted women have had the device fall out or cause vaginal bleeding. It is

In Brooklyn or Bogota, public facilities must keep pace with population or their quality declines with overuse. The playground and school shown are in Columbia.



feared that the ill health of poorly fed peasant women has been the cause of this development.

Work on more effective devices continues. Dr. John MacLeod of the Cornell Medical College nearly succeeded in developing a 100% effective male "pill" a number of years ago. In tests on prison inmates and on his research assistants, his pill succeeded in inhibiting the production of sperm cells for as long as it was administered. MacLeod and his staff were elated, until two of his assistants decided to celebrate their success with cocktails. It turned out that the pill was perfectly safe and completely effective — *except* when mixed with alcohol, which caused severe side effects. At present, MacLeod is experimenting along new lines.

Technical snafus are not the only snag, as Dr. Sisler discovered during a stay in Pakistan. By custom, Pakistani women are totally subjugated. It is forbidden for them to be treated by male physicians. Dr. Sisler reported that the women stay at home almost exclusively, "allowed on the street only when they're so heavily veiled that children have to lead them." This means that the government's birth control propaganda must be aimed at the husband, whose permission is needed before the wife can use birth control techniques. The men are very interested in the prestige of proven virility or in getting sons to help them work. One frustrated observer grumbled that "a fertility pill would find more takers than an effective male birth control pill." Traditions which hark back to the days when mortality was high fade slowly.

Nor is Islam alone in having such traditions. "I spent 10 years working on the assumption that human motivations were the problem," reminisced Dr. J. Mayone Stycos, director of the International Population Program, "and I spent the next ten years working on the assumption that human motivation *and* political and ideological problems are equally important." Stycos illustrated the importance of political considerations by pointing to the impact on Latin America of Pope Paul's decision not to reverse the Church's ban on birth control devices. Moderate politicians favoring population control find both conservatives and radicals arrayed against them. The right argues in favor of obedience to His Holiness, while the left looks askance at programs which it regards as "Yanqui tricks" to keep Latin nations weak by depriving them of a future work force.

In a recent visit to campus, Lawrence Slobodkin, Director of Ecology and Evolution at Stony Brook, described a similar split in the U.S. He warned that wild talk about sterilizing welfare mothers and excessive concern with controlling the population of the poor has convinced some that it is "a delicate form of genocide promulgated by the white community."

Slobodkin accused birth control crusaders of being “fantastically naive” for using moral arguments on the poor (to whom large families may be a source of security and pleasure) while ignoring those with the income to afford extra children. “Nobody talks to Mrs. Kennedy about population,” Slobodkin quipped. Stating that “reforms go hand in hand with birth control” he urged population-minded activists to support such measures as improved social security, child care centers and women’s liberation. On a nation-wide scale, such reforms would cause women to bear their children at a later age, thus decelerating population growth.

A variety of sound programs have developed throughout the world, despite the complexity of the population dilemma. Indeed, the approaches to the crisis seem to be as varied and novel as the many cultures in which they are applied. In Japan for instance, abortions have long been legal, and this seems to be that country’s main method of family planning.

In Pakistan, posters dot the countryside depicting a sated, smiling family group of five alongside a group of two tired parents and nine starving children. After fathering three children (and thus demonstrating their virility) men can collect a cash reward if they consent to sterilization. At various women’s centers, their wives receive child care information, sewing and cooking tips along with birth control advice. Meanwhile, Pakistani male physicians (who by custom can’t treat women) are training nurses and midwives to fit women with intrauterine devices.

In his recent journey to Cuba, demographer Barent Landstreet of the International Population Program



A Barrio known as Las Colinas, in Bogota. As bad as it is, poverty in the Third World is likely to worsen due to accelerating population growth.

noted a conspicuous drop in their birth rate. The government had not organized a birth control program as such, but “contraceptive facilities were provided to anyone who wanted them” as part of the citizen’s right to free medical help. (Due to the American boycott, the Cubans have been painstakingly manufacturing their own I.U.D.’s out of surgical cord.) Although the Cuban solution depends upon an extensive and reliable network of rural clinics, it is a hopeful sign to those demographers who pray that purely voluntary measures will be sufficient to avert disaster.

Ireland is not now plagued by a population overload, in part because social mores dictate that women stay single until they are in their late twenties. Demographers agree that reducing the breeding years in the female (and thus stretching the length of a given generation) is the most effective method for limiting a population. China may have adopted this approach by officially frowning on early marriages.

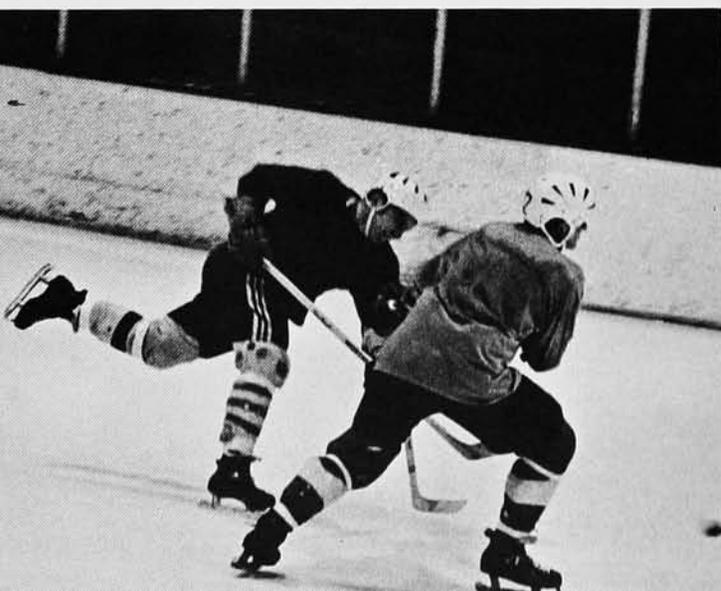
The President’s Panel on the World Food Problem has urged a “coordinated, long-term, strategic plan for raising the economic level of the developing countries.” Man’s battle against hunger and crowding will be long and desperate, perhaps lasting far into the lifetime of the children of children yet unborn. But there is hope, and there is much that nations and peoples can learn from one another. And if the fight is won, perhaps that learning together will be a victory of equal magnitude.





Hockey Practice

Six times a week, between five and seven in the evening, the Big Red hockey team meets in Linah Rink for practice. The team is lead by Coach Ned Harkness through a rigorous session of drills designed not only to build stamina, but also to perfect the fine points of the game. Practice usually begins with warm-up laps. Then Ned organizes drills such as scrimmages, which are similar to real game situations, or specific drills for one part of the team. The line may practice forechecking, or the goalie may practice defending against breakaways.



This Page: top – Coach Harkness sets up a forechecking drill.

middle left – Veteran and novice at the draw, John Hughes (rt.) and Craig Brush.

middle right – Slapper, Larry Fullan.

bottom – Kevin Pettit gets one by Jim Higgs.

Opposite Page: top – Steve Guiliani taking it out.

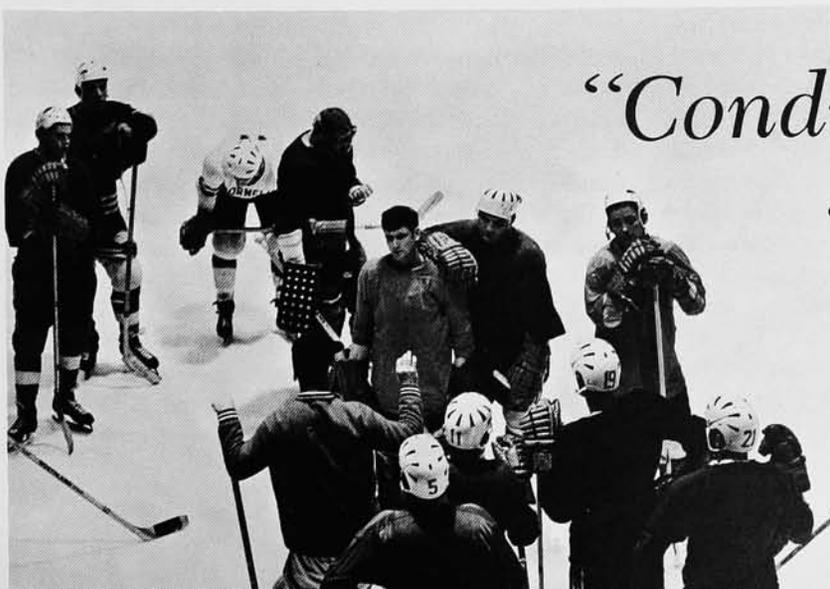
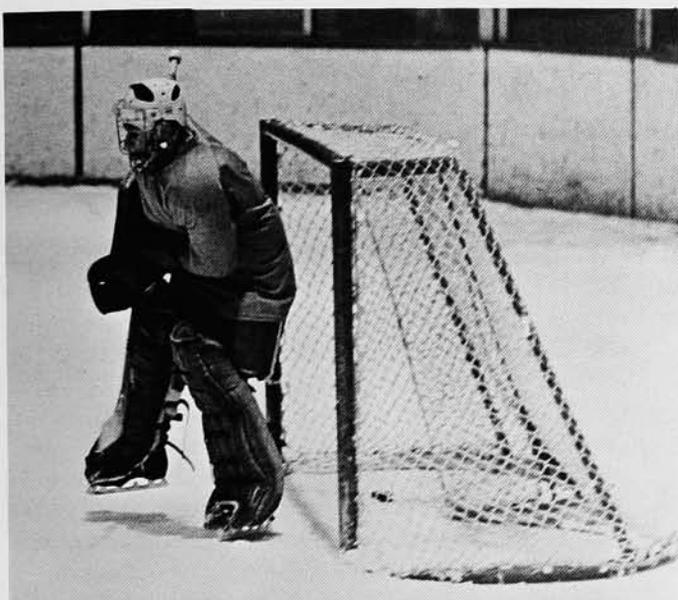
middle left – "The Stopper", Brian Cropper.

middle right – Tri-captain Dan Lodboa.

bottom – A final word at the end of practice.

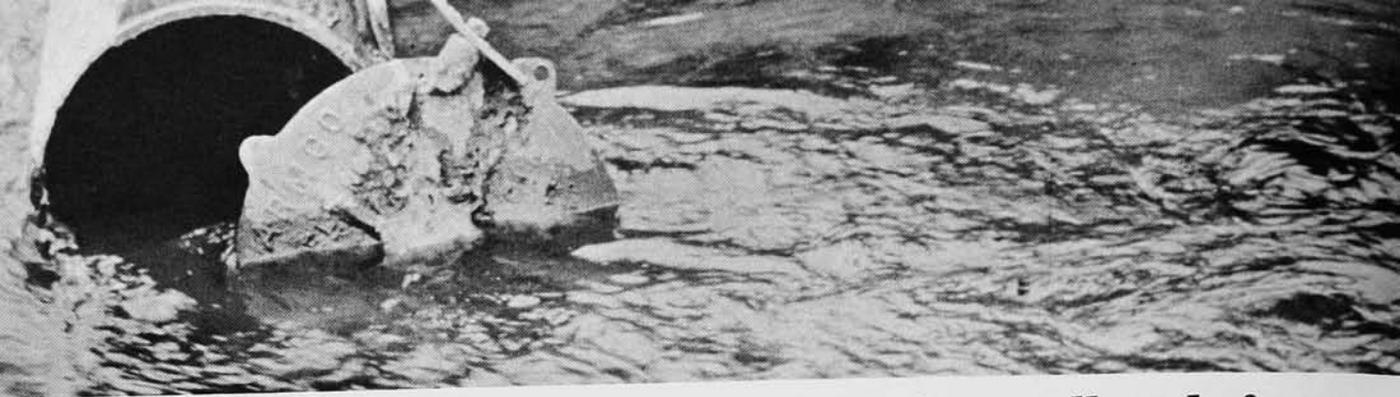
The effort that the players put into practice is as great if not greater than their performances during a game. Ned's verbal "encouragement" and the fact that they are playing against their best rivals makes practice fast and furious. The team is broken up into four lines and three defenses for practice. The four lines are the same as those used in standard game situations. The defenses, although often shuffled during a game, are usually set during practice. The Coach organizes scrimmages and drills so that each line plays all other lines and defenses. In the days before a game, the focus of practice progresses from more general work-outs to specific game situations such as penalty kills and power plays.

The combination of Ned Harkness' coaching abilities and the team's desire to win has been proven successful by outstanding records in the past and present.



"Conditioning" and "Refinement"

by SUE HOUGHTON '72
and
ED HARTMAN '70



pollution is target of cornell task force

by JAMES POGGI '71

Our generation has been referred to as one which will be remembered for hurling rockets at the moon while standing knee-deep in garbage. This bitter reflection on twentieth century technology seems to be borne out by the present state of our environment. Lake Erie can no longer support aquatic life. Some species, such as the American Bald Eagle, are becoming endangered because of DDT levels in their eggs which prevent them from hatching. Lake trout in many parts of New York State have been judged unfit for human consumption due to the high levels of pesticides in their body tissues.

Since pollution is so pervasive and involves virtually every phase of life and every ecological level, it is hardly surprising that many departments at Cornell are now concerned with research into diverse aspects of pollution. A great deal of cooperation and communication between the separate departments is necessary since so much of their work overlaps and their research is interdependent.

Recognizing the vital importance of having all concerned departments able to communicate and contribute their problems as well as the fruits of their research, the Task Force on Agricultural Wastes was established. Dr. Robert J. Young of the Poultry Science Department is chairman. The departments of Animal Science, Agricultural Engineering, Agronomy, Agricultural Economics and Food Science, both at Cornell and at the Geneva Experimental Station, comprise the task force whose main function is to look into the various problems involved in agricultural waste management. They are most closely concerned with organic pollutants which arise as a result of agricultural production. The first aspect of the over-all picture which was examined was the animal production industries, particularly the poultry industry.

The high concentration of the birds is the source of the pollution problem. A poultry farm of 200,000 birds produces a waste disposal problem equal to that of a city of 20,000 people. However, the birds may be confined to only a few acres while a city of 20,000 could occupy four square miles or more. To gain the high productivity necessary to make a profit, poultry farmers are forced to use this method of production.

A problem of odors occurs partly due to the large numbers of birds but, more importantly, because the exhaust fans of the hen houses concentrate the odors and blow them out in a single noxious current. In addition to finding a method of dissipating or decreasing the odors, the poultry farmers are also faced with the problem of disposing safely and inexpensively the solid wastes produced by the hens. Pressure for a solution is strong, since the poultry farmers share the Catskill region with a much larger resort industry which feels that it is damaged by such pollutants.

Education programs are being tried to help the growers realize the immensity of the problem and to find the best solution to it. Since each farm is a separate ecological entity with unique topographical and soil features, a unique solution to the pollution problem of each farm must be devised. This process takes a great deal of time and expense, often more than the farmers can bear and maintain financially profitable operations.

The duck raising industry on Long Island is a good example of an industry that has been radically changed by state pollution control standards. Each year about 8 million ducks are raised in the one county that borders Long Island Sound. Until recently, the growers allowed most of the waste of the ducks to enter the water. As a result, the Sound was becoming badly polluted and much of the fish life was dying or moving away.

Legislation was drafted to restrict the manner in which the growers could get rid of the wastes created by the birds. Of the 42,000 growers present before the legislation, only 33 remain. Many left because they could not cope with the restrictions of the legislation and operate profitably.

The Agricultural Wastes Task Force has recently begun looking into the problems of the food processing industries in relation to pollution. An immediate problem is encountered in this area since the profit margins in this industry are low and the producers cannot be expected to bear the total costs of getting rid of their pollution problems and still be able to make a profit. Part of the cost will have to be passed on to the consumer in the form of higher prices.

The wine industry, which uses much water to get rid of its wastes, is now conducting its own pollution research. Other food processors are also closely related to the problem. The freezers and canners use a great deal of water just as the wine producers do. The cottage cheese industry is creating problems because of the amounts of whey (thin watery milk) introduced into streams.

One of the biggest problems now facing the Agricultural Wastes Task Force is nutrient pollution, the deposition of nitrates and phosphates into streams and lakes. Put on the soil as fertilizer, they help stimulate plant growth, but when they run off into streams they cause eutrophication (rapid growth of algae and "seaweed") and upset the ecological balance of the area. Eventually lakes would become overgrown if this condition were allowed to persist. To remedy this situation, farmers are going to have to find better ways of draining their fields to prevent large run-offs of nutrients.

Dr. Ray Oglesby of the Conservation Department is concerned with the problem of how land use patterns affects water quality. Along with others, he helped prepare the lengthy study on "Ecology of Cayuga Lake and the Proposed Bell Station (Nuclear Powered)," which outlined some of the problems involved with a station which would use as much water for cooling as the Bell plant would have required.

Dr. Oglesby's group began by examining the water quality of Cayuga Lake and, although much work remains to be done there, plans are being made to extend operations over the rest of the Finger Lakes. Eighteen land use categories have been set up and New York State has been categorized according to these types. In the investigations, efforts will be made to see how and to what extent land use patterns affect water quality. Streams running into Cayuga Lake will be

checked regarding nitrogen, phosphate and cobalt concentrations at different levels of the streams to pinpoint problems of pollution.

Many different studies are to be carried on in Cayuga. Environmental needs of young fish will be studied, including such factors as oxygen level which is related to the amount of pollution. DDT levels of the fish and other members of the food chain will be scrutinized. It is already known that the higher up on the food chain one looks, the greater is the concentration of DDT and other pesticides.

Studies regarding lake trout in Cayuga will be simplified since the entire natural population was eradicated when a flood ruined their spawning beds several years ago. Now all the lake trout in Cayuga Lake have come from those introduced by conservationists as fingerlings. All the fingerlings have been tagged and it should be a relatively easy matter to chart their movements. Not much field work can be done in the winter months, but two major projects are planned for the spring. In the first project, fish are to be trapped and examined as they enter the inlet. The other project involves building of spawning beds at Myers Point for rainbow trout to study aspects of their spawning and life habits. By observing the habits and requirements of the fish in the lake, the effects that introduction of pollutants and subsequent changes in the ecology of the lake will be easier to determine.

Since pollution research is a relatively new field (it began in earnest about 10 years ago) the conclusions it has been able to reach and the problems it has encountered are not well-known to farmers and others who could benefit from this knowledge. Extension work has been begun to bring this knowledge to the public. In addition an Agricultural Waste Management Conference sponsored by Cornell was held in January. It was open to all those interested and brought experts on pollution problems from all over the country together. The theme of the conference was the relationship of agriculture to soil and water pollution.

Although much research is now being carried on in the field of pollution and despite growing public awareness, it is a young field and much work remains to be done. Few concrete conclusions have been reached and pollution research is still in the stage of groping with the immensity of the problems it is discovering. The solutions it eventually reaches will of necessity be complex ones, for they will have to embody aesthetic, economic and functional considerations. Pollution research today is only at the beginning of a long and tortuous road to finding solutions to the problems man has created.

ETV

COOL MEDIUM FOR A CHILLY CAMPUS

by **BARBARA GRAY '72**

One of the more definite resolutions resulting from the problems at Cornell last spring was that there was a need for increased and improved communication here between the students and the administration. One way of solving this broad and very common problem and establishing a better network of communications could be through the channels of the Educational Television Center of the Department of Communication Arts.

At the present time, because of the limited facilities, the T.V. Center is used in instructional programming mainly to service the Human Ecology College. A closed circuit system of fifty-seven television sets in the new wing of the Martha Van Rensselaer building broadcasts educational series into the classrooms. At the

beginning of this semester these sets were in use over six hours a day. For instructional purposes also they have been used in micro-teaching where student teachers can give presentations and then evaluate them when they are replayed on video-tape.

Another function of the Center has been the use of the facilities for research in the field of communication. At the present time a study is being conducted on the development of communication patterns in children. The experiments are recorded on video-tape and provide a good file of information for such a long term study.

The last main function to date is that ETV provides a public service broadcasting system. By the time this



*John Hershberger,
Director of the Center*

article is printed, studios in the new wing of Martha Van will be in use towards the production of these programs. One such program has been produced by a few members of the staff at the Center. Entitled "Poverty and the Campus," it was filmed in New York City in poverty areas such as Harlem. It was designed to acquaint the public with the resources that a university has to offer that reach beyond the campus to combat a major social ill. The announcement of this series is sent to county agencies who will inform the stations that might be interested in airing it or it may be sent directly to the stations themselves.

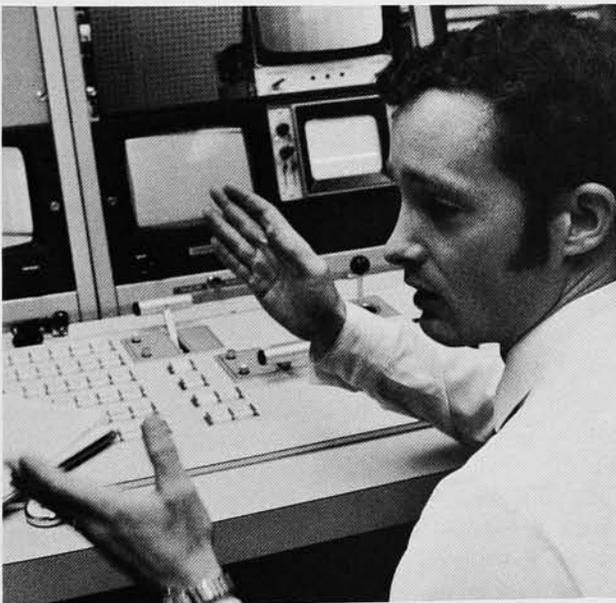
Future developments of the system include expanding the closed circuit network to involve other buildings on campus — possibilities being the dorms and administrative offices. This could be one answer in solving our problems here in communications. The campus would be better informed of activities that it should be more aware of. Student activities and administration announcements could do a better job of informing the community than relying on the impersonal hand-outs that are pushed into our hands everyday.

New programming possibilities have been looked into by the staff also. Many educational series on television which are ideally suited to the College of Human Eco-



Chief Engineer Ed Wright cleans the magnetic heads of a video tape recorder.

Neil Jacobs, at switcher console.



logy could be video-taped and broadcasted to the school through ETV. The problem with this now is that the Center cannot get a signal from different channels. They are now looking into screening a cable from the Statler building to tie into the Ceracche cable T.V. system in Ithaca. Ceracche is presently tied into Ithaca College. The Center could then receive signals from the twelve channels hooked up to this company and could send a signal to any one of these channels. A sum of 25,000 dollars is needed to run this cable to campus and the funding of it is being looked into at the present time.

The television media has a great many possibilities in the field of improving communication and education. With these improvements the Educational Television Center will help the University to offer much broader ways to learn and will help to improve understanding within our community.

Smog-free Nuclear Plants May Still Threaten Lakes

by OLIVE SCHAD '71

With the advent of nuclear power plants to meet the country's burgeoning needs for electricity, our natural environment faces yet another threat — thermal pollution. By the end of the century, the electric generating industry in general will be using about one-third of the daily fresh-water run-off in the United States for cooling, if they continue with their present cooling processes.

Thermal pollution, the addition of heat to a body of water, results in a reduced usefulness of the water for other purposes. Although this type of pollution has only recently gained public attention and concern, it has been around on a small scale for a long time.

At Cornell University, Dr. Clarence A. Carlson, assistant professor of fishery biology, explained that thermal pollution became recognized as a foreseeably serious problem in the last year to two. Carlson was among the biologists investigating the proposed construction of a nuclear power plant on Cayuga Lake by New York State Electric and Gas Corp.

"Before nuclear power plants," Carlson explained, "we have used fossil fuel plants in the country's conversion of heat to electricity. The fossil fuel plants are electrical generating plants which convert heat produced by the burning of coal, oil or gas into electricity."

The nuclear power plants, though more efficient in the production of electricity than fossil fuel plants, bring greater heat discharges to our aquatic environment. The nuclear power plants use a nuclear reactor which contains a nuclear fission chain reaction to produce heat. In contrast, the burning of fossil fuel produces steam which is then used to spin a turbine that turns an electrical generator.

Thermal pollution, which occurs in inlets, bays, lakes and rivers, results in the replacement of temperature-sensitive fish species by temperature-tolerant species, as well as affecting other aquatic forms of life. A typical occurrence with an excessive heat load added to a body of water is that the diatoms, which are important parts of the aquatic food chain, are replaced by the less desirable blue-green algae.

Carlson warned that there is also an addition of radioactive materials to the water; a problem which he and other biologists have been trying to bring to the public's attention with regard to Cayuga Lake.

He further explained that although nuclear power plants are not adding highly significant quantities of radioactive material, much of today's scientific literature states that any increase in radioactivity can be expected to produce some biological risk to aquatic organisms, and people as well.

Possible means of thermal control are cooling towers, which either have a high consumptive use of water, or are too expensive; or man-made cooling reservoirs. However, "the cooling reservoirs would require an estimated 1,000 or 2,000 acre pond to take care of heat from a 1,000 megawatt electrical generating plant," Carlson said.

He cited statistics showing that the nation's "120 nuclear plants, both proposed and in operation, would use the equivalent of about 150 Connecticut Rivers in their water cooling process."

Despite these grim statistics, the need for electric power in this country cannot be ignored, as it doubles every six to ten years. If we are going to avoid further blackouts like we had in the northeast in '65, we are going to have to have something to augment power supplies that now exist.

Even with the prospects of pollution, many people feel that nuclear power plants are necessary if the country is to meet its power needs. Carlson proposes that the nuclear plant on Cayuga Lake be built, but in such a way that it would not have to discharge its heated water directly back into the lake.

If thermal pollution is not going to become another critical pollution problem, science will have to consider the long term effects as well as our immediate goals and needs. Perhaps modern technology will devise a means whereby the heat produced by power plants can be converted into a useful nonpolluting by-product.

COUNTRYMAN CAPSULES

Arson H. Rowe, '07, Feuna Bush, New York, spends his winters in Bradenton, Florida and the rest of the year lives in a house on land purchased by his grandfather in 1841.

Roy L. Gillett, '17, Delmar, New York, reports that he is plenty busy and enjoys retirement.

Ray Bender, '26, Westport, New York, formerly county Agricultural Agent in Essex County, is now a part time reporter for the Press Republican, a daily newspaper publishing in Plattsburgh.

Dr. Clement G. Bowers, '23, Maine, New York, has been a member of the Cornell Plantations Committee for 20 years and serves in the Southern Tier East Regional Planning Board.

Charles W. Lyon, '39, Liverpool, New York, is completing 30 years of service with the Farmers Home Administration, U.S.D.A. and is presently Chief of Real Estate Loans in Syracuse.

Charles G. Ashe, '36, Fayetteville, New York, is Regional Sales Manager for the Kendall Company. His son, Andy, graduated from Cornell in 1969 and is now in the Syracuse University Law School. A second son, Dick, is a junior at Colgate.

Stuart A. Allen, '42, Waterville, New York, with his brother operates a potato and vegetable farm and farm market in Waterville (Allen Acres.)

Hollis A. Hatfield, '48, Wheaton, Illinois, is Assistant Director of Research for the American Farm Bureau Federation.

Glenn D. Nice, '41, Canandaigua, New York, is completing 28 years as County Agricultural Agent in Ontario County. His son, Paul, is a freshman in the College of Agriculture and a member of the freshman basketball team.

Allen A. Hayner, '59, Louisville, Kentucky, got his start in extension work with **Al Lounsbury** in Saratoga County, New York. (Lounsbury is now a vice president of the College of Agriculture Alumni Association.) Hayner currently is in Advertising Sales with Specialized Agricultural Publications, Inc. of Raleigh, North Carolina.

Naomi Leith Culkin, '53, Millbrook, New York, is Farm Office Manager at Walbridge Farm — breeders of registered Angus.

Richard B. Strangeway, '50, Graliansville, New York, continues to be a teacher of Agriculture at Graliansville, a department he started

in 1950. He also serves as Secretary-Treasurer of the Agricultural Teachers Association of New York.

Floyd R. Haff, Jr., '59, Bliss, New York, is a Junior High Guidance Counselor at Lefchworth Central School.

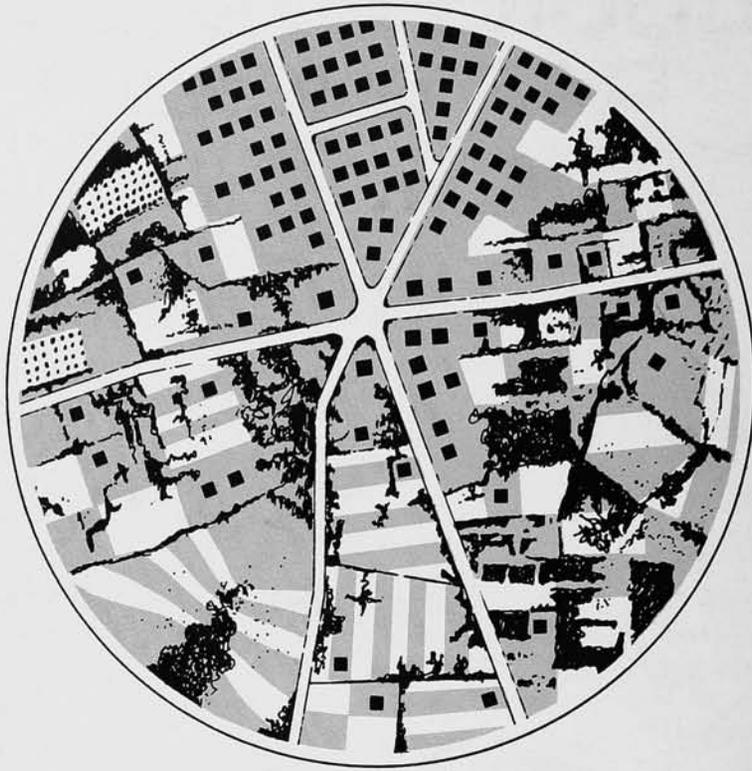
William G. Huchn, '53, Wolcott, New York is Raw Products Manager for Comstock-Greenwood Foods of Newark, New Jersey.

James J. Maynard, '63, Chillicothe, Illinois, is an engineer for the Caterpillar Tractor Company. Jim is the father of two future Cornell boys — ages 5 and 3.

Jo Piotrowski, '68, Harvard, Massachusetts, reports that she is Conservation Coordinator for the Liberty Council of Schools, a Federal project which encourages teachers and students to become "environmentally aware."

Donald J. Kenyon, '65, Fredonia, New York, is General Manager of Woodbury Fruit Farms Corporation of Dunkirk.

Gail Murphy, '68, Milwaukee, Oregon, is Assistant Manager in the apparel section of one of the Fred Meyer Stores, one of the larger chains in the Portland area.



Improving Our Environment

That's one of the major goals of the New York State College of Agriculture at Cornell University. The College is vitally concerned about the wise use and protection of land, water, and other natural resources and about the well-being of rural and urban people alike.

There's much evidence of this concern in research, teaching and extension activities of the College, but these three recent examples illustrate what we are talking about:

- *On October 29, 1969, several hundred leaders attended our Forum on Environment Quality – with emphasis on pollution.*
- *On November 15, 1969, the College announced that it was removing DDT from most of its 1970 recommendations.*
- *From January 19-21, 1970, more than 200 industry, education, and research leaders throughout the U.S. and Canada attended our Agricultural Waste Management Conference which had this theme: "The Relationship of Agriculture to Soil and Water Pollution."*

Yes, modern agriculture in the Empire State accepts its share of the responsibility to help improve the quality of life for us all.

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no. 6

CORNELL COUNTRYMAN

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ON THE COVER:

*Jerome Holland, Newly Appointed
Ambassador to Sweden*

PICTURE CREDITS:

Cover — Werner Wolff — Black Star; *page 3* — CUA; *page 4* — Alumni House; *page 5* — Sol Goldberg; *page 6* — Communication Arts; *page 7* — Bill Conine; *page 8* — Will Elwell; *page 9* — Elaine Robbins; *page 10* — E. Nickerson Staff; *page 13* — East Hill School Student Newspaper.

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JEROME HOLLAND:

Next Stop Sweden

by MARTIN SENNETT

When Jerome H. "Brud" Holland graduated from the New York State College of Agriculture at Cornell University in 1939, he had compiled an outstanding record as a student and an athlete. He was an elected member of the junior and senior honor societies and had been elected to several All-American football teams as an end in both 1937 and 1938.

Yet, even with this distinguished record, Jerome Holland was not offered a job upon graduation; in fact, he was not even interviewed. This — because he was black — and American industry had no place for the educated black man in 1939.

Today, Dr. Jerome Heartwell Holland is the United States Ambassador to Sweden, named to that post last January by President Nixon.

Yet, before he rose to his present prominence, Dr. Holland had to battle the prejudice that threatened to contain his talent and stifle his ambitions. It would have been easy for Holland to become a bitter man, to turn his back on a society that chose to ignore his intelligence and ability. But if he was bitter, he did not show it.

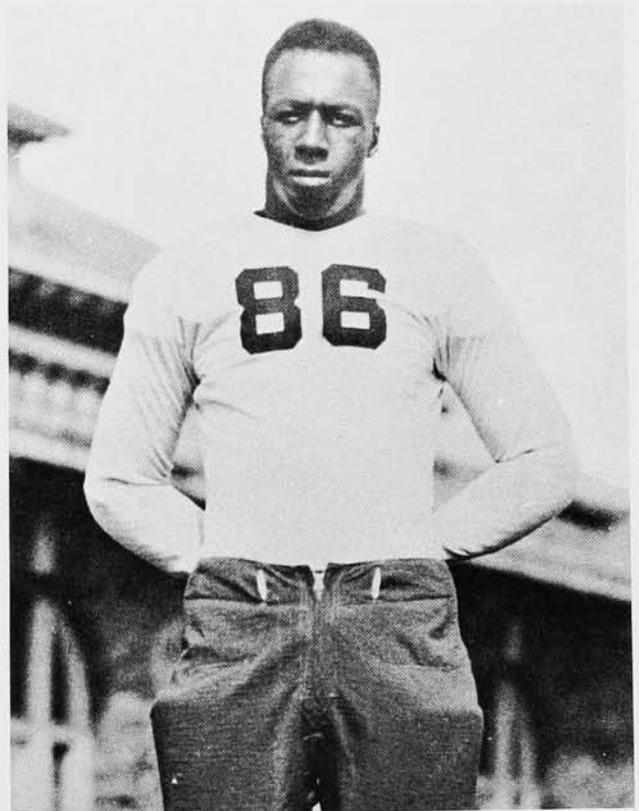
As he could not get a good job with business or industry, Dr. Holland decided to continue his education. He went on to get his master's degree from Cornell and a doctorate in sociology from the University of Pennsylvania, while, at the same time, maintaining teaching and coaching positions at Lincoln University in Pennsylvania and at Tennessee Agricultural and Industrial University.

In 1953 Dr. Holland became president of Delaware State College in Dover. Under his direction the predominantly black school became an accredited institution, and the faculty and physical plant were considerably upgraded and expanded.

Dr. Holland left Delaware State College in 1960 to become the president of Hampton Institute, the predominantly black 102-year-old college in Virginia. Hampton had a proud heritage as a leader in black education when Dr. Holland arrived. From its founding in 1868, when it had two teachers and 15 students, Hampton had grown to an institution with 1,500 stu-

dents, 125 faculty members, and an endowment of \$20 million. Still, there were serious problems that faced the institute. There had been no new construction since 1929, and many of the educational facilities were badly out of date. To a certain extent, some curriculum offerings were also out of date and therefore did not reflect the expanding opportunities of the sixties.

Realizing the college's potential and the need for a greatly expanded Hampton Institute, Dr. Holland set out to upgrade the school. By working through alumni, foundations, and the general public, Hampton was able to raise its endowment from \$20 million to \$32 million by 1970. Under Dr. Holland's leadership, a building pro-



"BRUD" HOLLAND: ALL-AMERICAN '37, '38



Brud Holland with Walter Cronkite at the ceremony where Holland received the Salvation Army's Citation of Merit — the highest award the group gives. The citation is given to those who have shown "outstanding service to God and Man." Previous recipients include Presidents Hoover, Eisenhower, and Johnson; Cardinal Spellman, Billy Graham, Thomas J. Watson and David Sarnoff. Dr. Holland has served as: Director of the American Red Cross, the National Conference of Christians and Jews, the United Negro College Fund, and the Experiment in International Living.

He has also served as trustee of the Virginia Museum of Fine Arts, on the Board of Planned Parenthood-World Population of Greater New York, and is a Fellow of The American Academy of Arts and Letters. He is also a trustee of Cornell University and a member of the Board of the Corporation of Massachusetts Institute of Technology.

gram that eventually encompassed 17 buildings valued at some \$27 million was also completed. The student enrollment was raised from 1500 to 2700 undergraduates, with 300 students pursuing graduate degrees. The faculty was increased from 125 to 187 professors.

Inasmuch as Holland has spent most of his adult life working in education, it is not surprising that it is through education that Dr. Holland sees the most promise and opportunity for black people in the United States. Dr. Holland explains this view in his recently published book, *Black Opportunity*. "For the Negro who has either a college degree or some special training . . . the opportunities are virtually unlimited."

And, while it was a career in business and industry that was closed to Dr. Holland when he graduated from college, Dr. Holland now feels that it is in those two areas that the opportunities lie. He notes, "the greatest opportunities for Negroes to play an equal role in American life is through the full participation in the private sector of the economy." The key to this opportunity, Dr. Holland feels, is not merely schooling, but ". . . the full development of our children intellectually, morally, and psychologically, so that they accept equality as a natural right."

In *Black Opportunity*, Dr. Holland backs up his arguments with impressive documentation. Outstanding is the example of Hampton Institute itself. When Dr. Holland first came to Hampton in 1960 there were no recruiters from business or industry visiting the campus, and job hunting for graduating seniors was a difficult and frustrating experience. When he left Hampton a decade later, more than 195 recruiters were visiting annually and 85 per cent of the Hampton seniors were offered jobs "at a professional, technical, or managerial

level at salaries identical to those of white college graduates with equal training."

Equally promising is the recent cooperation between Hampton and some 20 major industrial concerns including American Telephone and Telegraph, General Motors, and General Foods. Under a recently innovated program, the firms involved work with the college faculty to design new courses of study to help students gain the kind of training and background that industry needs. Work-study programs offer financial and technical assistance to students, and summer internships in industry help faculty members keep abreast with the rapid changes in the business world.

However, while such recent events do seem encouraging, Dr. Holland warns that we must not be blinded to the fact that inequalities still exist in our society. Public schools in Negro communities have been consistently ignored and neglected and must receive immediate attention. Special consideration must also be given to the predominantly Negro colleges where 60 per cent of the black youths are educated. Most crucial of all, however, is the need for ongoing programs to initiate changes that will eradicate some of the social ills that cause many young Negroes to become mentally and emotionally adjusted to being second-class citizens. Without such a change in our society, the increasing educational and career opportunities may well be wasted.

Yet, Dr. Holland is basically optimistic, and in a statement accompanying his recent resignation from the Hampton Institute, noted that "mankind has within its grasp the intellectual, scientific, and technological sophistication to recognize the major social problems and challenge them successfully."

We certainly hope he is right.

Just Horsing Around

by SCOTT HALLABRIN

Each year Cornell University provides an outlet for all of her frustrated "jocks" by sponsoring an intramural athletic program consisting of 24 different competitive sports. Some participants play for blood and some just for the fun of playing, but of all 24 sports in only one can you blame a loss on something besides the referee or yourself. This enjoyable but often frustrating sport is called broomstick polo.

Broomstick polo isn't polo in the ordinary sense. Though not many people are familiar with the intricacies of regular polo they know that it involves riding a horse and clubbing a ball into some type of goal. Broomstick polo entails carrying a broomstick while riding a horse and, due to lack of expertise amongst the participants, the only goal is a designated wall on one end of the playing field. A soccer ball serves as the clubbed object, although several observers at these games would say that the ball isn't quite often the center of attention. A typical score of a broomstick polo match would resemble that of a hockey game and the size of the field is approximately two-thirds that of a football field. While players in regular polo wear uniforms, helmets, and are equipped with saddles, broomstick warriors ride bareback and don a variety of blue-jeans and sweatshirts. Many a team's morale has been shaken when a potential broomstick star couldn't master the art of riding bareback.

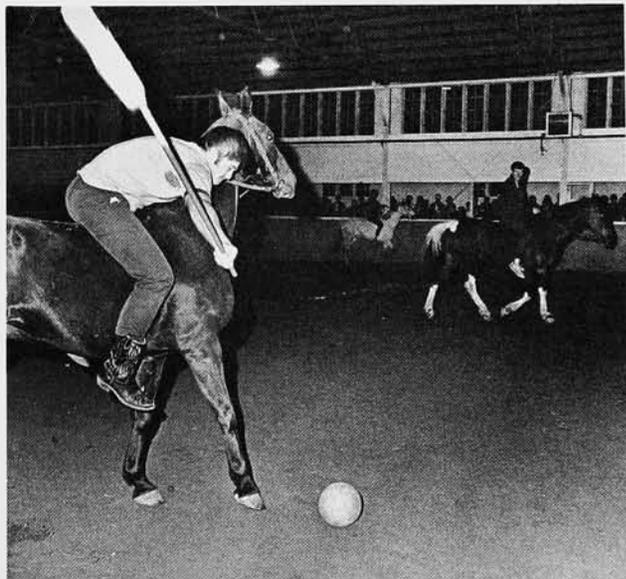
Played between chukkers (the equivalent to quarters of a football or basketball game) of the Cornell Polo Club's games in the Cornell Polo Barn on Saturday nights, observers describe broomstick polo as hilarious fun between the action of intercollegiate polo. Participants in the matches would rather not think of their endeavors as "hilarious" and defend this by saying that most observers at polo games are good riders anyway. Nevertheless, everyone agrees that the broomstick matches are fun and that's why the sport was instituted.

The intramural broomstick polo season lasts from October through April and operates as a one game elimination tournament. Team applicants for the sport are limited to 52, whether they are grad students, independents, fraternities, or freshmen. Teams have three players, each wielding a taped broom and mounted on

steeds of varying qualities. The usual procedure for receiving the horses is that each squad gets one trained former polo horse and two other nontrained horses. The best rider on each squad will naturally take the best horse while his unfortunate teammates end up with horses which, according to one broomstick veteran, "are not only scared of the ball and broom, but of the other horses as well." The basic problem confronting the broomstick equestrians, then, is not a lack of athletic prowess, but an inactive horse. "It's not a great feat of horsemanship that wins games," continued the veteran, "just dumb luck."

What the game comes down to is a combination of two players riding after the ball and the other four trying to manipulate their horses. A typical sight during the five-minute game is a player being carried in circles about the field screaming, "What's wrong with my horse?" and a disbelieving stableman replying, "Quit pulling on the left rein so hard, even the reins up!"

So if you're looking for a deviation from the grueling intramural schedule where it seems as if every game is a "must," go out to the ole barn on Saturday night and you'll find that any ole horse *won't* do in broomstick polo.



Innovations in Communications

by MARYA DALRYMPLE



The new Communication Arts Graduate, Teaching, and Research Center, opening next September, will serve as a center for Communications research.

One early Saturday morning in January, 16 energetic Communication Arts professors and other staff members, dressed not in their usual suits and ties, but in the rugged attire of either junkmen or movers, trekked down to 640 Stewart Avenue to "christen" the new Communication Arts Graduate, Teaching and Research Center. Six truckloads of fraternity remnants later, what used to be the old Phi Sigma Delta house — and originally the Robert Treman home — had begun to reflect its new character.

The house, which has been rented from the University for an initial three-year period and which will be refurbished by September, was made available to the department through the assistance of Dean Palm. It will serve as additional classroom space, particularly for lab courses, and as the center for communications research. In addition, it will contain offices for graduate students and faculty as well as a darkroom and the *Countryman* office. Plans include one large classroom, several seminar rooms, and a reading room.

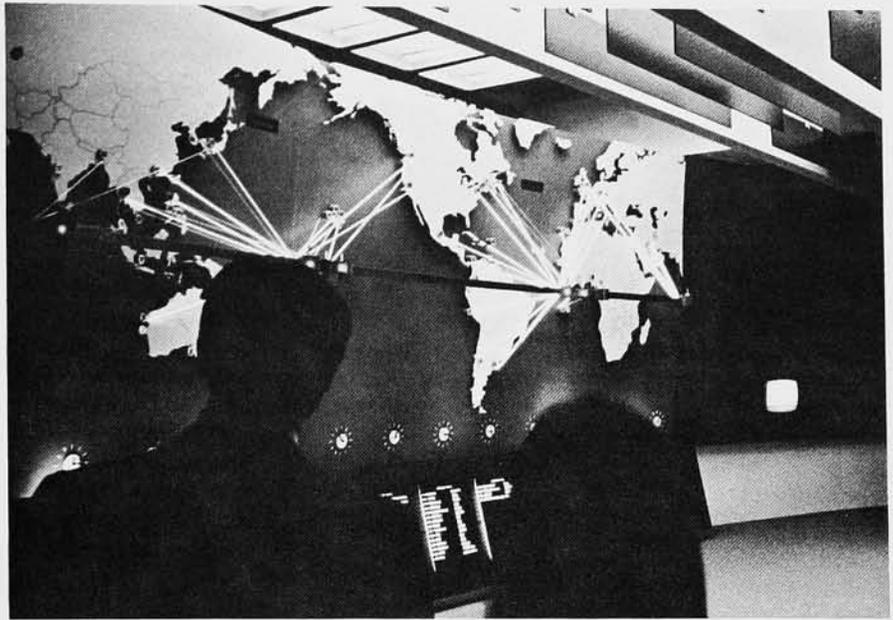
Such additional space has been needed for some time by the growing C.A. department, but it was the inception of the graduate program, to begin in September 1970, which necessitated immediate acquisition of the fraternity house. Applications are presently being processed to determine who the first Cornell communications grads will be. Professor Robert Crawford states,

"We have received applications from as far away as New Zealand and even one from a Johns Hopkins physics major who obviously has changed his mind about physics." Until the program becomes firmly established, however, only 10 to 15 applicants will be admitted.

There is no doubt that the new graduate studies will be deemed worthwhile. Unlike any other graduate program in communications in the United States, Cornell is focusing on the strategic application of communication knowledge and technology, rather than on technical competence in media operation. Students who fulfill the requirements of the program will receive a Master of Professional Studies Degree—Communication Arts, and be able to find careers in industry, educational institutions, foundations, media, government and international agencies and other complexes in which organized public communication is a key concern. Emphasizing the application of scholarly and scientific knowledge to concrete communications situations, professors will train students to analyze communication processes, to explore new techniques, and to apply what they have learned to specific problems.

This theoretical teaching approach to communications is gradually replacing the methods ideology because of its relevance to current communications on national and international levels. The University of Missouri,

Communication Arts majors watch Apollo 11 splash-down at COMSAT headquarters on a recent Washington field trip.



which for years has trained hundreds of journalism majors in practical rather than theoretical communication, is now structuring a new approach similar to Cornell's. Other universities are certain to follow.

The growth of the undergraduate program in C.A. at Cornell in the last ten years is an example of the new interest in the field that is occurring throughout the country. In 1959-60 there were 857 students from nine colleges and schools in the university taking communication arts courses. In contrast, the 1969-70 enrollment had increased to 1618 students. "We would like to be able to serve more students each year," states Professor Charles C. Russell, "and we think the Graduate Teaching Center will allow us more freedom to do so."

Service has always been a major tenet of the Communication Arts department. For example, all publications for Cornell's agricultural extension service and experiment station go through the editorial processes of the department. In addition, communications professors are frequently called on to handle workshops for agriculturally related as well as industrial groups. "In particular," emphasizes Professor Russell, "our department has been interested in passing on the wealth of our experiences in building a communications program to visiting foreign guests who wish to create such programs in their own countries."

This desire to help developing foreign nations has been further promoted by the international activities of department members. Professor William B. Ward, department chairman, spent six months in India in 1968-69 under the auspices of the Ford Foundation, laying the administrative groundwork for the institution of communications centers at new agricultural universities. The efforts of Professor Ward permitted Professor

Royal D. Colle to leave in February for Uttar-Pradesh Agricultural University in India to actually establish a communication center involving information services and an academic and research program. This is a great step forward for Cornell's international image. In addition to these gentlemen, Professor Russell Martin has worked with the Ministry of Agriculture in Nigeria, Professor Robert Crawford in both the Philippines and Indonesia, and Professor Victor Stephen in Latin America.

While international communications are an important part of communications activities at Cornell, there is also research being done related to more local problems. Professor Jack Barwind is involved in a Northeast Regional Project called "Paths Out of Poverty." It deals with content analysis of extension type messages to determine why they fail to reach and stimulate the rural poor. Further research is being carried on related to attitude change as a function of the level of organization of a speaker or auditor. Currently, the speech section is attempting to improve its courses by teaching one course three different ways to determine the most effective method. Additional use of video tape and coordination with the Ithaca College speech department are also enhancing Cornell's communications program.

With a new center, a man in India, an exciting graduate studies program, and constant research, the Communication Arts program is hardly stagnating. The relevance of its courses to what's happening in America today, from youth movements to racism to international relations, has made Communication Arts a challenging, indispensable, and widely demanded field of study.

A Living Alternative

by WILL ELWELL

In West Danby, beyond the trailer camps, the desolate, snow-drifted dirt roads, beyond the cider man and the "Posted: No Trespassing" signs, beyond the abandoned cottages and farms, is Dawes Hill. Here is a rural community organized on a communal basis, where the members create and build both their yurts and themselves as a group.

The commune found life last summer when several individuals, some Cornell students and graduates, pooled their resources to buy 60 acres of a tree farmer's land and an abandoned hunting lodge for only \$9000.

Now, seven Mongolian huts, or yurts, are scattered throughout those 60 acres. Yurts are both a functional and practical means of architecture. These insulated huts sustain heat from old-fashioned stoves and there is sufficient lighting during the day from the hole in the roof, the windows and door. Because of the struc-

ture and materials used, each yurt is well protected from wind, rain, and snow.

The yurts are constructed as part of the surrounding environment rather than apart from it. The materials used and the locations of each individual yurt indicate a strong relationship between each unit and the environment around it. Through the use of yurts, these individuals are attempting to relate themselves to the environment rather than to destroy it. There is an integral relationship existing; and this factor has stimulated the people to promote further interrelationships between each other and their environment.

Some of the commune members are subsistence farmers; others rely on craft handiwork. But they all exist with interest in and for each other. They live as a family. They must do this in order to survive; survive a three-week isolation period because of heavy snows; survive the destruction of one yurt and the damaging of two others during a very hard winter.

When these people came to West Danby they were afraid they wouldn't be accepted because of their appearance and their life style. But fortunately their neighbors, people who hold strong values and standards — the country folk — have accepted them. It is a two-way system. The commune appreciates their neighbors' understanding and the country folk appreciate what the new community is trying to achieve.

The people of the commune are not attempting to isolate themselves from the rest of the world. The group at Dawes Hill wants to be seen by others as a communicant of a model society. They know this is not an answer to society's problems, but a break away from the social structure.

These are pioneering people, happy in a new way of life.



Commune members hard at work preparing for the winter months ahead.



The yurts are constructed from insulation, rope, and lumber. The estimated cost for each hut is \$100-\$150, depending on individual wants and needs.



A happy moment more than makes up for the hardships one must endure.

The hunting lodge serves as the center of activity. Here, meals are shared and members gather to discuss plans and projects or just "rap" with each other. There is no electricity, but kerosene lamps give sufficient light during evening hours.



LEARNING BEYOND THE CLASSROOM

by STEVE POLIAKOFF

The semester is over. You've just spent 15 weeks writing down every possible theory the professor could spout out. Where do you go from there?

If you happen to be enrolled in Professor Harold Feldman's course, Perspectives on Poverty, you're likely to jump into your car and head for New York City to a special conference designed to show how theory works in real life situations.

Dr. Feldman initiated the conference in conjunction with his Human Ecology course on poverty. Taking place during the intersession period, the conference was designed to give more meaningful depth to curriculum studied in the classroom during the semester. The conference format aimed to allow participating students to examine and critically evaluate poverty problems and their proposed government solutions.

Each day of the three-day conference approached the problems of poverty from a different perspective. The opening day was devoted to touring Nassau County and evaluating the headway made by government agencies in meeting the needs of the poor. On the second day, students concentrated on educational approaches to enable poor people to secure adequate jobs, and on the third day, the group examined the Cornell-South Brooklyn Office of Economic Opportunity (O.E.O.) project to explore how university resources can be used to train the poor so they can overcome their own problems. Thus, the classroom theories could be related

to actual programs — and thereby the students could evaluate both the strong points and the shortcomings of existing poverty policy.

For instance, within Nassau County students were able to view a successful and innovative food distribution program.

One of the main criticisms of food surplus distribution throughout the country has been that the poor are forced to take only what they can carry. Since an average monthly allotment, under most programs, amounts to about 40 pounds, much of the free food that the poor are entitled to is never utilized. Under Nassau County's program, a record is kept for each participating family served by the food distribution center and the family can come at any time to pick up any portion of their allotted amount. In this way, Nassau County poor are at a decided advantage over rural poor who do not have such a system working for them and who thus can only get what they can carry initially.

Another policy change made in Nassau County was designed to make government agencies more accessible to the poor. This was accomplished by simply incorporating 20 different agencies under one roof in the Co-operative Service Center in the Nassau town of Rosevelt.

Some of the students' most insightful experiences were derived from interviews with top community officials. When the group interviewed county executive and gu-

Students examine crafts projects made by the residents of the A. Holly Patterson Home for the aged. At left, Nassau County

Executive Eugene Nickerson and Cornell Professor Harold Feldman confer about projects for the welfare poor.



“... in many areas the hands of local government are tied by state legislatures.”

bernatorial candidate Eugene Nickerson, he summarized his position for poverty programs throughout New York State, saying “the major sore point in local government operations are state Republicans who lack the necessary ideological association to help poor people.” Mr. Nickerson went on to say that in many areas the hands of local government are tied by state legislatures. He cited the erection of low-income housing and day-care facilities as areas in which state government hampered local authorities.

While Mr. Nickerson seemed to blame state government, his constituents were apparently blaming him. Addressing the group at the evening dinner, Mr. David Derienzis, head of the Port Washington Community Action Council, called local government bureaucratic and ineffective in meeting the needs of welfare mothers.

At the close of the day's activities, it was asked if we shouldn't re-evaluate the aim of all poverty programs; for if Nassau County, with an abundance of wealth, is unable to satisfy the needs of its poor, how could we expect poorer communities to do so?

Questions concerning education were of prime concern to the students. In examining the educational needs of the disadvantaged, the group observed New York City Public School 155 with Principal Louis Fuentes, paying particular attention to several teaching innovations being used to help the adjustment of the minority child. The first was the ungraded class, which allows the child to progress at his own pace, the second was the bilingual class taught in both Spanish and in English. The idea behind this type of organization is that simply because a child has to learn English does not mean he cannot be studying math or history in Spanish. Critics of the program have argued that the most effective way for the child to learn any foreign language is to be forced to use it and nothing else. They go on to say that if he is expected to work in an English-speaking environment, he should be taught to deal with English as soon as possible.

After the examination of classroom teaching, the group met with another educator, Mr. Rhody McCoy, superintendent of the Ocean Hill-Brownsville school district. Speaking to the group on educational policy, Mr. McCoy said, “Policy brokers have co-opted the thinking of poor blacks and given them something such as integration to go after, supposedly representing their views. But the people in this community are not just concerned about integration; they're concerned with how to survive—physically.” Commenting on educational testing, Mr. McCoy refuses to use the N.Y.C. Board of Education standardized tests. For those children within

his school district new educational goal levels will be determined based upon realistic achievement possibilities of the child. After these have been set, teachers within the district will be expected to work to bring the child to his achievement level. Special guidelines will be established to aid the teacher in this task.

When queried by Dr. Margaret Feldman as to whether he would make such standards available to the outside educational community, Mr. McCoy responded by implying that he did not think this would be possible since outside sources in the past have hindered educational progress in his district.

Another afternoon session was spent with Miss Dora Gomez, a former district teacher and present head of the day-care extension service whose main function is to serve as a children's center, not for working mothers, but for mothers who need care for their children in the evening so they can attend local group meetings such as the P.T.A. Her review of the decentralization bill made the problems faced by lower class area residents seem quite evident. As Miss Gomez pointed out, local school board election is based on local resident voting but the majority of the parents in the area with their children in school are not registered voters and will thus have no say in the election.

On the last day of the conference the group explored an O.E.O. project in South Brooklyn. Funded jointly by Cornell University and N.Y. State O.E.O. the experimental project is an educational program for ghetto residents. Its purpose is to train local workers in home management and consumer education. Workers are employed to assist individuals and families in the community buy goods economically while avoiding the traps of the credit system.

Through the use of local residents, this University project is able to create jobs and establish trained community workers who can carry on after the projects completion.

It is hoped the success of this conference on poverty will lead to similar academic exercises to give many more courses added relevance. It is also hoped that through such student participation, the University will be able to adopt a more expanded role in providing resource material for the correction of social problems such as the establishment of a permanent urban center which could place students into meaningful positions of community employment. Such a center would also give interested students new types of educational field experiences in urban community development—types of experiences that expand learning through actual involvement.

Elementary Education

Finds New Forms

by MARCIA WITIES

A student learns only when he himself is interested enough to learn. Otherwise, no matter how well-planned the system is, it cannot hope to succeed in educating its students. This is the theory applied to much of the restructuring in colleges today. Yet the individualized, informal approach to learning may be used for all the grades. Right now, it is applied experimentally at the East Hill School located near the corner of State and Stewart Avenues in Ithaca.

East Hill is a public elementary school in an old red brick building where some exciting and innovative things are going on inside. Under the guidance of principal Dan Lee, the school is experimenting with a new unstructured system of learning that emphasizes individual growth and fosters an intense child-adult relationship.

There are no numbered classrooms or even classes in the conventional sense. The rooms are labeled by various subject areas. There is the Numbers Room, the Today Room, the Word, Science and Art Rooms, and others. The children know that they can borrow books from the Big Room (the library), can learn to read at the Today Room, and can play in the Rug Room (so named for one of its facilities).

The traditional concepts of the grade and class have even been abolished. The children can participate in the kinds of activities in which they are interested, when they feel like doing them. Although they all know their own grades, the children are not differentiated by levels or ages. A third grader can join the same project as a sixth grader . . . and a first grader can enjoy the same activities as the fourth grader.

The school strives for individual growth in a personal, flexible system. The child is given much freedom to choose his activities but is expected to spend his time wisely. During the daily half-hour homeroom, each child at East Hill plans how he will spend his

afternoon. He may decide, with the guidance of his teacher, for example, to spend a half-hour in the Science Room, an hour in the Numbers Room and the remainder of the afternoon in the Word Room. The schedule he plans, however, is not so rigid that the child cannot spend a longer or shorter period of time in any activity in which he becomes involved. If he does not feel like continuing in an activity, he may simply walk out of the room — no questions asked.

Children can be seen roving from room to room in the afternoons. It is *their* time to get involved in their own work, to pursue an old project, or to learn something new. They are free to wander between activities until they find one that really appeals to them. Or they can simply read, play, or listen to records on tapes.

The mornings, however, are devoted to small group projects. Each teacher selects a project, or direction, for his group to get into. The children sign up for whatever project they wish, and then are expected to attend regularly each morning for its duration, usually three to four weeks. These morning sessions were only started in January. During the fall term, the children had scheduled short periods for their entire day.

Many teachers appear pleased with the new morning project system. It allows the children to get involved in one area in some depth. Yet there are still no formal lesson-plans nor regular class lectures. The flexible, child-centered approach is maintained, and the topic is handled in many perspectives.

One of the projects offered is called American Indians. The children in this group learn about the Indians' history and culture. They hear their folklore and song, and make totem poles and crafts. Another group called Creating a Civilization is inventing language and number systems, founding countries, and designing new animal and plant species.

For those students interested in more scientific pur-

suits, there is a group now trying to "grow" a crystal. With a periodic chart on the wall and a simple chemical equation on the chalkboard, many of the older children are discovering some of the fundamentals of chemistry. There are also four foreign languages available to the children: French, Russian, German, and Chinese. Other projects include the Space Project, Foods, Time Machine (dinosaurs), and Flatlands.

The school tries to make the sessions refer to something real, according to one teacher. "We try to relate the project to what is actually going on out there," he said, glancing toward the window. "Something they can understand in terms of their own world."

No school is complete without its newspaper, and East Hill is no exception. Imaginatively titled, "East Hill Newspaper," the six-page bulletin is published by the children each week and sells for five cents. It contains some of their outstanding compositions and poetry, as well as school reminders and paid advertisements.

Several of the children are also involved in the Photography Club where they are learning about the dark room and how to take good pictures. In fact, this group held a special exhibit-sale in Anabel Taylor Commons between February 3 and 16. As one of their posters read, "We are having it (the sale) for fund raising to buy film and flashcubes. Price 50¢ to \$15. Please come."

Of course, a school operating under an experimental system is dependent on many adults working with the children. For this reason, East Hill has many volunteers (college students, ex-students and parents) cooperating who come in regularly for full or half days. In fact, an ad in a recent issue of their newspaper read, "Attention: Mrs. Peters is looking for a mother to exchange sitting in order to do volunteer work at East Hill. She is very nice and beautiful. So please call her at ___"

The role of the teacher at East Hill has changed too. They are not simply imparting facts to the children, but they are trying to make learning really exciting. They are guiding the children in the direction in which they seem most interested and are helping them to discover more of the world around them.

East Hill's system, like any other, is not without problems. Yet none of the staff could agree on the one biggest challenge the school faces. Some think that the school is too large to serve its goals, while others contend that some children lack the motivation and self-discipline on which this kind of system relies. Yet, the children do seem happy and involved in their work. They are learning at their own rate in an unstructured system where flexibility is key.

"This may be the most important feature of the system—its ability to change," commented one of the enthusiastic volunteers. "Children are changing every day, and the system ought to be able to change too."

OPINIONS OF STUDENT GOVERNMENT

All this is about people who do not like student government.

David Nordheimer: I think it could do better.

Rex Nordheimer: I don't think it is very bad. They don't give little children bad jobs.

Melanie Smith: Actually, I think that everyone should resign.

Tim Histed: It is good in a way, because they want to stop all the bad things in the school.

Blake Smith

Student government plays a vital role at East Hill School as evidenced by these excerpts from the East Hill student newspaper.

97 students and teachers signed the petition to the student government demanding that school-wide meetings be held to make rules and to discuss problems. As yet, the student government has taken no action in response to the petition.

A CHILLING TALE

by CHRIS AGER

If there are still places in the area where the old timers gather to sit and talk, this past winter has given them a fair amount of conversation. They may have been able to tell the winter would be severe from the size of the spider webs last summer, or by how many nuts the chipmunks and squirrels put away, but the winter this year surely exceeded their expectations. Not only has the snowfall been unusually heavy, but temperatures have, on the average, been much lower than in recent years.

For one of the fellows sitting around the stove (or electric heater, if it is a more new-fangled store) to remember a winter as cold as this one, he would have to be close to 60 or more years old. According to Dr. A. Boyd Pack, New York State Climatologist and assistant professor of agronomy, the last winter that was as frigid as this was 1917-1918.

This year there have not been as many individual days with extremely cold temperatures as in recent winters. However, the cold has been much more persistent in general. For instance, during the 1968 winter season the temperature dropped several times to 20 degrees below zero, compared to this year's low of about 17 degrees below; but there have been many more days this year when the temperature has fallen from zero to 15 degrees below.

Also, the weather in Ithaca generally stays consistently below freezing for only two or three weeks at a time, then warms up for a while. This winter, the temperature was almost continuously below freezing between December 14 and January 24 — nearly six weeks.

Ithaca's chilling weather is caused by a polar cold front which descends on North America every year. This mass of cold air moves south across the country. The boundary between this mass and the warm southern

air is generally near the Carolinas. The front moves somewhat up and down, often coming far enough north to give us warm weather such as that on Groundhog Day this year. Unfortunately, however, the polar front has been vacationing along the Gulf Coast near Florida for most of this winter. This has not only given the southern states colder weather, but has also increased the distance between the southern air mass and New York, thus making it much less likely that any of that nice warm air can reach us.

But, winter is more than just cold weather. Cold weather by itself is no real problem. Snow can make things a bit more complicated.

Ask the old timers. "Why, back in '08 we had snow that was sooo deep . . .!" Figures for this winter's snowfall vary from place to place (according to the fluffiness of the snow), but Dr. Pack gives a figure of 70 to 75 total inches through January. He also notes that this is more than the usual average total through April.

Our snow comes from three general sources, north, east, and west. Due to a lack of mountains and other barriers, Ithaca is directly exposed to cold air which crosses the Great Lakes. When it hits the barrier of the southern plateau, we get the moisture back (or *in* the back when we have to shovel it). New York also lies between the major storm tracks of the Atlantic coast and the midcontinent to the west. We catch at least the edges of most major storms traveling along these routes.

Although many people would like to blame part of the bad weather on air pollution, Dr. Pack points out that we had years of colder weather and heavier snowfall at various times in the past before pollution became a problem. Perhaps in the future, smoke and chemical particles in the air may locally or briefly affect the weather by producing more nuclei on which precipitation can form, explained Pack, but at present he sees the effect of pollution as negligible.

The fellows chewing the fat at the country store, gas station, bar, or what have you, may also worry about what the rest of the winter will be like. Groundhog Day in Ithaca was warm and cloudy, so the furry little rodent couldn't see his shadow. This supposedly meant warm weather was on the way. Yet, *the very next day* the temperature fell to near zero and we got another few inches of snow dumped on us. (Events like this make one lose faith in groundhogs!) When Dr. Pack (who is reputedly more reliable than the groundhog) was asked for his predictions for the final days of winter, he noted that the weather could possibly get worse or it could improve. Yet, he optimistically asserted, winters tend to average themselves out and possibly the severe early part of the winter will be moderated by a milder late winter.

The groundhog agrees, so maybe it's true . . . (but don't count on it).

COUNTRYMAN

CAPSULES

Charles E. Palm, Dean of the New York State College of Agriculture at Cornell, has been elected chairman, the highest office, of the Division of Agriculture of the National Association of State Universities and Land-Grant Colleges. As Division chairman Dean Palm also acts as chairman of the Executive Committee which is comprised of members from all sections of the Division of Agriculture. These sections include Cooperative Extension, Resident Instruction, Experiment Station, and Chief Administrative Offices (composed of the over-all Deans of the Colleges of Agriculture). In 1969 Dean Palm served as chairman of the Chief Administrative Offices section.

Herbert Handleman, '29, White Plains, New York, reports that he is now semi-retired but remains as President of Handleman's Garden Center in White Plains.

John W. Kiernan, '56, Sherburne, New York, is Director of Chenango area B.O.C.E.S. occupational center, serving ten area high schools.

Wilfred D. Brown, '37, Jamestown, New York, reports that he is out of farming and now selling mutual funds.

Lt. Col. Carl A. Dellgren, '31, Yonkers, New York, is a Procurement Analyst at the Defense Supply Agency in Philadelphia. Carl is working in the Perishable Subsistence field.

Herbert J. Dietz, '52, Delhi, New York, is District Principal of Delaware Academy and Central School in Delhi. He is also vice-president and a member of the Board of Directors of the Delaware Cooperative Extension Service.

Daniel Fitzpatrick, '59, Shutesbury, Massachusetts, has been appointed Associate Dean of Students at the University of Massachusetts. Daniel had spent the last three years as Director of Student Affairs at the University of Michigan.

Donald W. Richer, '50, Middletown, Ohio, is managing the centralization and functionalization of Order Service and related Computer Operations of the pre-engineered building business at the Armco Steel Corp.

Clifford E. Lloyd, '33, Pine Bush, New York, is teaching geology at Orange County Community College. His free time is spent traveling in North America.

Raphael L. Bellinger, '37, Watertown, New York, is the district agent for Farm Family Insurance Company.

Alan S. Palm, '65, Washington, D.C., is working as an economist for the USDA and writes that he is enjoying Washington.

John F. Austin, '65, East Harlem, New York, is working for the New York City Addiction Services Agency as Assistant Administrator for Prevention. John is now married with a three-year-old son.

J. Joseph Brown, '46, West German Street, has just accepted the position of Executive Director of the Herkimer County Chamber of Commerce. He has just retired as an Extension Agent after spending 30 years with the U.S. Department of Agriculture. He is also arranging tours for farmers and agribusiness leaders to other parts of the country.

Ross R. Hayner, '42, Burt, New York, writes that he is Manager of the Niagara Chemical Division of the Northern Agricultural Department.

Thomas W. Rhodes, '63, Horseheads, New York, is operating a dairy farm in partnership with H. W. Roberts, '68.

Russel Hill, '34, Spencerport, New York, is building an 18-hole golf course with his twin brother Warren. It is to be called Twin Hills.

Edwin L. Kirby, M.Ed., '54, has been named administrator of the Federal Extension Service in Washington, D.C. He had previously been associate administrator.

Joseph D. Peck, '60, Saratoga Springs, New York, owns and operates a 45-cow dairy farm. He has just completed a 92-cow free-stall barn and milking parlor.

Jim Frazer, '26, Rye, New York, is the treasurer of the Rye Conservation Society.



FOOD and AGRICULTURE-
POLICY for the 1970's

AGRICULTURAL
LEADERS' FORUM

MARCH 26, 1970

ALICE STATLER AUDITORIUM
CORNELL UNIVERSITY
ITHACA, NEW YORK

The Public is Invited

The policies established for food and agriculture have a major influence on our total society. They involve a complex of economic, industrial, educational, and social challenges. The New York State College of Agriculture proudly announces the speakers for the Agricultural Leaders' Forum for 1970 who are equipped to generate thought and discussion about these matters.

Representatives from local, state, and national policy levels will be: The Hon. Clifford Hardin, Secretary of Agriculture, who will discuss agriculture's new dimensions; Charles Shuman, president, American Farm Bureau Federation, will relate the voice of organized farmers; the Hon. Jacob Javits, U. S. Senator, will speak on the problem of food for all our people; and Ralph Winsor, Harpursville, N. Y., will represent the voice of the young farmer.

Dean Charles E. Palm, N.Y.S. College of Agriculture, will open the Forum at 9:45 a.m.

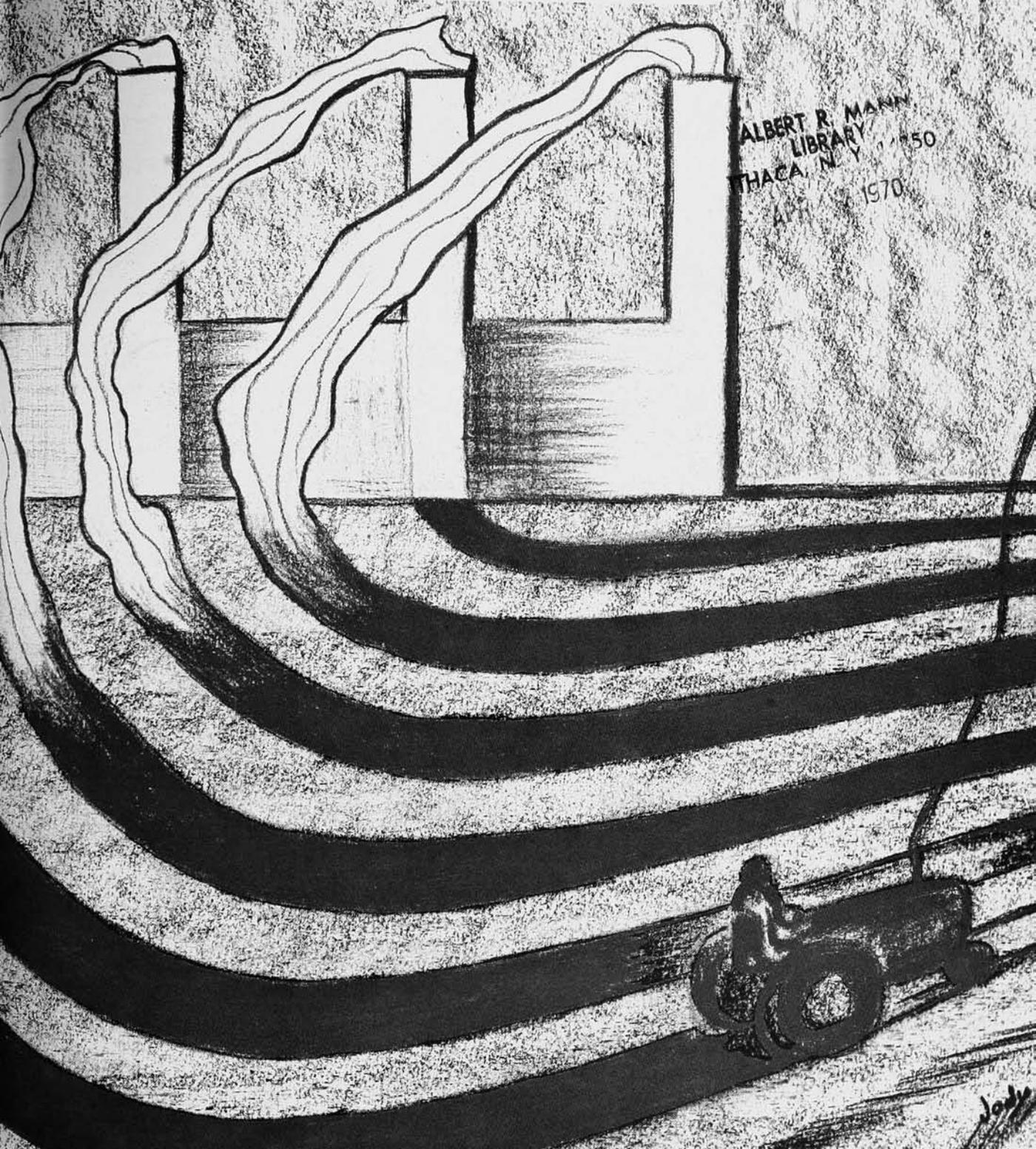
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THE UNIVERSITY AND SOCIAL POLICY: CHALLENGE AND RESPONSE

TENTH ANNUAL INSTITUTE OF THE NEW YORK STATE COLLEGE
OF HUMAN ECOLOGY, CORNELL UNIVERSITY, ITHACA, N. Y.

APRIL 16, 1970

ALICE STATLER AUDITORIUM

9:15 A.M. - 3:30 P.M.

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ON THE COVER:

Charcoal and Crayon by Jody Siegle

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Inroads Into Agriculture

by **RODGER BECK**

According to the Urban Development Corporation by the year 2020 there will be 25 new cities in New York State. Each of these new cities will have a population of about 35,000 people. This is going to require 300,000 acres of land somewhere in the state. If these projections are accurate it could mean that a large percentage of the land required for these cities will come from the prime agricultural areas.

In an effort to prevent arbitrary devastation of viable farm land for this and other urbanizing processes, Governor Rockefeller in May of 1968 by Executive Order No. 26 established "in the Department of Agriculture and Markets an Agricultural Resources Commission to encourage the science of agriculture in the state, to provide for the participation of agriculture in economic planning and related activities."

The Agriculture Resources Commission (ARC) is now developing a program that will ultimately assure future generations of this state the prime agricultural land so needed by a rapidly increasing population. Under the able leadership of Gordon Conklin, editor of the *AMERICAN AGRICULTURIST*, the Commission is resolutely striving to attain this goal. During a recent interview Conklin stated: "It is the conviction of the Commission that New York can have a highly developed industrial state as well as maintaining the very viable agricultural economy we have enjoyed in the past."

The Commission, in its quest to preserve the farm land of the state, maintains a close relationship with the Office of Planning Coordination (OPC), an arm of the Executive Department in Albany. The OPC has the responsibility of coordinating such agencies as the State Department of Transportation and the Department of Conservation. In other words, its job is to make sure that each of the state agencies does not go off in its own separate direction in the development of a state plan for urbanization and location of public facilities.

"One of the major problems has long been with the Department of Transportation," asserted Conklin, "because it appropriates private land in larger magnitude than any of the other state agencies. It does this constantly for both new roads and the modification of old roads." This issue, however, was alleviated to some extent when the State Legislature formalized into law a recommendation that a liaison be created between the Department of Transportation and the Department of Agriculture and Markets. In essence the law assures agriculture an input into road building.

The problem here is two-fold. Not only is there a devastation of prime agricultural land, but there is also the problem of the exercise of the power of eminent domain. According to Conklin, "All of us tend in a big way to resent the high taxes of any government body. We tend in a vague way to accuse the politicians of various things. But when it comes right down to specific gripes, the one I think I hear as often as any is the matter of being dispossessed of land under circumstances with which the land owner is somewhat less than pleased."

Along these same lines Governor Rockefeller has taken some executive order steps that have the potential of helping a great deal with this problem. In a recent message to the legislature he asked that an eminent domain commission be formed to study the problem in depth. And Conklin as Chairman of ARC thinks "he is absolutely right in putting his finger on this particular problem."

Another problem area in the coordination of state government agencies lies in the Department of Conservation and its administration of the Division of Water Resources. This agency is involved with the planning of the water resources which inevitably involves building dams. When dams are built, large acreages of land are

“When you start building any kind of barrier to land use . . . you begin to meet dynamic resistance.”

inundated. Naturally people living in these areas become upset, especially if the areas are prime farm land. “So far ARC has not formalized any kind of liaison with the Department of Conservation, although a representative of the Department of Conservation is an ex-officio member of ARC,” says Conklin.

In its short existence ARC has a number of accomplishments to its credit. One of these is the prime role it is playing in the production of a movie which will demonstrate to the non-farmer the importance of farm output in the total economic scheme of the state. The script for this movie is being written by the Department of Agriculture and Markets. The movie itself is being

Gordon Conklin, Chairman of ARC



funded by agribusiness farm organizations as well as the Department of Agriculture and Markets.

A second accomplishment of ARC is the involvement it has had in the passage of a bill which exempts real estate improvements on bona fide farms from taxation for a period of five years. “What this bill really means is that if you either remodel a farm building or build a new farm building, you can apply to your assessor and he will carry the value of these improvements in a separate set of books. There will be no taxes on them for five years. This encourages farmers to make capital investments in their businesses and encourages them to stay on the farm until they recover that investment,” commented Conklin.

A third accomplishment of ARC is that it was instrumental in the creation of an economic viability map of the state that shows the intensity of farming on a broad scale and points out the prime agricultural land needing protection. This was done with funds from OPC, but was created by people at Cornell.

The ARC is constantly proposing new methods by which agricultural land in the state might be preserved. Two such proposals soon to be made to Governor Rockefeller to modify the urbanization pattern of New York involve building fences around certain kinds of agricultural land and creating prime agricultural districts in which certain modifications would be made in the exercise of eminent domain.

The former proposal would involve the erection of barbed wire fences around an area such as the mucklands of west central New York to signify to the developer that these lands are off limits to him. “Though this would not completely exempt these regions from invasion by the power of eminent domain, it would at least make it very difficult for urbanization to reach them,” said Conklin.

The latter proposal, that dealing with the modification of eminent domain powers, is less formalized. “As I see it,” Conklin remarked, “this would eventually designate certain prime agricultural land areas over the state in which farmers could make long range investments and

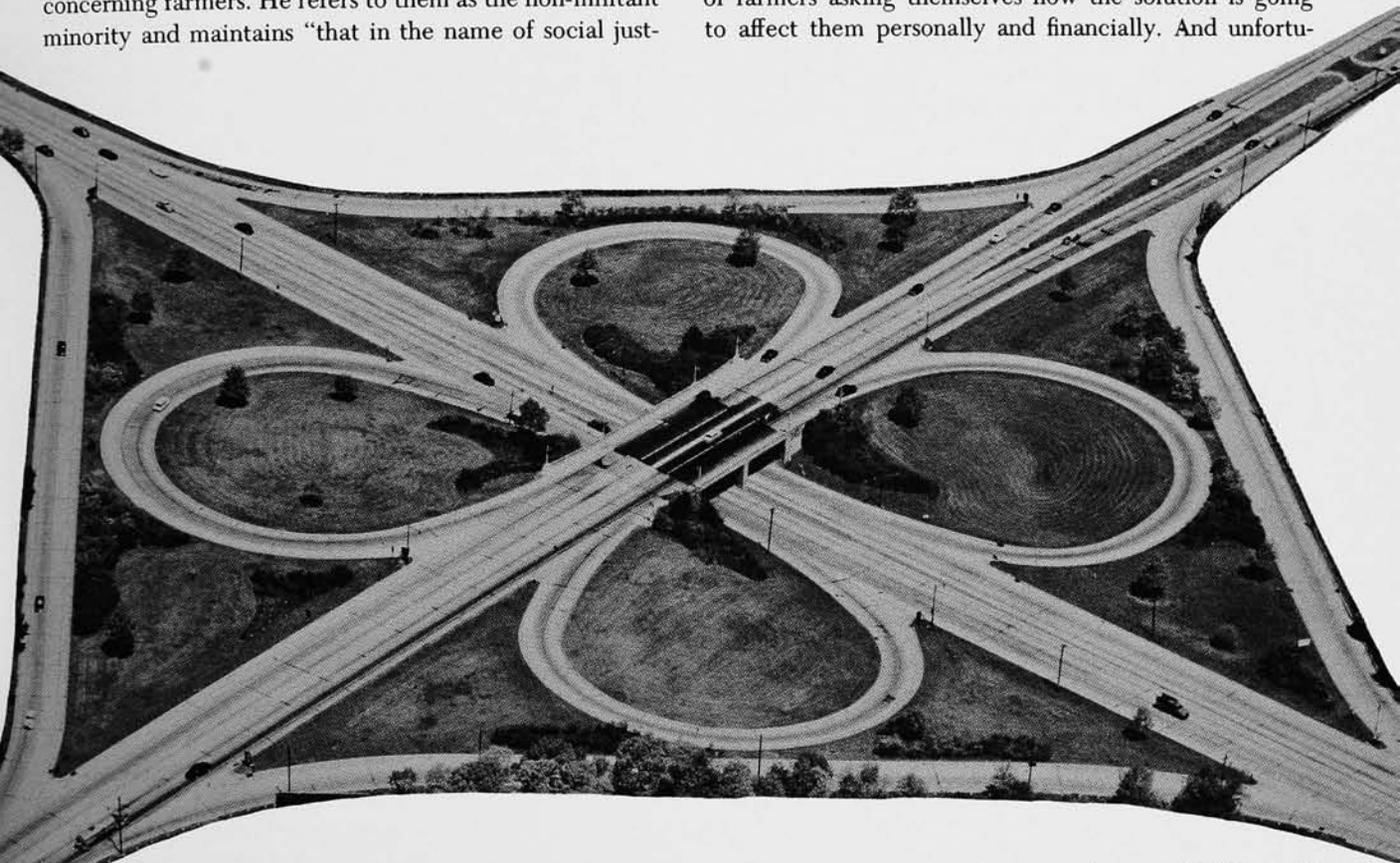
where they could be relatively certain agriculture has priorities over other uses.”

One of the motivating forces behind the Commission is the belief that farmers, having less than an equal voice in public decisions, should be represented in a more equal light. After all, farmers own 40 percent of the total land surface of New York, but they are less than one percent of the voting population. Therefore, it is perfectly possible in the democratic process where the rule is one man, one vote that farmers could be dispossessed of their land on behalf of the “public good.” And this could be done in a way which is quite unjust.

In this regard, Conklin has an interesting philosophy concerning farmers. He refers to them as the non-militant minority and maintains “that in the name of social just-

A number of other states have followed New York’s lead and have become very much concerned about the rapid diminishment of agricultural land. These states include Maryland, Pennsylvania, Michigan and others. But the outlining of general problems and the implementation of recommendations are different things. A wide consensus can be found for the need to prevent pollution, for example. But when the problem reaches the solution stage and when people get down to the “nitty-gritty” of the mechanics of the solution, the consensus then begins to falter.

In this same vein Conklin commented that when a proposed solution is arrive at, “you begin to find a lot of farmers asking themselves how the solution is going to affect them personally and financially. And unfortu-



ice this minority should be represented in the councils of government where decisions are made on planning and also in the councils of private concerns that make decisions that effect farmers and their land.”

Another of the driving forces behind the Commission is the desire to maintain a high-quality environment. It is no secret that farm land has great significance in ecology, in the control of air pollution, in conserving the soil, and in regulating water flows so that it is augmented in the summer. It is Conklin’s opinion “that a prosperous agriculture over a large area of the state would make a very significant contribution to the maintenance or even the enhancement of the quality of the environment.”

nately you find some farmers who would like to be ‘protected’ until they reach retirement age. Then, suddenly, they would like to become unprotected so that they can sell their land to the developer for a large price.”

Over and above minor problems such as this, the objectives of the Commission have found a wide degree of agreement among both rural and urban people. But Conklin commented in summary, “When you start building any kind of barrier to land use, you inevitably begin to influence and affect the financial status of people. You begin to meet dynamic resistance. However, to date we have found a wide degree of acceptance of the Commission and its objectives by both farm groups and urban groups with whom we have met.”

Cornell's New International Living Center

by LUIS CABALQUINTO

David B. Williams: "It is like Christmas in September. It has been a long-standing need. To see it become a reality is a source of joy."

Clifford H. Clarke: "I am very pleased. It is a big step forward. I have high hopes for it."

The object of this enthusiasm from the Director and Assistant Director, respectively, of Cornell's International Student Office is the International Living Center scheduled to open in April this year.

According to Clarke, the Center is intended to provide a unique opportunity for Cornell's foreign and American students "to be involved in the development of an internationally oriented community of students, faculty, and staff." The Center is also intended "to encourage greater awareness of and response to the international concerns in the Cornell community."

The International Living Center will use the entire facilities of the newly-built North Campus Unit 8 Dormitory. It will provide living accommodations for 144 foreign and American students. These living accommodations include four units divided into clusters of six-person suites. Each cluster of suites is provided with a study room, living room, and kitchenette.

In addition, the Center has a central kitchen and a large lounge area. The central kitchen is to be used for special events planned by international student organizations at Cornell. In the basement a self-service laundry room has washing machines and dryers for use by the Center's residents.

A visit to the Center with Clarke gave us a good impression of the building's facilities. "Rather luxurious," Clarke said. We agreed. But considering what Cornell students pay for similar accommodations outside the campus, the proposed rent of \$750-\$755 for a single room (\$700-\$725 per person in a double room) per school year seems reasonable. This is even more true when one also considers the extra services and other benefits that will go with living in the Center.

To preserve the international character of the Center, Clarke said that efforts will be made to maintain a 60 percent foreign student to 40 percent American student ratio. Ideally, there should also be a one to one ratio of male to female residents.

First consideration for admission to the Center will be given to applicants who are graduate and upper-class undergraduate students over 20 years of age. A "significant" number of entering students will also be given

priority. Freshman will not be admitted for residence at the Center. A system will be devised by the residents to keep a 60-40 ratio of new students to old students in the Center. A lottery may be used to determine which students will be allowed to live in the center for successive years. Except for the head residents, married couples cannot be admitted for residence at the Center.

House rules, activities, and programs involving the resident students will be initiated and carried out by the residents themselves, with the help of a house council. This council will be composed of the head resident couple, two resident counselors, and other members to be elected by the residents from among themselves.

Students admitted will be assigned to rooms in such a way that "heterogeneity" will be preserved, according to Clarke. As much as possible, a suite will be shared by students of different nationalities. No two adjacent suites will be assigned to students coming from the same country. "One of the aims of the Center is to discourage the formation of 'international ghettos' on or off the Cornell campus," Clarke said.

In addition to student living accommodations, the International Living Center will provide office space and equipment for Cornell's international student organizations. The meeting rooms, study rooms, lounges, as well as kitchens may be used by these groups for community programs and other activities. At present, there are 20 such organizations in the Cornell campus. A committee composed of resident and non-resident students representing the various international groups at Cornell will devise and enforce the rules governing the use of the Center's communal areas.

The activity inaugurating the new International Living Center will be a seminar-workshop to be held for returning foreign students on April 9-12, 1970. This workshop will bring together foreign students attending colleges throughout this country for open discussion of the difficulties and adjustments facing the foreign student while he studies in the U.S. as well as when he returns home.

Applications for residence at the Center for fall, 1970, are now being accepted. Forms may be obtained from the International Student Office, 142 Day Hall, Cornell University, Ithaca, N.Y. 14850. Applicants are advised to return their forms early as priority will be based partly on the date of the application.

According to Williams and Clarke, a large amount of

the credit for the establishment of the International Living Center at Cornell goes to the Faculty Committee on International Student Affairs. This committee, composed of six faculty members and four students, for years has been pressing for the establishment of such a center in response to the urgings of Cornell students. A need has long been felt by many for a permanent center for international living which would also provide a base for intercultural activities at Cornell. Such a center would remove many of the barriers which frequently frustrate students — foreign and American alike — who are seeking a chance for genuine dialogue and understanding with people from other cultures.

According to Williams, Cornell once had a center for foreign students called "The Cosmopolitan Club," located outside the campus. It was among the first few of its kind to be established in a U.S. university. But the Cosmopolitan Club's facilities were too limited, accommodating only about 30 students. Its importance diminished as the foreign student enrollment at Cornell increased. The center was finally closed in 1952 because the building became rundown. Also, in its last years, the center lost its international character. Each year, the center would house students from only one country. Other students lost interest in it. Williams feels that the new International Living Center is a far superior successor to the Cosmopolitan Club.

Looking at the other side of the coin, Clarke feels that the new Center still falls short of fully meeting the needs for international living at Cornell. Yet, he maintains that "We are still at an experimental stage and the Center is adequate for our present purpose. Later we hope to grow and expand. That is why it is very important that the students who will be involved in the Center, foreign and American, must see the establish-

ment of the Center as a beginning and a challenge. The success of the Center is now largely in their hands."

Clarke said that the biggest problem facing the Center is money. For instance, due to the relatively high rent, Clarke thinks that many foreign and American students, though otherwise qualified and interested in living in the Center, will be discouraged from applying.

To overcome this, the International Student Office and the Faculty Committee on International Student Affairs are looking for a source of a subsidy fund. The subsidy fund, "say \$10,000 renewable each year," would be used partly to defray the cost of living in the Center for needy but promising students. The student may work part-time at the Center to earn the partial subsidy.

Clarke also said that money is needed for programs that are being envisioned for the Center, such as communication workshops, seminars and lectures, exhibits, as well as other cross-cultural activities.

Enthusiasm for the Center appears to be shared by many Cornell students. Despite the lack of big publicity, about 80 students already applied last fall when it was announced that the Center might be opened for this spring semester. However, due to some building alterations that had to be made, as well as other technicalities, the opening of the Center had to be postponed. "But we will open the Center for student residence this fall, come hell or high water," Clarke assured us.

Williams and Clarke, the Faculty Committee on International Student Affairs and others deeply interested in the benefits to be gained from close cross-cultural interaction are indeed justified in their present enthusiasm. With the establishment of the new International Living Center, Cornell has taken another solid step forward in promoting better dialogue and understanding among its culturally diverse community.



Cornell's New International Living Center will use the entire facilities of the newly-built North Campus Unit 8 Dormitory. It will house 144 foreign and American students.

Last February a small crowd of Cornellians were absolutely "tiddladed" as they watched 70 keen-eyed winkers "pot out" in the fifth annual Continental Tiddlywinks Championships hosted by Cornell University. It was not until the Championships came to Ithaca that many of our students were even aware that Cornell has some top-flight winkers to boast about.

Flipping wink after wink in the gruelling 16-hour winkathon, the dexterous Somerville team emerged triumphant from the tables in a 43-20 thumbs down victory over Cornell. The championship team was formed by a group of recently graduated MIT tiddlywinkers who joined ranks once again to thumb their way to victory.

Tiddlywinks was first introduced to several U.S. college campuses in the early '60's, but it was not until recently that it has gained a firm place among intercollegiate sports. As many come to appreciate the skill and strategy involved in the English version of the game, they display a devotion that would match any athlete's.

Tiddlywinks has been around since the middle ages but was not standardized until the mid-1950's when the Oxford and Cambridge winkers agreed upon a uniform size of winks for intercollegiate competition. Having



Potting Out

standardized the rules they sought to publicize them and thus challenged Prince Philip to start a team. The Prince accepted the challenge and delegated Peter Sellers to be his captain. Sellers gathered an all-star team and a tournament date was set for noon in the Oxford town square. The Oxonians were determined not to be upstaged by the celebrities and so shortly after Sellers led his team into the square the Oxford group parachuted in, to defeat the stars, both on and off stage.

In spite of the loss the Prince was pleased and created the "Prince Philip Silver Wink" which is awarded to the top tiddly team in England.

Coming to the U.S. in '62, the Britons challenged American teams and were able to pick up 25 consecutive wins. They even dared President Kennedy to field a team, but his physical fitness consultant declined.

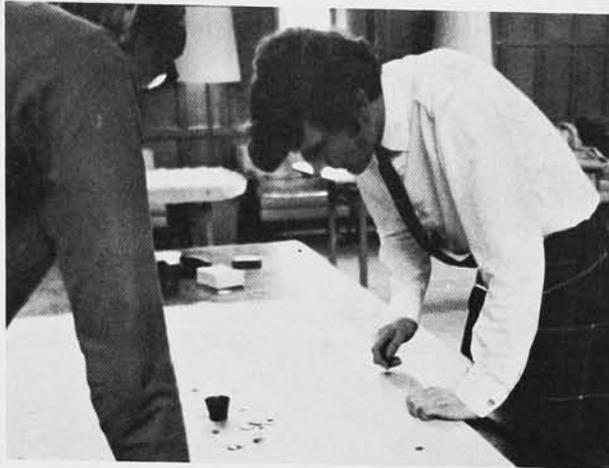
Several colleges, notably Harvard, were intrigued with the idea and organized their own teams. Thus began the present day winks which is now played on American campuses across the country.

Tiddlywinks came to Cornell in the fall of '65 when Severin A. Drix, presently a graduate student and captain of the Cornell winkers, decided to organize a team. He found that all the teams which had organized to play with the English group, excepting Harvard, had since disappeared. Having only a rough idea of the rules, Drix's team arranged a match with Harvard. Although they lost, they learned from their opponents' strategy and it was not long afterwards that Cornell became one of the earliest members to join the North American Tiddlywinks Association.

Presently, Cornell boasts a team of some 20 members. Drix explains that the most difficult problems are not just in picking the top six winkers to form the A team, but also in pairing up teammates as to their playing skill and psychological interaction.

One of Drix's dreams is to have the top American players meet Britain's top winkers in a play-off tournament. However, one wonders if such a match could really be fair, since many of the top American players are British students who have come to American universities. Drix muses: "We've stolen so many from emigration (English players) — I mean as if the brain drain wasn't bad enough!"

Lee Cousins, the kilted former Secretary of the Scottish Tiddlywinks Association and recent member of the Cornell team, bears out the "tiddlywinkers drain" to which Drix refers. Along with partner Naomi Gusowski,



At Willard Straight

by OLIVE SCHAD

Cousins scored the only win for Cornell during the February championships.

Tiddlywinks is played on a table size felt mat with two sizes of small discs called winks. Each player is located at one of the four corners of the mat and shoots his winks toward the center cup. The game is played by two teams of six players each. Each team is divided into three two-man squads with each squad playing in one of three matches of a tournament. A match lasts about 25 minutes, after which each player is given five additional shots before the winks in the cup are tallied to determine the winner. However, a team can win by "potting out" if one of its players shoots all six of his winks into the cup within the 25 minute period.

A wink is shot with a larger disc known as a "squidger." The basic shot of flipping a wink into the cup or tiddlepot is called a "squidge." However, a player may also employ a defensive maneuver that immobilizes his opponent by flipping his disc on top of his foe's wink thereby "squopping" him. The squopped wink must be desquopped before it can be played again. This can be accomplished either by the original squopper or by the squopped player's partner squidging a third wink to knock the squopping wink off.

If a team tries to pot out early in the game by the "pot-squop" method (one partner shooting for the cup while the other partner tries to squop the foe), they are likely to find a win difficult since they may easily be squopped by their opponents. On the other hand, if they "squop-squop" (both partners squopping their opponents), their chances for a victory are much greater.

A crucial technique known as "walking" is exercised by the more nimble-fingered players. Once an opponent has been squopped, the squopper can use this method to walk a pile for a more advantageous shot at the pot. It is also used to squop an opponent and at the same time free a trapped wink underneath the pile.



Describing winks as a "mind's game," Drix claims it is the best balanced game he knows — "whether it be a board game or a physical game . . . it entails strategy and execution of the strategy."

Drix, who has snapped many a high soaring squidge to sink table-length shots, would put the finger on steady nerves as one of the most necessary qualities for a good winker. Explaining that "minor errors are huge in tiddlywinks," Drix says that when he gets nervous he loses the game.

Feeling that he was a major disappointment to the team during the championships, Drix expressed doubts about his present game. Finding it difficult to squop and squidge with his usual accuracy, Drix fears he may not make the team next year. Oh well, tiddlywinks will not be the first sport to retire its players early.

A Helping Hand

On Hired Help

by STEVEN BECK

The dramatic strike and boycott of grape growers by Mexican-Americans on the West Coast has drawn national attention to the problems of farm workers. Farm owners, whatever their feelings about the problem, are themselves plagued by a shortage of skilled help. Wisely conceived change could benefit both laborers and owners, and Cornell boasts a corps of social scientists who are working toward that goal.

Three approaches to the study of social phenomena can be discerned from examining various research projects at the University: the statistical projection of future trends, the exhaustive description of social groups, and the construction of mathematical models with the help of computers. The soon-to-be-published *Workers in Agribusiness* is an example of the first approach.

The report is the result of a year of research by professors and research assistants in the Departments of Education and Rural Sociology, and was funded by the Employment Service Bureau of the New York State Department of Labor. "In overview," it reads, "the findings of this research reveal a basic industry which is experiencing fundamental manpower problems as it shifts from a rugged individualistic ideology into the mainstream of occupationalism."

Arthur Berkey, Assistant Professor of Agricultural Education, defined occupationalism for us as "essentially the movement toward work organization, well defined jobs and fringe benefits." Such changes are necessitated by "the general problem of obtaining and holding people with skills," notes Dr. Ward Bauder, another contributor to the agribusiness report.

Bauder, who is a professor in the Department of Rural Sociology, explained in an interview that the roots of this problem lie partly in the outmigration of trained people from farm regions. Other labor markets have become more attractive to workers. Bauder suggested that farmers "start thinking seriously of programs of recruitment and image building."

Other problems faced by full-time "hired hands" are the low stature accorded them and the paternalism of some employers. But these only reflect the ways in which agriculture has developed. Dr. Bauder recalled that "up until 30 or 40 years ago the laborer was the

son of a farmer, or of a neighbor, and was essentially an apprentice."

But with the soaring cost of establishing a modern operation, the worker is no longer a man on the way up. "Almost never does a man go from farm laborer to farm operator," Bauder said. Under these conditions, the father-son type of relationship which once was appropriate is now often resented by employees who, like their industrial counterparts, may seek the material rewards of good wages and job security. "The increased size of operations, mechanization, specialization — these things all go together. They make the traditional pattern of recruitment less and less adequate," Bauder concluded.

Yet, small farms need not be handicapped. The text of *Workers in Agribusiness* suggests that "the small owner-operator units must develop various cooperative associations to achieve, for the purposes of recruitment, the advantages of large employers."

The dairy farms of Southern California may provide a good management example for New York. "They are really milk factories," said Bauder. Since the milking, breeding and feed operations are all separate, the workers have become trained specialists. They often have their own homes in residential areas, good incomes and union-negotiated contracts.

"There is a relief system set up by the union to make sure the milking is done if someone's out sick," Bauder noted. Unionization can thus be a boon, rather than the menace it appears to some farm owners. If contracts are negotiated long before harvest and farmers have their own "cooperative associations," an organized labor force need not be feared.

Even without widespread unionization, a variety of workmen's benefits (long available in industry) have recently been extended to cover farm labor. In the past three years, state and federal minimum wages, compulsory workmen's compensation, optional unemployment insurance and increased Social Security rates have been legislated for the rural worker.

But one group of farm workers needs more than social legislation to better their lot. They are the migrants — southern blacks or Puerto Ricans who travel north for the harvest, returning in the fall to their homes or to jobs elsewhere (such as in the Florida citrus groves).

In many ways this seasonal employment is a social aberration, "not in the traditional heritage of American rural society," said Rural Sociology Professor Olaf Larson in his contribution to a 1968 Presidential Commission report on rural poverty. "Although the work done has social importance to society, the occupational role has low social prestige . . . problems are inherent in the kind of mobility which is a necessary characteristic of migratory farm work."

To this, add the physical and social isolation of the migrants (imposed by their race and their inaccessible camps) and the often exploitive "crew boss" system, and the incredible powerlessness of the seasonal worker shows through. "The whole system is structured to maintain their dependence on the crew boss and the grower," claims Arthur Kimmel, a participant in the Migrant Labor Project directed by William H. Friedland of Cornell's School of Industrial and Labor Relations.

Posing as a jobless youth, Kimmel got a job in a New Jersey migrant camp in 1968. He believes that community organizing by the migrants themselves is vital, but that "traditional trade unionism isn't going to work and shouldn't be attempted."

Mechanization has been steadily reducing the ranks of the 12-15,000 migrants who yearly pass through the state, but this will not solve the problem. "Rather," wrote Dorothy Nelkin in the Fourth Report of the Migrant Project, "it has become necessary to develop the skills of a smaller number of workers and to employ them more efficiently."

Rural sociologist Joe Francis is laying plans for a project which he hopes will help in this regard: the

construction of a mathematical model to predict the size of the migrant stream. Such a tool would help both welfare officials and employers in the counties where migrants are temporary residents.

In a brief survey of growing operations, Francis noted a few of the techniques of labor-wise farm managers. They by-passed crew leaders, writing directly to the workers who had shown ability in past seasons. Over the years, these workers got additional training and opportunities to advance. The progressive growers also gave a better wage and other incentives, such as a bonus for sticking out the season, and a higher rate per bushel after a certain number had been picked.

Some growers also tried to secure work between harvests for their crew by arranging for work at other farms or by planting "filler crops" which are timed to ripen between the more important harvests.

The ideal solution would be to allow the seasonal workers to settle in one place the year 'round, perhaps in the employ of an agribusiness conglomerate or cooperative. "If you bring into this picture the processors or an independent employer, you might be able to have year 'round employment for the same pool of workers," speculates Robert Spalding, Manpower Program Leader for the College of Agriculture.

The farmers of New York have long been convinced of the benefits of scientific methods and sophisticated machinery as technical necessities. Therefore they should have the capacity to recognize the need for new forms of personnel management and humane social arrangements to ensure the happiness and productivity of all those engaged in agriculture.

A farmer and his employee discuss plans for the day's work. "... problems faced by full-time 'hired hands' are the low stature accorded them and the paternalism of some employers."



Glee Club

by J

Traveling over 10,000 miles in 15 days with 54 people is not an economy sightseeing trip; it is the Cornell Glee Club on a foreign concert tour. This year the Glee Club selected the cities of southern Germany to visit for two weeks in January.

Singing in foreign countries has long been a tradition of the Cornell Glee Club. In 1895, the Glee Club, consisting of 18 men, traveled to England with the Cornell Rowing Team, competing in the Henley Regatta. While wars and the depression reduced the amount of traveling the Glee Club could do, recently the group has begun to revive the tradition.

In the winter of 1960-61, under the leadership of Professor Thomas A. Sokol, the club toured England and Russia. They became the first American university musical organization to give a concert tour in the Soviet Union.

In Russia the Glee Club performed before enthusiastic capacity crowds at Moscow State University, the Moscow Conservatory, and presented a joint concert with the University of Leningrad Academic Choir. The club participated in a Television Moscow broadcast and was heard over Radio Leningrad.

The five-day tour of England that followed included concerts in Westminster Abbey, the Royal College of Music, and the United States Embassy in London. The club also made a special television appearance over the BBC network. In 1963, the Glee Club returned to tour the cathedral cities of England and to sing at Eton College and Oxford University.

In 1966, the club toured the far eastern nations for a twelve week period under the auspices of the U.S. Government, Department of State, Office of Cultural Presentation. It was the most extensive tour by a college organization to that date.

The club sang in 10 countries (Ceylon, Singapore, Malaysia, Thailand, Philippines, Hong Kong, Taiwan, Okinawa, Korea, and Japan) giving 38 formal concerts, 14 radio and television appearances and 34 informal performances in a span of 84 days.

The trip was actually a 'round the world tour, as the club gave informal concerts in Rome and Karachi on the way to Ceylon and sang in Alaska on the return trip. It is estimated that on that tour 100,000,000 people heard the Cornell Glee Club, either live or on the air.

Alternating these trips with home appearances, the club performs for some official university functions such as Parents' Convocation, Freshman Convocation, Baccalaureate, and Commencement. In addition, the club makes other less formal appearances, such as outdoor "quad sings."

Another type of Glee Club performance is that of major works, usually for mixed voices and orchestra, like those done in recent years under the direction of Eugene Ormandy with the Philadelphia Orchestra.

Although the Glee Club is accustomed to traveling both within the United States and out, a great deal of preparation was necessary for the tour of Germany. Actual planning had begun the year before, and tentative plans had been discussed long before that.

The burden of this planning fell directly to the officers of the Glee Club, especially Donald A. Drumright, this year's president of the Glee Club, who said "the club always needs a few fanatics." The club is run entirely by the members, who are graduate and undergraduate students from all schools and colleges at Cornell. They had to make all preparations while still attending classes and twice-weekly practice sessions.

Most necessary were the funds for the trip. The Glee Club canvassed its alumni for contributions, as well as the alumni of the Cornell Class of 1916. This class has strong ties with the University of Heidelberg and was interested in helping to finance this cultural exchange.

With finances under control, the officers began to plan the tour, determining the number of concerts that they would give. After more hard work, the schedule was prepared and the club was ready to go.

After a concert in Frankfurt, the Glee Club visited

Professor Sokol leading the club in a warm up on the bus.



On The Road

NNINO

the cities of Heidelberg, Heilbronn, Stuttgart, Augsburg, Munich, Nuremberg, and Würzburg. Newspaper reviews of the concerts in these cities were unanimous in their praise of the Cornell Glee Club.

Most highly praised were those selections done in German. The Glee Club tries to present a balanced program of both American music and music from the host country done in the native language. Over the years the club has sung in at least 14 different languages with a great deal of success. In fact, the Cornell Glee Club recording of the Ceylon National Anthem, done in Sinhalese during the club's Asian tour, is used to begin and end each broadcast day of the national Ceylonese radio network.

Since the club does try to vary their program, they are always willing to learn new songs. But in Heilbronn, Fritz Werner, a noted German composer, almost stumped them. He presented the club with a canon (a musical round) which he had written especially for them just before the concert. During the intermission, the club learned the piece, and included it in the second half of the performance to thank the city for its hospitality.

Though the club visited many cities, there often wasn't

much time for sightseeing. The club had planned a demanding schedule. In 15 days, they performed nine formal concerts. They also did four radio broadcasts, each about three hours long, including one for Radio Free Europe, as well as a television program for the Bavarian network.

With such a hectic program, often all the members of the club wanted to do was to rest before their next concert. But even resting was an experience. The club stayed in youth hostels for most of the tour, including one hostel which was a converted castle stable.

The club pitched right in and helped with the cooking and cleaning, which is expected in youth hostels. But when cleaning up afterward, a few members found themselves still soapy when they forgot to insert a coin for more shower water.

The members of the club usually had time to look around the cities in which they gave concerts. Some cities had special guided tours, which sometimes became impromptu concerts. Such was the case in Frankfurt. There the Glee Club sang for students who were protesting money spent on rebuilding the Frankfurt Opera House when they themselves lacked school rooms.

For the most part, the members enjoyed wandering about on their own more than taking guided tours. This could lead to some difficulties, as one group learned. In a restaurant, they asked first if anyone spoke English, hoping to save themselves some trouble. The waitress answered "a little," and they sat down reassured. But that was the last English she spoke. The singers finally had to resort to sign language to order. They enjoyed their meal but could never ask for the same thing again; they still don't know what they ate.

The most important part of the trip, however, was the music. Professor Sokol feels that through their music, the Glee Club "gets a rapport with the audience that you can't get elsewhere." This was shown at the many receptions held before and after the concerts. Many were given or attended by German choral groups, anxious to meet the singers from Cornell. These meetings set up ties that often last for years.

The good will that results from such visits hasn't been forgotten in planning for the next overseas tour. With several concerts at Cornell and other local colleges already planned, the Glee Club is homebound for a while. But they are already planning ahead. Professor Sokol suggests that Eastern Europe is an area which might appreciate the music of the Glee Club. The countries of that region, with few ties other than cultural with America, might receive a better image of the United States through the music of the Cornell Glee Club.

A lot of hard work is necessary in both planning and execution before any trip becomes a success. With their German tour now a memory, the Cornell Glee Club is looking ahead, preparing to continue their long tradition of travel and excellent musical entertainment.



The Glee Club serenading student protesters in Germany.

Synergism and Pollution

by MARCIA WITIES

"Chemical control . . . seems to have proceeded on the assumption that the soil could and would sustain any amount of insult via the introduction of poisons without striking back."

Rachel Carson
in *Silent Spring*

Today, soil pollution is an area of concern, added to current worry about our air and water.

A primary factor in soil pollution has been chemicals used by farmers for weed control. Each season, farmers must spray their crops with vast amounts of chemicals to protect them from unwanted weeds. Saturating the soil, these sprays often leave harmful chemical residues that inhibit the growth of any other crop in that field for several seasons.

Now a research breakthrough at Cornell may eliminate dangers inherent in weed control by reducing the quantity of chemicals used in the weed control process.

The breakthrough was recently announced by Professor Robert D. Sweet and his assistant, Mark Lynch, in the Department of Vegetable Crops at the College of Agriculture. Their research involves a "synergistic response" whereby two or more herbicides are mixed together and the total strength of the mixture is greater than the simple sum of the individual potencies.

The practice of mixing herbicides is not a new one. What is unique about this discovery, according to Dr. Sweet, is that "the combined effect of the two common herbicides is greater than the researchers ever imagined."

The discovery of the synergistic response was quite accidental. It was neither what the experimenters expected nor what they were looking for and they themselves were incredulous at first. Dr. Sweet, who has spent eight years researching and field testing this problem, described his work and its significance at the annual Northeastern Weed Control Conference in New York City. He had been working with a common herbicide for corn called atrazine, normally applied at the rate of two to four pounds per acre. The research showed that if atrazine were mixed with one or two ounces of another popular herbicide, such as Lasso, diphenamid, nitralin, 2,4-D, or trifluralin, only four ounces of atrazine were needed. Four ounces instead of four pounds!

"The most striking aspect of these findings is that the combinations greatly reduce the amount of chemi-

cals required and yet they have a greater weed killing power," reported Sweet, who has been working in weed control since 1944. In fact, the results have shown ten to thirty times the expected activity of any one chemical. In addition, if the mixture is applied when weeds first emerge, even less of the herbicide mixture is needed.

"Another significant part of the discovery is the lessened danger of soil pollution," Sweet commented. "Now the same or better results can be expected from a smaller amount of herbicides. Although most herbicides are not especially dangerous, the best practice is to use only a minimum amount of chemicals." This also means that crops might be rotated with greater safety so that other crops could be planted in the same field the very next season.

This method is not only better for the soil, but also is cheaper to use. In fact, a farmer from Missouri must have understood its implications immediately, for right after the research was announced, he wrote to Professor Sweet wanting to know how he could aerially spray the mixture over his 2500 acres of corn.

To date, application of synergistic response has only been tested with corn. Yet, Sweet maintains that his discovery will probably "open the door to using synergism with many other crops. Our announcement seems to be sending shock waves through the entire herbicide field. Researchers are concentrating on finding other applications of synergism and have begun some enormous work."

The federal government clears individual herbicides for commercial use, and although the herbicides in the mixture have been individually approved, the combination has not yet gotten the official okay.

Dr. Sweet expects that the herbicide mixture will be on the market by next year. Then, whether or not the farmers understand what synergism is all about, they will know that the new combination of herbicides makes weed control easier and cheaper. And the battle against soil pollution will be one step closer to being won.

New Trustee Named



Governor Rockefeller meets with Joseph P. King of Rochester, left, newly named by the Governor as a trustee of Cornell University. Also attending the session in the Governor's Albany office is State Commissioner of Agriculture and Markets Donald J. Wickham of Hector. Mr. King, who is head of the Genesee Valley Regional

Authority, was named to the Cornell position on January 20, for a term extending to June 30, 1974. He is a graduate of the New York State College of Agriculture at Cornell and has been associated with the Agricultural Extension Service and the War Manpower Commission.

Mr. William B. Ward
Communication Arts
391 Roberts

March 6, 1970

Dear Bill:

The Cornell Countryman's story on Dr. Holland's appointment as United States Ambassador to Sweden was well done and a very timely recognition of an outstanding Cornell alumnus.

While I am sure that there were few professional employment opportunities for Black people in the 1930's and 1940's, and those that did find work faced many unfair practices, it is important for the Cornell Countryman to record the fact that Dr. Holland was Assistant Director of Employment and Personnel for the Sun Shipbuilding and Drydock Company of Chester, Pennsylvania, from 1942 to 1946.

For the next two years, as Dr. Holland studied for his Ph.D. at the University of Pennsylvania, he conducted an employment service in Philadelphia. In that capacity he had the opportunity to work with one of his former students from Lincoln University, Mr. Vernon V. Brock who was then with Curtice Bros. Food Company of Rochester, New York to bring substantial numbers of Blacks from high schools and colleges in Kentucky, West Virginia, North Carolina, and Tennessee to the Rochester area for summer jobs in the canning industry. In the first year Birds Eye employed 650 students and Curtice

Bros. hired another 250. The program continued for about six years. Eventually a number of the students found full time employment after graduation, particularly in the Gerber Baby Foods Company.

These two examples serve to indicate that some American corporations have been concerned with equal employment opportunities for a much longer period of time than some people realize.

Based on both his academic credentials and his experience at the Sun Shipbuilding he was employed as a social research consultant to the Pew Memorial Foundation from 1951 to 1953. The Pew Family founded the Sun Oil Company and its Subsidiary, Sun Shipbuilding.

By citing these facts I do not mean to imply it was easy for Black people to find employment, or that it was then a happy experience. However, it has been part of Dr. Holland's career development and should be included in any biographical account. It is the additional evidence of his contribution to a better understanding between the races.

Sincerely,

Edward J. Trethaway '49
Director
Corporate Relations
Cornell University

Action for a creative future/College of Agriculture Fund



This is the symbol and slogan of a new venture for the College of Agriculture – the COLLEGE OF AGRICULTURE FUND. It has come into existence because of the combined efforts and concern of the College of Agriculture Alumni Association, the College Administration, and the University Development Office.

The Fund will be used to help students obtain a better education. The immediate objectives of the Fund are:

- To provide scholarships for undergraduate students of proven academic calibre and demonstrated financial need;
- To support the College's initiative in establishing innovative instructional programs; and
- To act as the vehicle whereby alumni and other friends of the College may participate in their own way in the future growth and development of the College.

The initial goal of the Fund is one million dollars. During the next several months a major effort is planned to provide alumni and other friends of the College with an opportunity to participate in this new venture.

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New Boost for the Food Industry

by WILLIAM OVERSTREET

Charles E. Palm, Dean of the New York State College of Agriculture at Cornell University, has named Dr. Robert Baker, professor of food science, the first director of the college's Institute of Food Science and Marketing. Organized to coordinate the food science activities of several departments and colleges in the university, the Institute may herald the beginning of a new era for food science, not only at Cornell, but throughout the food industry.

The science of studying food has been a part of Cornell University programs since the 1880's when the first professors in dairy science began teaching in a farm house located where Bailey Hall now stands. Only since 1966, however, has food science been a distinct department within the college. This, according to Dr. Baker, is a reflection of the fact that industry and the public became aware of the necessity of food science only in the recent past.

"As far as the food field was concerned," Baker notes, "the consumer was willing to buy an unprocessed product until recently. So production and marketing people, with an occasional microbiologist or chemist, made up the vast majority of people working with food.

"But then the era of convenience foods came along. This meant a tremendous demand for food scientists at the industrial level. We find ourselves in a situation where we can place one graduating student for every ten positions that are offered. It's a very fertile field. Unfortunately," Baker continues, "I think many students, like the public at large, don't really know much about food science; they still think of it as home cookery or recipe making. Nothing could be farther from the truth."

Today, the food industry is the biggest business in the United States and it is continuing to expand. Baker pointed out that the industry employs one-seventh of the labor force — a greater number than the work forces of the steel, automobile, chemical, communications, public utilities, and mining industries combined. To meet the demand, food corporations are now paying more for food scientists than most other scientists that they hire. Offers amount to as much as \$9500 starting salary for holders of bachelors degrees to \$15,500 for scientists with doctorates.

Food science at Cornell has attempted to assist industry in meeting the demands of the consumer. The decision to organize the Institute of Food Science and Marketing is the latest in a long series of developments.

As various food-oriented departments were organized throughout the University — in vegetable crops, animal science, pomology and numerous other departments in the College of Agriculture; in human nutrition and food in Human Ecology; in chemical engineering; and in the School of Hotel Administration — food scientists were enlisted as specialists in researching particular commodities.

"Commodities have always been very important at Cornell, so we have food scientists literally everywhere on the campus," Baker notes.

In 1945, the Cornell's Department of Food Science and Technology was organized at the New York State



Agricultural Station at Geneva. The twenty food science professors there today are concerned with chemistry, biochemistry, nutrition and toxicology as they relate to fruits, vegetables and processed products. There was a problem as the best way to coordinate the efforts between the scientists at Geneva and those on the Cornell campus. "At first we considered having one gigantic food science department on campus," Baker says, "but the committee looking into the matter decided it wasn't feasible. It was finally agreed that the best way to give structure to the various programs would be to form the Institute."

Under the new structure, the Department of Food Science on the Cornell campus, headed by Dr. Robert Holland, and the Department of Food Science and Technology at Geneva, headed by Dr. Willard Robinson, are directly responsible to Dr. Baker who in turn reports to Dean Palm. Cooperation will be sought with food scientists in various agricultural commodity departments, food marketing and distribution scientists, and scientists in other colleges within the university structure.

Baker is uniquely qualified to fill the position of director. A member of the university faculty since 1949, he has been engaged in extensive research in poultry



meats and egg products, developing over 38 new products of which 23 have been test marketed. Included are processed meat specialties, high protein cookies, fruit beverages, and prepared foods for institutional use. The author of over 100 papers on poultry and egg research, Baker is currently concerned with microbial effects on eggs, frozen and table quality, and poultry products for institutional and home consumption.

Baker believes that the new institute will dramatically affect food science and Cornell in three major areas. "First of all," the director notes, "we can really improve our teaching by working more cooperatively and with better coordination among the departments.

"Instead of everybody going his own way, we can combine similar or duplicate food courses. We should be able to teach more courses with the same number of personnel."

Secondly, Baker states that research will benefit from coordination. Noting that cooperation is essential in research as well as in teaching, he believes that teamwork can be often more effective than individual efforts.

"I can see a food scientist specializing in food color



in Ithaca working closely with an expert on flavor from Geneva to develop a better product. It's going to take time to organize programs, but it can be done and I'm sure to great advantage." Greater coordination may also mean more effective utilization of grants and appropriations, which amounted to a total of \$2.4 million in 1969 for the two divisions.

The third area which Baker foresees major advances is in relations with the food industry. "Previously," he explains, individuals were known within their own commodity, but not outside that field. I think that a primary advantage is that now Cornell's food scientists will get to be known in the industry as a package. Instead of placing emphasis on the particular food products on

which we've been working, emphasis will be directed at the area of specialization. These areas could include proteins, carbohydrates, enzymes, flavor, and color. I think it will be beneficial for Cornell, and in turn for the industry, if we become known as food scientists rather than poultry experts or dairy product specialists. This involves an entire change in attitudes, a change in orientation, but I think it can be done."

"Everybody seems to want to better food science. We want to become collectively the best food science department in the country."

Looking to the future, Baker envisions major changes and advances in food science. One area of particular interest is the development of new food products. At the university level there was a distinction made between developing food for consumers and food for animals. Developing a feed for animals was considered basic research while human food product development was considered recipe making. "Thankfully that has all changed," Baker emphasizes.

Another area of major emphasis will be in food chemistry. "When we start modifying foods, we run into all kinds of reactions. This is where chemical and biochemical research comes into the picture — to analyze oxida-

studying nutritive changes in processing and storage."

Baker believes that food scientists will have to develop methods of fortifying some foods, especially if the world population continues to grow. In addition, synthetic foods may become more popular. Artificial meats made from high protein products such as soybeans and having the taste, color, aroma, and texture of the natural product are being developed. Utilization of some organic waste products now discarded by industry is another goal of food scientists. Baker further believes little used food products such as yeasts may become another source of protein to supplement deficient diets.

The possibilities are unlimited. Already graduates study-

"In the long run all the advances and improvements will be passed on to the consumer; better quality foods, more nutritious foods, cheaper foods. That's what food science is all about."

tions, color reactions and so forth. Such factors as texture, juiciness, flavor, and maintaining quality are also coming to the forefront."

Nutrition of food will also play an important part. "Nutritive changes in food is an area that we've hardly touched," Baker says. "Twenty percent of the country's population is malnourished. If we are to correct this problem, extensive research will have to be done not only in analyzing nutrient values of foods, but also in



ing food science at Cornell can specialize in six major areas: general food science, food chemistry, food microbiology, dairy science, water and waste water microbiology, and international food development. As research at Geneva and Ithaca expands to meet the challenges of the future, other specialties will undoubtedly be added. The Food Science and Marketing Institute will coordinate both the teaching and research efforts, giving coherence to the entire program of food science at Cornell University. "In the long run," Baker concludes, "all improvements will be passed on to the consumer; better quality foods, more nutritious foods, cheaper foods. When you get right down to it, that's what food science is all about."

Nutritional Counselling Improves Low-Income Diets

by MARYA DALRYMPLE

“When a family can save from \$3 to \$14 a week on groceries and improve their nutrition as well, it’s something to tell the neighbors about.”



These words reflect the enthusiasm of a local extension home economist for a federally funded project that is currently aimed at meeting nutritional needs of low-income families in New York State.

The Expanded Nutrition Education Program, under the auspices of the New York State College of Human Ecology at Cornell and Cooperative Extension Associations in 40 counties throughout the state, is unique in that it provides *individualized* nutritional counselling for hundreds of low-income families. Currently this is being accomplished through a work force of approximately 300 nutrition aides who make periodic visits to low-income homes and therefore can deal with problems relevant to a particular household.

An aide’s first visit to a home may merely be a feeler to help determine the extent of the family’s needs. From then on, the aide helps the family help themselves by providing necessary information and education. For example, the aide will frequently acquaint the low-income homemaker with some of the important ideas of nutrition such as the four basic food groups. Likewise, the aide is apt to discuss economical shopping and appealing food preparation.

If, as in some cases, there are many in the family, buying food in quantity will certainly be an important area for discussion. Another area which aides cover is the use of government-sponsored food programs. Aides explain how to make the most practical use of foods available under these programs with special emphasis on preparation of appetizing and nutritious dishes.

An aide frequently comes from the same economic level and neighborhood as the homemaker she visits. The aides receive practical training from extension home

Individualized nutritional counselling provides information to low-income families.



economists. Faculty at the New York State College of Human Ecology at Cornell University have trained agents, helped train aides, and prepared materials for use in the program. "It is the function of the New York State College of Human Ecology," states Associate Dean Lucinda A. Noble, "to provide in service education programs for extension home economists and to supply them with subject matter backup information as well as to provide an administrative and built-in evaluation system." Miss Noble also points out, however, that programs are largely a product of teamwork and it is the local staff of extension agents who are necessary for their smooth functioning.

In addition, personnel from 75 state and local agencies, both public and private, have contributed to this nutrition education effort. Support is being received from the Departments of Health and Social Services, schools and churches, and manpower development agencies in the form of suggestions for aides and participating families, referral services, and demonstrations which increase the reach of the program.

Tangible results of the program are becoming evident. Homemakers have learned to prepare a wider range of foods, and more milk, fruits, and vegetables are being consumed by low-income families. Shopping patterns of many participants have changed from daily buying at the corner store to weekly shopping at the supermarket.

While the main objective of the total program is improvement in nutrition, results in other areas have been noted. Instances have been cited of aides and family members going on for high school equivalency exams and in many families interpersonal relations have improved.

Work with youth is being conducted in a number of counties through classes dealing with food. Aides find that action with youth is a two-fold way of improving family nutrition. The youth learns essentials of nutrition and often encourages the mother to work with an aide who may then assist the mother with nutritional data on a more detailed level. Thus the mother and child may work together in planning family food preparation and

in improving the general welfare of the household.

Another pleasing development is that in areas where families have achieved noticeable progress, a gradual lessening of individual visits is being tried and group work initiated. New participants are being recruited, and this means a greater number of families are being reached with nutrition education.

The present nutrition education program is actually an outgrowth of several older projects. One such project that preceded the nutrition education program nationally was an attempt by the Extension Service of the U. S. Department of Agriculture to help young homemakers in rural Alabama. The purposes of this early program were to determine ways of reaching homemakers in low-income rural areas and develop methods of teaching them. This project was also used to test educational materials on nutrition, housing, clothing, and child development.

The success of this program was so encouraging that in the fall of 1968, then Secretary of Agriculture, Orville Freeman, informed states of the availability of Section 32 funds for the expansion of nutritional education programs through Cooperative Extension. Money was allotted on the basis of the percentage of poor to total state population. New York State ranked 2nd with 5.9%. Since then other federal support money has become available.

A year ago, 22 New York State counties were selected on the basis of interest and need to participate in Cooperative Extension's Expanded Nutrition Education Program. The major responsibility for each county's program rests with the local extension home economists and aides employed and trained to make regular home visits to low-income families.

Since the success of the program has been so marked, approximately 18 more counties are now initiating the program, bringing the total participating counties to 40. A major effort also is being made to start programs in New York City, and other avenues for education in nutrition and food for low-income families are being explored.



Year of

This is the Chinese Year of the Dog. If asked, most Cornellians would agree that the dog is the creature which the College most celebrates. Obvious to any observer, man's best friend is the campus.

It all started many years ago. The tale goes, with the donation of money to this institution came a string attached: Dogs were to roam the campus freely.

Thus, the myth is handed from generation to generation. In the sense of the word, the myth has passed on although not necessarily *its veracity*.

Lack of documentation, especially the canines, has led to increasing numbers of dogs staking out their territorial claims at the rites of the season.



by WILL ELWELL AND

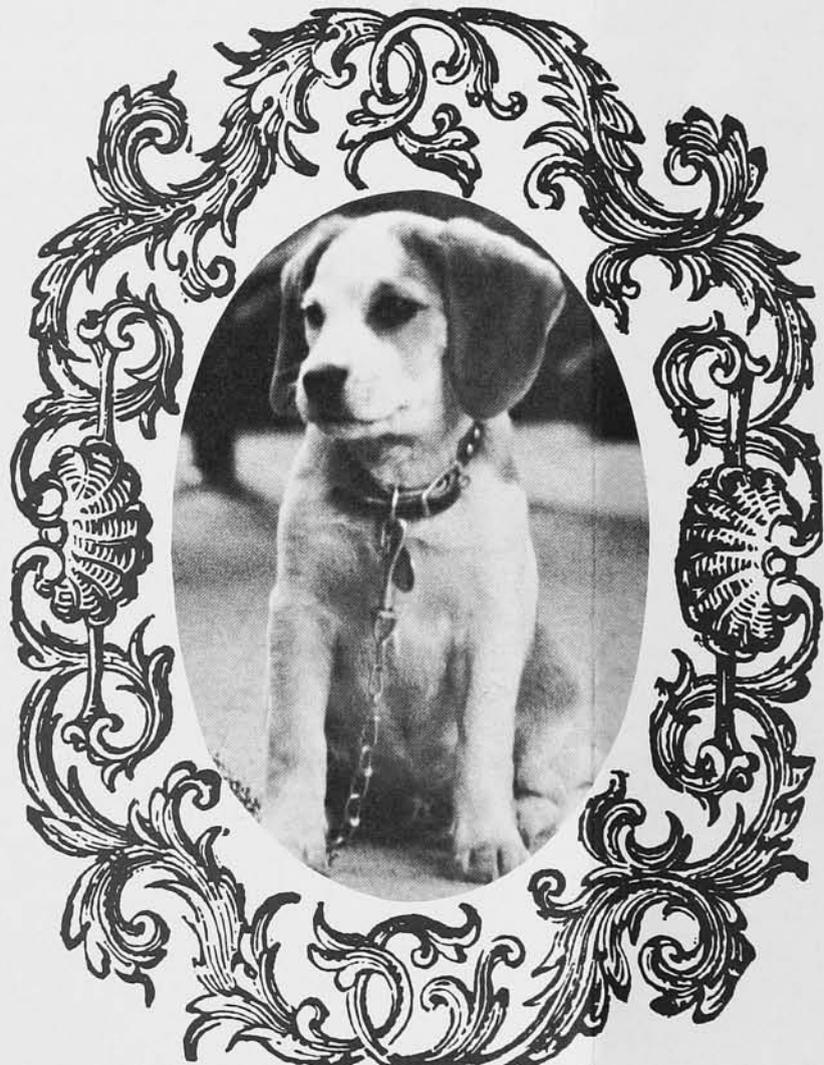
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ELIZABETH SAVAGE



9 men long,

97 years strong

by ERIC GIBSON

The splash of the Cornell crew team's oars has been heard on Cayuga Lake every year since 1873, with the exception of 1917. Since its inception, crew has been led to great successes by a series of brilliant coaches. The more famous of these are John Ostrum, the originator of crew at Cornell, Charles E. Courtney, Cornell's most successful coach, and R.H. "Stork" Sanford, the present coach.

Specific ideas and methods of these coaches have been incorporated into a rigorous training program as difficult as any on a Cornell varsity team. This training program is necessary at Cornell since 80 to 90 percent of all crew members have had no prior rowing experience.

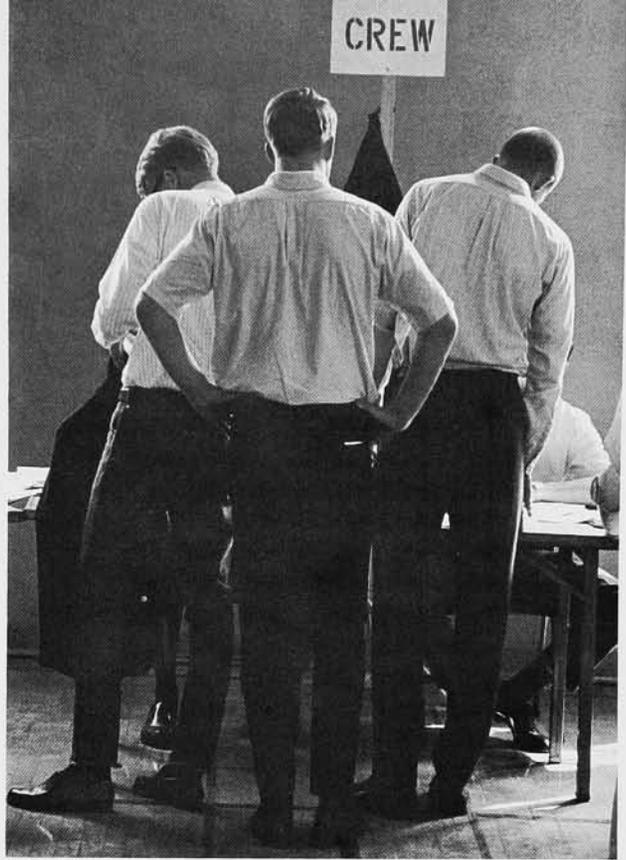
Each fall coach Sanford goes over the admissions records, and to many boys over six feet and 150 pounds, he sends letters and leaflets describing crew. During registration the crew team searches out the bigger freshmen and attempts to persuade them to come out for the team. Because there is no high school recruiting program, as in other sports, this personal method must suffice.

The beginning of classes marks the start of crew, and when classes are over in the spring, the crew team remains here to complete its season. Fall practice entails an introduction to the fundamentals of rowing, weight-lifting, and conditioning. Included in these conditioning workouts are daily runs up the steps of Schoellkopf Stadium. The climax of fall rowing is the annual Treman Cup Regatta, an intrasquad race over the difficult Cayuga Lake course. The winning team traditionally throws their coxswain into the water.

Training continues through the harsh Ithaca winter, with crew moving indoors to the rowing tanks in Teagle Gymnasium. These tanks simulate the conditions on the Lake by the use of a slow, artificially produced current. Winter training also includes distance running outdoors augmented by an extensive weight-lifting program.

With the intercollegiate season usually beginning about the first of May, the team tries to get as much training as possible on the inlet water as soon as it becomes free of ice. At this time all crew members are placed

CREW



on a special diet which provides proper nourishment as well as reducing weight.

The season itself consists of five meets culminating with the Intercollegiate Rowing Association (IRA) Championships. The IRA is made up of the top University crew teams including UCLA, Navy, Princeton, and Washington. Under coach Sanford, Cornell has compiled an outstanding record in intercollegiate competition.

Sanford, who is recognized as the dean of American rowing coaches, will retire in June on completion of his 34th season at Cornell. The 66 year old coach, who stands six feet, five and one-half inches tall, has long been recognized as a master technician whose crews, displaying classic form and stamina, were most notably accomplished from 1955 through 1965.

Sanford's all-senior boating in 1957 swept to a perfect season that included solid triumphs over a Russian club and Yale for the Grand Challenge Cup in the Henley Royal Regatta. His '63 product was acknowledged national champion after an undefeated campaign against U.S. competition; the only setbacks were by the world champion Ratzeburg Club of West Germany, after the Big Red had upset the visitors in an Eastern sprint trial, and by London University in the Grand Challenge final.

Starting in 1955, Sanford's varsities won four straight IRA titles at three miles. In 1962 the Big Red beat undefeated Washington to win the IRA regatta.

When he was asked about the prospects for this season, Sanford said, "last year wasn't a great season, but the Big Red is looking forward to a better one this year." Sanford has five returning varsity members and all of last year's IRA champion junior-varsity team returning. There are no outstanding stars on the team. As Sanford points out, "Crew is a team effort. It is the team that wins or loses."

Not to be overlooked in the crew picture is the smaller lightweight crew. The lightweights must average a maximum of 155 pounds for the eight-man boat, with no

man over 160 pounds on the day of the meet. Since their beginning in 1930 they have won the Eastern Association of Rowing Colleges championship six times. Their newly appointed coach is Dick Edmonds, a Cornell graduate and a competitor in the 1968 Olympics, where he placed fifth in the two-man shell competition.

The lightweights have competed in the Henley Royal Regatta in England which pits the finest American and British crews against one another. In 1967 they won the Henley and in 1968 they came close, losing out in the finals.



A New Director and a New Look

by **MARCIA WITTES**

"Changes in the Division?" He pondered my question. "Sure — it will be bigger, better and more exciting than ever." That was the spontaneous response of Dr. Richard O'Brien, the newly appointed Director of the Biological Sciences Division.

"Seriously," he continued in his distinctly British manner, "the focus of our first attention will be on microbiology. For the past five years this section has not been growing as rapidly as the other sections. The genetics, developmental and physiology, biochemistry and molecular biology, neurobiology and behavior, and ecology and systematics sections have all been expanding."



Dr. Richard O'Brien, new director.

The section of microbiology will be expanded both in space allotment and number of faculty. "Plans are being worked on to provide teaching labs and other room for microbiology in Stimson Hall. We'll also be making two or three additional appointments in this section," said the British-born scientist. "This will probably mean more courses offered and more research studies."

The new Director's office will also be moved into Stimson Hall. However, Dr. O'Brien plans to maintain his present office at Langmuir Labs so he can continue his research on alternatives to DDT (see sidebar).

Marine biology is another area that will be strengthened. "For one thing," began Dr. O'Brien enthusiastically, "we are trying to purchase the Island of Appledore, which is off the coast of New Hampshire, to increase the scope of the field work in that discipline." The present summer program, Field Marine Biology 364, is under the direction of Dr. John M. Kingsbury of the Department of Botany. In cooperation with the University of New Hampshire, about thirty students and six faculty members from Cornell currently participate in this Isles of Shoals Program to study marine life and ecology first hand.

Plans for the new Biological Sciences Building have hardly been forsaken. "The University has given it first construction priority after those buildings whose plans are already under way," (i.e., the Social Sciences Building and the Herbert Johnson Museum of Art), Dr. O'Brien commented. "Ours is a \$17 million program, and like most building projects finding sufficient funds is still the problem." He said that some foundation money has already been requested, but private and state funds for the building are still being sought. "It may take several years to raise the money, but since the University has allocated five acres of land on Lower Alumni Field for this construction, at least we're headed in the right direction."

Biological Sciences at Cornell is an intercollegiate Division which is supported two-thirds by the N. Y. State College of Agriculture, one-third by the College of Arts and Sciences and is responsible to both. "In fact, four of the five sections draw professors from both Colleges," he noted. Yet only six years ago, basic bi-

ology was fragmented and uncoordinated, being handled in several departments of the two Colleges.

Then, in 1964, Dr. Robert Morison came to Cornell from the Rockefeller Foundation where he had served as Director of Medical Sciences. Dr. Morison reorganized the entire structure for biology and enlarged it to the scope of the Division as we know it today. He has secured sizable foundation grants for the Division, brought world renowned and nationally known scientists here, while the student enrollment in the Division has greatly increased.

Dr. Morison will become, on July 1, the Richard J. Schwartz Professor in the College of Arts and Sciences. He will take part in the program on Science, Technology and Society (STS), an organization supported by the National Science Foundation to help integrate and finance the study of technology's impact on society.

Dr. O'Brien, whose appointment becomes effective July 1, has been chairman of the Section of Neurobiology and Behavior since 1965. He was also a professor of entomology at the College of Agriculture, as well as chairman of the College's Department of Biochemistry in 1964-65.

Looking to the future, Dr. O'Brien anticipates a steady increase in the number of students taking introductory biology courses. "The increased number of admissions (mostly women) in the Arts College in fall of 1970 ought to contribute about 100 additional students to our first year courses," he said. And Prof. Herbert L. Everett, Director of Resident Instruction, estimates that between 50 and 100 more students from the College of Agriculture will be in Biology 101-102 next year. This increase would reflect the growing number of freshmen and transfer students admitted to the Ag College.

Traditionally students studying biology are from the Colleges of Agriculture, Arts and Sciences and Human Ecology. However, according to Dr. Edmund Cranch, Associate Dean of the College of Engineering, next year more students from this college will be able to include biology in their schedules if they opt to take it instead of physical science. Underclassmen in the Engineering College will have newly relaxed curriculum requirements as of next year. Professor O'Brien points to this development as evidence of the growing importance of the field of biological engineering as well as part of the general trend toward more flexible requirements.

The expansion of biological sciences is not without growing pains, and I listened attentively as Dr. O'Brien talked about some of the problems in teaching the introductory courses. "Within the next four years, we expect about 2000 students to be studying introductory biology. This raises a major question: should Biology 101-102 (the larger introductory course) remain as it is, or take over all the introductory teaching, or be divided

BAN DDT!

From Berkeley to Boston, campus bumpers stickers demand the use of the pesticide DDT be discontinued. But having relied on such biological controls for a long time, we are somewhat at a loss for an effective substitute.

"What is needed is a pesticide that is specific to its target victim, doesn't persist in the environment, and will not allow insects to build up a resistance to them." That's a tall order for any pesticide researcher, but with the support of a \$50,000 grant from the Rockefeller Foundation, Dr. Richard O'Brien is studying one aspect of this problem. He will work in cooperation with Professor Christopher F. Wilkinson of the Department of Entomology and Limnology.

In addition to being complex in scope, this project is unique because it coordinates the efforts of several other scientists on four campuses: University of California at Berkeley and Riverside, University of Illinois and Cornell. As part of the project, whose funds equal \$200,000 for this year alone and continues for at least three years, each university will study a different aspect of the same overall goal, finding an alternative to using DDT.

At Cornell, Dr. Wilkinson will be studying the metabolic processes, while Dr. O'Brien will be working with the neuro-muscular junctions in insects. Their study will hopefully lead to the development of pesticides which inhibit these vital processes.

into many smaller classes? Breaking it up into smaller sections would allow more personalized instruction, but then the entire class could not be taught by Professor Keeton."

"Even now," continued Dr. O'Brien, "with nearly 1000 students taking 101-102 and 400 in 102-103, we sometimes wonder if it might not be a wiser idea to merge the two courses into one uniform introduction to biology." Another proposal suggests that there be different classes for majors and non-majors. Yet no definite changes in the teaching methods are planned.

"We are operating under no preconceived notions of how biology *should* be taught. Every one of the five sections is re-examining its teaching procedures, and we're always open for new ideas. The Honors lab was started on a trial basis several years ago, and smaller classes and less rigid format have proved quite successful."

Dr. O'Brien paused for breath. I felt the same enthusiasm that he did as I listened to him express his hopes for the future. One word can sum it up; a word Dr. O'Brien frequently uses, exciting!

The Risley Residential College

by DITH GOODMAN

With colleges and universities producing literally hundreds of thousands of graduates each year, education often resembles a mass production line. This year, a housing proposal known as the Seznec Report recommended changing education from being merely the dissemination of information in restricted disciplines to a more expansive moral and mental development process.

Part of the plan discussed the possibility of a coed college organized around enthusiasm for the creative and performing arts. Students would be selected from a variety of social and academic backgrounds, and thus each person involved could make a unique contribution to the living unit.

The original plan for such a college required extensive funds for renovation of Risley Hall, currently a women's dormitory, and for supplying the staff that would be needed. However, due to budgetary red tape, the university felt that it could not dedicate funds to such an extensive experiment for 1970-1.

Interested in the fate of a residential college at Cornell and unwilling to let the new idea die, my roommate and I moved quickly to get faculty and administrative support for the college. Finally a compromise plan was worked out, funds obtained, and Risley Residential College will become a reality in the fall of 1970.

Life at the residential college will revolve around its residents, all of whom have either a vocational or avocational interest in the arts. Persons with interests in music, painting, drama, dance, photography, creative writing, cinematography and sculpting will all share the same living environment.

Residents will have the freedom to arrange exhibitions and performances of their work and will set up an autonomous government to maintain smooth functioning of the college. Facilities provided will include darkrooms, dance and practice rooms, a small theater, and painting studios. The hall will also have an excellent collection of poetry, a game room and several small living rooms for relaxation.

Overseeing operations will be head residents, Professor William Provine and his wife Marie, who are presently head residents at the Residential Club, a coed



living unit. They will be assisted by two counselors who will be chosen on the basis of their counselling ability and experience. Members of the Cornell Graduate Guidance Department have asked to be associated with the project and may have an office in Risley. This will provide students with the opportunity to obtain counselling from someone who knows them personally.

A successful residential college, organized and operated primarily by students and faculty, will accomplish several aims. Persons whose academic studies differ from their outside interests in the arts will have the opportunity to engage in these interests in their place of residence. As a focal point for the arts, the college will provide a place where amateurs can meet visiting artists and talk intimately with them. And finally, the residential college will illustrate applied education, with the focus on the arts as an integral part of the every-day living experience.

COUNTRYMAN CAPSULE

March 27, 1970

Miss Suzanne Smith, Editor-in-Chief,
The Cornell Countryman
490 Roberts Hall
Cornell University
Ithaca, New York 14850

Dear Miss Smith:

Your story in the March 1970 issue on the communal group living in the West Danby area is most interesting. Our textbooks on evolution teach us that man has evolved through a long and painful climb of perhaps millions of years. But always the climb was upward and man improved. True enough he evolved slowly but he did improve. We never considered that evolution was anything but a one way street.

Now comes a group that shows evolution works both ways. In one winter they have shed 2,000 years or more of progress and fallen back to a comparatively primitive level of existence. Ten such winters would bring them

back to the stone age. Devolution, it seems, works faster than evolution.

Not the least curious aspect of the situation is that members of the group have more formal education than the average. Yet they are not able to bring their learning to bear on their practical problems. An unlettered but manually skillful group would fare much better. Just what does a modern general education prepare us for, anyway?

This communal group has shown us how rapid the descent from civilization might be in case of an upheaval. I certainly wish the group well because their experiment has unwittingly rendered us all a great service.

Sincerely,

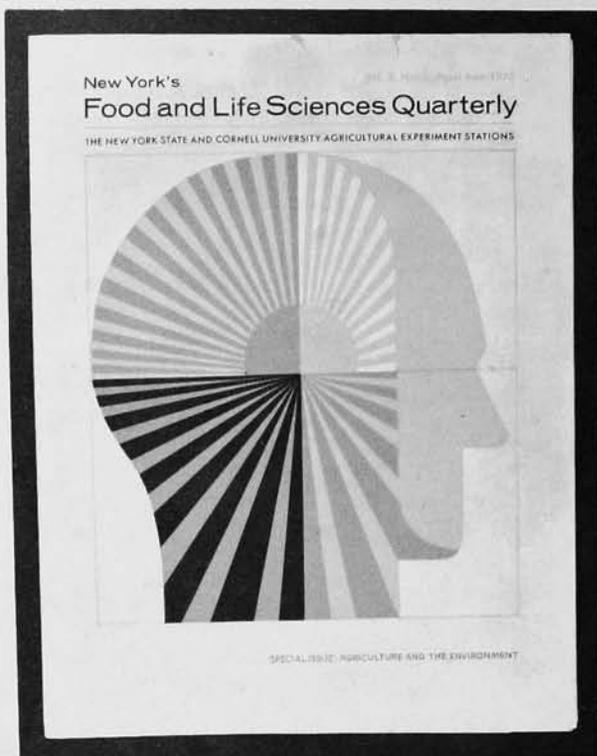
Colonel L. Brown
Class of 1919
22 Sierra Vista Lane
Valley Cottage, New York 10989

Pablo Ramirez-Moreno of Chile won first prize of \$100 for his paper in the Regional Studies in Agronomy class (see "34 on the Road", November 1969 Countryman). Shankute Tessema of Ethiopia won second prize of \$50 and Maximo R. De Vera of the Philippines won third prize of \$25.

William B. Overstreet '71, for his article "A New Look at Agricultural Pesticides" in the December 1969 Cornell Countryman, was awarded the first prize of \$75 in the Gulden Memorial Prizes for writing excellence. **Marcia A. Wities '71** won second prize of \$50 for her

article "Cigarette Advertising: Selling Without TV — Can it be Done." **Rodger Beck '70** was awarded third prize of \$25 for his article "Hybrid Hopes for Hungry Millions." Honorable mention was given to **Marya Dalrymple '70**, **Jeanne Massey '70**, and **Steven Poliakoff '71**.

The College of Agriculture's Alumni Breakfast will be held in the Big Red Room of Noyes Lodge at 8 a.m. on Saturday, June 13, 1970. This event is sponsored by the College of Agriculture Alumni Association.



A Special Issue on Agriculture and the Environment

Concern for our environment is a national commitment — a public crusade for the 1970's. Modern agriculture's vital role in meeting basic human needs and maintaining environmental quality is a dual responsibility that will challenge the industry for decades to come.

Agriculture has a long history of intimate relationship with the environment through its manipulation of nature to produce an abundant supply of healthful nutritious foods at low relative costs. Intense competition, advanced technology, and the highly commercial aspects of modern farming, however, have brought new problems to agriculture's environment.

Concern for the effects of agriculture on the environment is not new to science, but there is an obvious need for additional research and practical application in areas of biological controls, quickly-degradable compounds, resistant varieties, new designs and techniques for waste disposal and conservation of soil and water, and more efficient use of production inputs. The response of the College of Agriculture to these challenges has been sampled and documented in the current issue of *NEW YORK'S FOOD AND LIFE SCIENCES QUARTERLY*, published by the New York State and Cornell University Agricultural Experiment Stations. You may obtain a free copy by addressing your request to:

*Food and Life Sciences
Department of Communication Arts
Box 28 Roberts Hall
Ithaca, New York 14850*

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CORNELL COUNTRYMAN

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OCTOBER, 1970

NO. 1



History of
Cars on Campus

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EDITOR-IN-CHIEF: Michael Barrett

ASSISTANT TO THE EDITOR: Joseph Bulsys

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Cover — Communication Arts; page 4 — Communication Arts; page 5 — Communication Arts; page 7 — James Sherman; page 9 — James Sherman; page 12 — Communication Arts; page 13 — Communication Arts; page 14 — Chris Ager.

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Editor's Comment

Editor's Comment:

The Cornell Countryman has a long and proud tradition. Though publishing for 68 years we are not lingering on past achievements. We are meeting the challenge of an ever-changing, innovating College of Agriculture with in-depth articles and are confidently ready for the new semester.

Maintaining unity from one issue to the next has always been a problem for the Countryman. As different editors take control each month many small changes occur in layout and editorial policy. This has hopefully been eliminated by the introduction in February 1970 of Communication Arts 420. Designed for communication arts seniors, its major responsibility is to professionalize the magazine in both content and layout.

Aside from the new course other changes are being made to give a more pleasing appearance to the magazine. The new inside front cover design is better organized, and allows the reader at a glance a preview of each article. Initial letters for the articles is another small but effective change.

Preliminary tabulations from the questionnaire enclosed in the May, 1970 issue indicate that most readers are satisfied with the magazine's contents. The 239 replies received thus far is gratifying to the editors and shows the concern of the readership for the continued success of the magazine. There were, of course, some negative remarks but most felt the present set-up is a good one. For a pot-pourri of comments taken from the questionnaire see page 15.

The response to the survey has given us new channels to follow in our search for articles and has presented us with challenges we will endeavor to meet.



EDITOR-IN-CHIEF
CORNELL COUNTRYMAN

History of Cars on Campus

by CARYN FURST



Rush hour traffic is now a familiar occurrence.

Are you one of the 6,600 students who registered their cars with the Safety Division in 1969-1970? Are you aware that the automobile has been the center of a 70 year old battle to insure the safety of members of the Cornell community and the aesthetics of the campus itself?

According to Morris Bishop in his book *A History of Cornell*, the index of social position during the 1890's was "vehicular transportation." For example, the president of the streetcar system in Ithaca had a mahogany-fitted private car with curtained red glass windows. Another Ithaca citizen bought a high-styled hansom cab with only two wheels and with the driver's seat in the back. Unfortunately, on his first trip up Buffalo Street, the driver's weight lifted the horse off the ground, leaving the poor animal to paw the air like it was flying!

The first automobile to appear on the Cornell campus was a White steamer. It was brought to Ithaca by Claudio Juan Martinez '02, in 1898. Before the year had ended, another car arrived. It was a steam-powered contraption owned by Samuel Purdy Howe '02. The big question that year was whether an automobile would ever be developed that could climb Buffalo Street as far as Stewart Avenue under its own power.

By May 9, 1911, the trustees felt that it was necessary to enact the first campus speed limit of 10 miles per hour. The number of cars on the Cornell campus increased rapidly, and, on June 19, 1916, "the matter of providing on-campus parking facilities for autos was referred to the subcommittee on grounds."

Soon after, another aspect of the modern car culture was developed. It was noted in the *Alumni News* that students had discovered they could persuade motorists to pick them up and drive them to other cities if they looked tired as they walked by the roadside. No name was given to this practice.

Meanwhile, more and more students owned cars. In 1922, 200 cars were being driven around the campus—117 of them were Fords! By 1929, some Cornell fraternities were boasting one car per member. Of course,



*Even in 1949 cars
crowded the campus.*

not all of them had brakes, or lights, or insurance. Finally, a Motor Vehicle Bureau was established to control driving and parking on campus. To the resentment of many, all student car owners were commanded to register with the bureau.

Soon after, the 1300 student drivers were making life a little dangerous for campus pedestrians and for other drivers. Entire faculty meetings were devoted to eloquent speeches that called for the ban of student ownership of cars. It was the personal experiences of many professors that caused the anti-student-car feelings to run high. In the end, the expense and difficulty of enforcement, and the unwillingness to pass a rule which would be openly flouted prevented such a law from being passed by the faculty.

During World War II, the faculty finally succeeded in their attempts to prohibit students from having cars at Cornell. The rule was accepted by everyone since there was no available gasoline anyway. Student ownership of cars was allowed again after the war.

Due to the general prosperity of the last 25 years, more students than ever are driving cars on campus. Cornell even has rush hour tie-ups. Parking spaces are difficult, if not impossible, to find during the day, and a "U" parking sticker is a treasured item.

Now it seems the situation is beginning to reverse itself. On March 3, 1970 six Cornell students concerned about ecology, staged a sit-in on Campus Road during the 8 o'clock rush hour. They felt the presence of all the cars on campus created safety, pollution, and ecological problems. They wanted an immediate closing of certain sections of campus roads and an efficient mass-transit system made available to the Cornell community.

Only one week later the Board of Traffic Control presented a recommendation to the faculty to shut the

campus to all but essential traffic in September. As an experiment, Central Avenue from Campus Road to Uris Library was closed to all traffic for the remainder of the spring term.

This fall, Cornellians are witnessing the first permanent restriction of automobiles on the campus. Provost Robert A. Plane explained the purpose of the move is "to cut down on the congestion that clogs Cornell streets during the daytime." From 7:30 a.m. to 5:30 p.m. only authorized vehicles, which include taxis, buses, emergency vehicles, university service vehicles, and cars with "U" parking stickers will be allowed on the campus itself. All other traffic must drive around the campus to find suitable parking facilities.

Campus Patrolmen are now stationed at four entry points to control the restricted areas and prevent unauthorized vehicles from entering the inner campus.

But this year's changes are only the first steps in a ten year program designed to remedy the traffic problems at Cornell. Other changes will be larger parking lots, reconstructed roads and new signs.

For this fall term off-campus parking facilities have been expanded and on-campus parking stickers are no longer free. Parking lots will be patrolled more carefully, and a new system of fines is being tried. The goal of the Cornell Board on Traffic Control is to provide strict control of parking.

Cornell, in its history, has been the scene of many disagreements concerning students driving cars on campus. Originally it was the faculty that wished to deny the students this privilege. Perhaps now it is the student concerns that have brought on the long-sought limitations on automobiles on campus. The sentiment today seems to agree with a recent protest sign: "THE CAR IS A NO-NO."

Cornell's Experimental Harvester

by RICHARD ALBERT

Cornell's Agricultural Engineering Department is experimenting on a mechanical lettuce harvester which will increase harvesting efficiency. This machine will join a family of Cornell-developed harvesters including a dry bean harvester, a grape harvester, a cherry harvester, and a cauliflower harvester.

Research is under the direction of Professor E. Stanley Shepardson, aided by research associate John G. Pollock. The invention is the product of approximately five years research sparked by a request from the lettuce industry and the Cornell Extension Service. Professor Shepardson described his invention as "a working research experimental machine."

The harvester is designed to gently pull the lettuce plant from the ground cutting the head off the root. Current manual procedure requires cutting the head from the stump and the leaves while the root remains in the ground. In its present form the machine is designed to harvest two rows of lettuce simultaneously.

Professor Shepardson explained, "the lettuce harvester uses some of the principles employed in the recently developed cabbage harvester, but it must also cope with

the specific problems of lettuce harvesting. A mechanical harvester must produce a cleanly cut head of lettuce. That is, the head must be sliced off the plant leaving a minimal amount of stump. Second, the head must be kept free of soil."

Obtaining a minimal amount of stump is complicated by the necessity of a sufficient number of "wrapper leaves" if the head is to be judged high quality by the buyers. Experimentation is continuing on the harvester's cutting operation. Professor Shepardson believes a circular cutting blade will be the answer to the problem.

Keeping the lettuce free of soil involves more than just keeping the leaves clean. When lettuce is cut, a sticky white latex-type liquid oozes from the stump on the bottom of the head. Consequently, an additional process is being considered to wash the bottom of the head before it gathers soil. Testing will increase in this area as most of the lettuce in New York State is grown in muckland, areas with fine black soil that tends to cling to the wrapper leaves and stumps when lettuce is mechanically harvested.

Another area of research is the development of packing machinery for the mechanical harvester. Professor Shepardson said he is working on the possibility of "wrapping the heads in a plastic film and putting the wrapped heads in a box while in the field rather than collecting the lettuce and taking it to a shed for packing."

Professor Shepardson said, "the machine has a high capacity for harvesting." He estimated the machine might replace 15 men when perfected, but that was "a real ballpark figure." In recent tests the harvester was run at a speed of one-third of a mile per hour which is one-third of its ability. Currently, 65 per cent of the lettuce cut on the first run will meet the buyers high quality standards. An additional 20 per cent of the first run cuts can be trimmed manually to buyers' standards.

The mechanical lettuce harvester should be ready to leave the experimental stage within one year. Professor Shepardson mentioned he will try to contact and interest a manufacturer at about the same time. Once a manufacturer is interested and begins working on production possibilities, the harvester may change its present self-propelled form. It may be manufactured as a trailer or perhaps tractor mounted. Professor Shepardson roughly estimated the cost of the harvester at \$15,000.



The harvester may replace 15 men when perfected.



A New Strain of Peace Corps Volunteer

by JAMES LAWRENCE

"Maybe I'm the propaganda tool of the North American military-industrial establishment; maybe I'm just an American freak show on an ego trip in another country. I've gotten to where I don't give a damn, as long as I can get a few words in about the advantages of breeding seasons, between the dirty jokes."

Bob Anderson is considered one of the most successful Peace Corps volunteers ever to work in Colombia. As a member of the first group of agriculture and nutrition specialists recruited and trained at Cornell, Bob represents the new breed of Peace Corps volunteer.

Initiated two years ago, the Cornell Peace Corps intern Program was designed to identify seniors and graduate students in the Colleges of Agriculture and Human Ecology who were interested in Peace Corps service. In the first contract of its kind, the New York State College of Agriculture was designated as a site for recruitment and part-time training of Peace Corps volunteers. Recognizing the need to find people with backgrounds and degrees in agriculture and home economics, the Peace Corps felt that a part-time program during the school year could both attract prospective volunteers and give them a more comprehensive training experience than was previously available.

The success of this pioneer program, measured by the

first group's accomplishments in Colombia, has resulted in numerous Peace Corps contracts with other schools, using Cornell's efforts as a model. The graduates of these programs, it is hoped, will be more than cultural ambassadors and will contribute substantially to a country's agricultural development. Robert E. McDowell, Professor of International Animal Science, says, "The Peace Corps is trying to get away from the 'village pied-piper' type of volunteer; that is, a person will not be dropped in a village and told to 'do good' for two years. Instead, he will be given a specific job assignment, for which he has been adequately trained."

Training at Cornell, designed specifically for service in Colombia, emphasizes the social aspects of Peace Corps service—language, religion, politics, history and culture of the country. Also stressed is the importance of being able to communicate effectively with the "campesino" or rural peasant. Getting people to abandon their traditional mode of agriculture is not easy to accomplish, especially for a young "gringo."

Meetings for this year's group have already begun, but new members will be accepted throughout the school year. An intensive training experience is planned for the intersession break, January 21 to 28. Peace Corps administrators from Washington and Colombia will attend, along with speakers on topics related to tropical agriculture, Colombia, and Peace Corps service in general. The climax of the session will be a traditional Peace Corps training tactic. Each member of the group will be driven to a small village somewhere in New York and left to fend for himself. Armed with only a toothbrush, he must "survive" for three days and then make his way back to Ithaca. Past groups have succeeded very well, somehow talking their way into free food and lodging. Most internees found that people, al-

"I don't flatter myself by thinking that I'm going to do it, but I do figure I'll try like hell."

though slightly suspicious at first, were generally very willing to help out; at the end of the three-day period, many had been "adopted" by a family. The main objectives of this exercise are to expose the internee to small town rural life, and to help develop his ability to get along with people.

Training becomes more vigorous during the spring semester. A three credit course in rural sociology is required. It is essentially a seminar on Colombia, made up of internees, returned Peace Corps volunteers, Colombian students, and professors with experience in Latin America. Weekly topics have included current politics, marketing systems, Peace Corps versus VISTA, family structure, religion, parasites and environment, and American imperialism. A tutor is also provided to help establish a foundation in conversational Spanish. Fiestas with Colombian students are often used to expose the group to the food, drink, and music they will encounter.

For those who decide to continue after graduation, further training is carried on for nine weeks at a Peace Corps camp near Escondido, California. Rigorous programs of Spanish language, Colombian culture, and technical training had prepared last year's group to fly to Latin America by September 1st, 1970.

Once in Colombia, most volunteers from Cornell assume positions in extension programs at experimental stations. Now in the process of land reform, Colombia has many new landowners in need of technical advice and help. The majority of the male volunteers work in livestock or plant improvement programs, while the women struggle with the problems of malnutrition caused by poorly planned diets. All workers under programs established by the Colombian government are given well-defined job outlines. "We find that by working more or less within the host country's own programs for development, the volunteer has a better chance of really accomplishing something, and in turn being happy in his work," says Professor McDowell. The first group felt that few would terminate their service early, because a lot of energy went into their placement and training.

There were two major motivating factors in the decision to volunteer with the members of the 1970 group, neither of which took precedence over the other. Bernie

Neenan, a graduate in agricultural marketing, said, "I can't really decide whether my motives are overly self-ish or not. I'm looking forward to travelling, to getting involved in another culture, to meeting people, but I also hope to contribute something." Quentin Snyder and his wife Kathy felt that, "At first we had some pretty romantic ideas about Peace Corps. The intern program crushed most of our idealism. We're thinking more realistically about it now, and it still seems to be just a great alternative compared to the other choices open to us. We wanted to get away from this feeling of vegetating."

Professor Loy Crowder, who spent eight years in Colombia talked about "getting away from it all" by entering the Peace Corps. "I don't think there's a thing wrong with wanting to take some 'time off' after finishing college. I don't think it's escaping at all; we all occasionally need time to step back and consider what's happened to us and to re-evaluate our life goals. Most of us have an innate desire to help better mankind and a basic urge to travel and experience other cultures."

When faced with the enormities of the agricultural-nutritional problem in underdeveloped countries, many volunteers return home, feeling there is nothing they can do, that the situation is hopeless or beyond their control. Intern programs, such as the one at Cornell, are designed to maximize the volunteer's ability to cope with a new environment and to give him a chance to fully utilize his education.

Bob Anderson, after only five months in Colombia, shows rather well the way a "soft" four years at Cornell can be effectively hardened into an instrument of social change:

"There are thirteen families in my project area . . . My work with them, simply put, is to bring them from a form of livestock agriculture four hundred years old to one more or less in step with the twentieth century; to bring them from production patterns they've known so long they can't even define them, to patterns and ideas they can't conceive of. Unfortunately, the book that tells me how to tell them all this hasn't been written yet: it's my ball game. I don't flatter myself by thinking that I'm going to do it, but I do figure I'll try like hell."





On September 9, 1970, a historic move was made by the faculty of the College of Agriculture when it passed by a vote of 120 to 1 the following motion introduced by Dean Charles E. Palm:

“That the faculty of the College of Agriculture approve a change in name from the New York State College of Agriculture to the New York State College of Agriculture and Life Sciences in recognition of the broadened mission of this College, and request approval from Cornell University administration, with the further request that it take such steps as may be necessary with the State University and with the Legislature to secure a change in the statute to reflect this change in name and broadened mission of the College.”

Now the proposal will go through channels to the Cornell University Administration and the Board of Trustees, the State University, the Executive Office of State Government, and the Legislature. Hopefully, the necessary approvals, including favorable legislative action, will be taken during this academic year.

College of Agriculture and _____?

More Visibility

The Administration believes that the change of the name is essential to the future strength of agriculture in the Empire State and to the opportunities the College has for a strong teaching and research role in the State University. The proposed name, which would give increased visibility to the College, is in keeping with the action already taken by most of the major land-grant universities in the United States.

In his remarks before introducing the motion, Dean Palm traced some of the significant developments affecting the College over the years. Among them were:

- 1) Agriculture has been an integral part of Cornell University—the land-grant university of New York—since it opened its door to classes in the 1860’s. Although teaching was the initial mission of the university, it soon became evident that public service and research would have to be part of the total program in agriculture. Early meetings with professors in the Agricultural Institutes and work in research by these men led to the organization of the New York State Agricultural Experiment Station at Geneva in the early 1880’s. This was followed by the Hatch Act in 1886 that provided federal funds to land-grant universities to help establish agricultural experiment stations. In 1914, the Smith-Lever Act did the same for cooperative extension.
- 2) Dean Liberty Hyde Bailey did

much to get the College designated as a statutory unit with state support. He also helped to establish rural sociology and rural education in the social science field and appreciated the importance of strong departments and the biological sciences. He was responsible for transferring botany and entomology from Arts and Sciences to Agriculture. In these and other ways, Dean Bailey aided the broadening concept of agriculture.

- 3) In the 1920’s, Home Economics was divorced from Agriculture as a separate statutory unit.
- 4) In the early 1940’s, the Experiment Station program at Geneva was re-vamped to emphasize quality fruit and vegetable production and processing.
- 5) In 1948, the State University was established by the Legislature.
- 6) In the mid-1960’s, President Perkins inaugurated a Division of Biological Sciences in Cornell University, with Agriculture and Arts providing the college backup for its budget and programs.
- 7) In 1964, President Perkins established, in conjunction with the Dean, a Study Panel for the College of Agriculture.
- 8) In the fall of 1969, Presidents Gould and Corson established a study group from each university to review and recommend to the presidents ways to solve existing problems within the statutory college relationships.

Mission Examined

The College of Agriculture is presently examining, with Cornell University and State University administrators, the mission of a modern college of agriculture. Among the colleges of agriculture of the land-grant universities, The New York State College of Agriculture has long been a leader in the breadth of subject matter and program which supports its mission.

Agriculture is more than farming. Fortunately, the State statute that established the College in 1904 recognized this important fact. In retrospect, it provided the latitude needed to accommodate change. Modern agriculture has grown to be a systems oriented operation, with a close partnership between the participants. Today the allied industries that provide inputs such as seed, fertilizer, livestock, machinery, capital, and the like, are responsible for the basic inputs to the commercial farm. The commercial farmer as a trained business man utilizes these inputs with his managerial skills and the elements of nature that make the biological process of food and fiber production possible.

Educational Matrix

The New York State College of Agriculture provides the educational matrix for this sweep of modern agriculture in the Empire State. It serves through teaching to train young men and women for meaningful careers in all parts of modern agriculture. Through its research programs it provides the new information and advances in science upon which improved agricultural technology is based. Its service in continuing education reaches all citizens through the statewide Cooperative Extension Associations in 56 of the counties of the state. Relating to the problems of world agriculture of which the United States is increasingly a part, the College's teaching and research efforts involve American students and those from other lands.

High Priority

Environmental quality is a top priority of this nation, and agricul-

ture's role and responsibility in this important area is receiving great visibility. This requires much work in the basic biological and social sciences to make progress in the applied areas that deal with the solution of problems required by the people of Empire State. The physical sciences also are important to the College's work in agricultural engineering, soils, meteorology, and chemistry. This College is taking state and national leadership in its programs of pollution control, reduction of pesticide use, and in the important areas of human and community development.

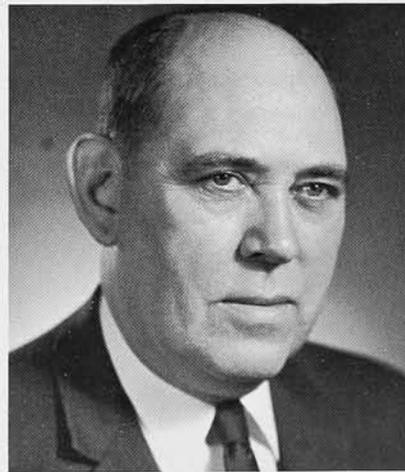
Alleviation of rural poverty through improved education and economic development are tied closely with the College's work in rural sociology, agricultural economics, agronomy, animal science and the like. Fertilizer use and its role in soil nutrients as they relate to run-off into water systems is an important part of the eutrophication study. Land use, recreation, conservation, and full use of our natural resources fit into the broad concerns about the environment.

In the early 1960's the College started to develop a transfer program with the SUNY Agricultural

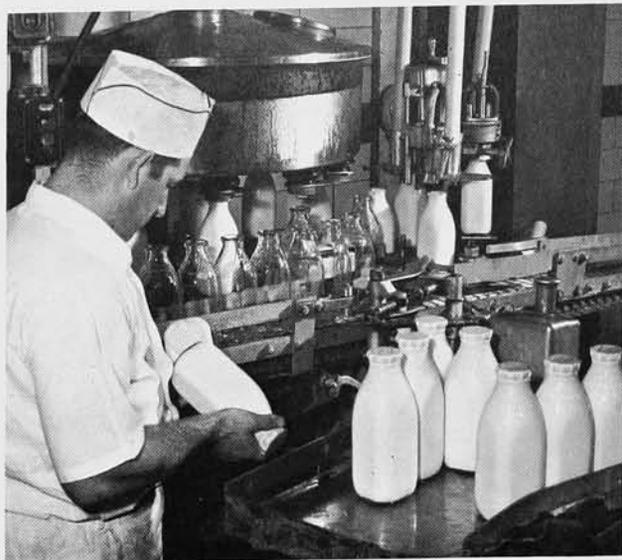
and Technical Colleges which would make its resources fully available to students who entered these two-year institutions and found they wished to continue their education. During the past decade, striking progress has been made working with the administration of these two-year Colleges and Suny central administration. Community College students also are transferring into the College of Agriculture's programs in biological sciences, science education, rural sociology, agricultural business management and the like. Transfers from four year colleges also find a special interest in the College of Agriculture.

Approximately a third of the College's entering class this fall are transfer students. The College's graduate programs increasingly attract students from other units of SUNY, including junior faculty members who wish to continue their graduate study programs. The College of Agriculture, as the only college of agriculture in the state offering a four year program, is well prepared to carry out the types of programs required of it.

As a result of this broadened mission, the College of Agriculture is requesting the change in its name.



Liberty Hyde Bailey (left) when he was Dean of the College 1903-1913 broadened the concept of agriculture and the present Dean, Charles E. Palm (right), has done much in the past 11 years to strengthen the College and broaden its mission.



The goal of the food scientist is to improve the quantity and quality of the food.

Behind the Market Place

by WILLIAM OVERSTREET

Few consumers realize, when browsing through a supermarket for groceries, how much time and expense goes into keeping the roast beef red, the proteins in frozen dairy products stable, the carrots tender, and the level of sugar in sweet corn high. Naturally, their immediate concerns are good taste, high quality, and low cost in the food they buy. These are also the concerns of food scientists.

Over 50 research projects in food science are currently being conducted at the New York State College of Agriculture in the Department of Food Science. The experiments fall into four major categories: product development; food contamination; public health; and food chemistry.

The development of new food products, according to Dr. Robert C. Baker, director of Cornell's Institute of Food Science and Marketing, amounts to between 10 and 20 per cent of food science research in the College of Agriculture. It is a relatively new field here, starting only ten years ago.

"A lot goes into the development of a new product," Baker notes. "First, you have to formulate the idea for

the product. Then there is the development stage followed by an evaluation period in which the food is tested for taste, smell and visual appeal. Next, is sampling to consumers and shelf-life studies. We have to design a package, do our own mass production, and market the new food."

While in this long and complicated procedure, Baker points out that the poultry department alone has developed 38 products of which 23 have been test marketed.

Current research includes the development of still more poultry and egg products; new frozen non-dairy desserts, primarily intended for vegetarians and religious groups with food prohibitions; cheeses now made only abroad; fruit-flavored buttermilk and sour cream; and a combination of milkfat and vegetable fats which may provide new commercial outlets for milkfat.

Food product development also involves expanding the world's food supply. Techniques for mass producing a substitute for milk from sugar and vegetable fat for use in areas where milk is unavailable are being studied. Scientists are examining the possibility that acid whey powder from cheese, currently considered a waste product, can be utilized as a highly nutritious food. Also, the leaves of legumes may provide a new source of protein, a vital nutrient frequently missing from the diet of those living in poverty or underdeveloped areas.

Increasing the world's food supply, however, would be of little use if foods could not be made safe to eat. The food science department, therefore, devotes a great deal of time to improving sterilization procedures and other means of purifying food. Scientists are now studying the effects of pesticide residues in milk, resistance of eggs to microbes, the survival of salmonella which causes intestinal ailments in dried milk, and the presence of vibrios and other bacteria in foods and water.

One of the most significant experiments now underway concerns the discovery by Dr. Frank Kosikowski and Dr. Richard Ledford that most Blue, Roquefort, and Camembert cheese contains surface compounds that can destroy penicillin. Kosikowski and Ledford are now examining the possibility of beneficial effects for penicillin-sensitive consumers. Researchers are further

studying cheese surfaces to see what varieties of bacteria occur there naturally.

Also, flavor and taste studies are now being conducted on cheese. Consumer demands for improved physical qualities in food means that research must be conducted on vegetables including corn, carrots, and potatoes; milk and dairy products; poultry and beef; and fresh and frozen eggs.

Food scientists are currently attempting to develop a means of objectively measuring the sense of taste. The synthesis of chemicals that determine flavor is being examined, as is the microscopic structure of foods. To the consumer, eventual success in these and related research projects, mean taste quality and texture of fresh and stored foods might be improved artificially. An ability to chemically measure taste may lead to doctors detecting disorders of the adrenal cortex, including Addison's disease, at an early stage since adrenal metabolism directly affects the taste buds of the tongue. Changes in the ability to taste may also indicate the presence of diseases located elsewhere in the body.

Studies of flavor, color, and texture are directly related to what chemicals and nutrients are present in food. In addition, food chemistry research is essential in determining improved production methods, and what effects such methods have on food quality. Food scientists are now examining the effects of freezing on proteins, particularly milk proteins. Other experiments include the rapid measurement of fat in milk; determination of orotic acid levels, which can cause fatty livers in dairy products; and the reliability of electronic milk testers.

Dr. James Stouffer, an animal science professor, is studying the possibility of employing ultrasonic measurement of both live animals and carcasses. Stouffer believes that ultrasonic scanning may provide a new technique for determining meat and livestock quality. Ultrasonic sensing devices might be useful in automating the trimming of pork fat and other meat, since sound waves may be capable of distinguishing different kinds of tissues.

Product development, public health, quality improvement, and food chemistry and production are all inter-related. An advance in one area may directly lead to a discovery in another. For example, the development of the poultry and egg products at Cornell since 1960 would not have been possible without improved sterilization, production, and taste analysis techniques.

Food science is an expanding field. Dr. Baker is sure that it will be of even greater importance in the coming decade.

"We're working in many areas now," Baker affirms. "New product development; flavor chemistry; analysis of fats, oils, proteins, carbohydrates, and enzymes; and water and waste water technology are now being studied. And in the near future I'm confident that we will be adding other areas."

The final goal for the food scientists is to improve the quantity and quality of the food supply while reducing the cost to the industry and the consumer. The average shopper may not worry about the bacteria or the orotic acid in the milk he buys or why the beef he eats is tender and red. But then there's no reason for him to; the food scientist worries for him behind the market place.



Some of the new products from the poultry division.

The Delicate Art

by CHRIS AGER

Working diligently, Leon Hinman uses his tungsten wire, carbon tools, and rubber tubing with the precision of a master craftsman. Quietly he shapes and works the glass under the familiar flame of a double burner torch. He is a true craftsman at his trade; creating, repairing, and producing custom equipment in the Cornell glass shop.

Located in the basement of Clark Hall, Mr. Hinman and his assistant, Paul Anderson, fashion glassware for the multi-faceted needs of Cornell researchers. Together they handle most of the glasswork on campus, manufacturing as few as 10 or as many as 100 items weekly. Frequently tasks require only minutes to complete, but occasionally complicated devices may take from six months to a year.

Glass blowing is a demanding art, requiring steady hands coupled with infinite patience and skill. Small pieces of glass are rotated and heated in a natural gas-oxygen flame until soft, then joined to glass, metal, or worked with a carbon tool. Tungsten wires are used to make holes and rubber tubing to lower air into glasswork. Other devices include a cutting wheel, drill, sanding and polishing equipment, and an annealing furnace to slowly cool the glass, preventing it from shattering or developing stresses which might make it shatter later. For large work a machine holds, rotates, and joins the glass. With both hands free, the glassworker delicately manipulates the tools and machine. Quartz presents a unique problem. Having a higher melting point than common glass or pyrex, it needs an oxygen-hydrogen flame to soften it.

Mr. Hinman demonstrated the technique for joining two glass tubes. Heating the end of a small piece, he blew a bubble, shattered the excess glass and left the

tube with a flared end. Heating this and a larger tube, he joined the two together, cautiously blowing into the tubes to keep the walls from collapsing. According to Mr. Hinman the breath control for this work may take ten years to learn.

Perhaps one of the glass shop's most spectacular projects was the creation of a four foot mass spectrometer. The large device, shaped with numerous bends, side tubes and interconnections had more than 40 metal and glass seals. Each seal had to be perfectly air tight to prevent air leakage which could destroy the high vacuum tube. Mr. Hinman explained, "Even a hairline surface leak along one of those connectors could have ruined the vacuum." But no leaks occurred and although it has been retired "many a grad student's thesis has depended on it."

When asked if the art is a dying one, he replied, "No, it's actually growing. There are more people now

than when I started." The needs of science have increased the demand for skilled glassworkers. But even today there are less than a thousand such workers in the United States. He mentioned that he didn't use the job as a recreational outlet, but sometimes made little ducks and toys for his grandchildren.

Mr. Hinman came to Cornell as an apprentice from General Electric's research labs 39 years ago. At that time the glass shop was located in Rockefeller Hall under the guidance of Mr. Harry Banta, a man who had worked at the Bell Telephone labs for Thomas Edison and had blown glass light bulbs for Edison to use in his experiments. Working with Banta, Mr. Hinman added to his knowledge and experience so that when Banta retired more than 30 years ago he could fill his position.



QUESTIONNAIRE REVIEW

The following statements are some of the comments received in response to the questionnaire enclosed in the May, 1970 issue of the Countryman.

Less on athletics; better covered in alumni news. Run a series on population, modern developments in agriculture, crises with waste disposal, resources and control. '62

More news on the activists; the looting, burning, etc. on the campus. More sports. '27

Quite well done—the mistakes made are of a forgivable kind. Keep up the good work! (student researcher in entomology)

What about pieces on current affairs, ecology, student movement, etc. (from a student)

As an ex-high school English teacher, I hope teachers are using the Countryman as an example of terse, literate writing by young people. '24

No articles on politics; keep it a magazine on agriculture and agriculture news. The May 1970 issue is the best in a very long time. The dog article is especially good. '37

Year of the Dog! Two pages of nothing. More Col. Brown! '26

I enjoy getting my copy each month. You should accept advertising one issue a year—as a learning experience this would be very useful. '62

More on ag students who have achieved in some area at Cornell or elsewhere—famous current ag students who are good citizens. '43

I feel the Countryman should be mainly student directed, but as an alumnus the 'shorts' concerning alumni which appear from time to time are most interesting to me. '55

I like it. It reports change and that is change enough. It should stay as it is—balanced and varied. Overemphasis in any area would upset the balance. '49

I enjoy the Countryman in its present abbreviated format and feel that the balance of the past year has been excellent. The contributors have generally stayed with their fields of competence and the articles have been worthwhile. For this reason I believe you should continue to have a good sprinkling of Cornell community subjects, social, semi-technical (interesting fields of research, etc.) and sports (minimal) with a minimum of philosophizing. '52

College of Agriculture Fund Highlights

Special Gifts Chairman Myron M. Fuerst, Ankony Angus Farms, Rhinebeck, New York, is finalizing plans on a special program to be known as **FRIENDS OF THE NEW YORK STATE COLLEGE OF AGRICULTURE**. Membership in this group will provide a means for alumni and friends alike to share in a very significant and meaningful way in the future of the College.

- to cement and stimulate associations and relationships with the College of Agriculture.
- to support innovative programs and unique scholarships.
- to provide the "seed" funds which so often have far reaching effects in stimulating new discoveries of great benefit to mankind.
- to establish a base of on-going support enabling the College to maintain its leadership in education and training.

Phonathons — During April, May and June, phonathons were conducted in ten locations in upstate New York, with the following results:

2065 alumni contacted (180 alumni served as phoners)	
602 pledges received during phonathons . . .	\$37,071.00
200+ pledges received since phonathons . . .	7,500.00
	<u>\$44,571.00</u>

Other Areas — In Fund from earlier gifts	4,850.00
Pledges—alumni in metro. N. Y. and outside N. Y. State	10,500.00
Pledges—Faculty, College of Agriculture . . .	5,800.00
Seneca—Wayne Eastern AI Scholarship Endowment Fund	5,000.00
Total in Fund to date from these sources	<u>\$70,671.00</u>

The New York State College of Agriculture's

CONSERVATION LEADERS' FORUM

OCTOBER 8, 1970

**Alice Statler Auditorium
Cornell University
Ithaca, New York**

ALICE STATLER AUDITORIUM

CHAIRMAN MORNING SESSION:

N. C. Brady, Director of Research,
NYS College of Agriculture

10:00 a.m.

Chairman Brady

10:05 a.m.

WELCOME

Charles E. Palm, Dean
New York State College of Agriculture

10:15 a.m.

"Challenges and Opportunities for New York's
New Department of Environmental
Conservation"

Henry L. Diamond, Commissioner, New York
State Department of Environmental
Conservation

11:00 a.m.

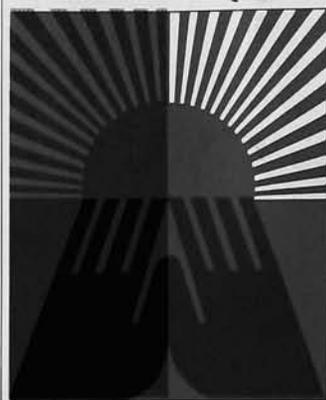
"Agriculture's Role in Improving Environmental
Quality"

Dr. Ned D. Bayley, Director, Science and Educa-
tion, USDA.

11:45 a.m.

Question and Answer Session

POSITIVE APPROACHES TO
ENVIRONMENTAL QUALITY



12:00 Noon

Lunch, Statler Ballroom

Master of Ceremonies:

Bruce W. Widger, DVM

Member, Cornell Board of Trustees

Welcome: Robert A. Plane

Provost, Cornell University

"Environmental Quality—Changing Attitudes"

Charles C. Russell

Department of Communication Arts
NYS College of Agriculture

CHAIRMAN AFTERNOON SESSION:

Douglas L. Gilbert, Dept. of Conservation,
NYS College of Agriculture at Cornell

2:00 p.m.

Chairman Gilbert

2:05 p.m.

"Wildlife Conservation—A Mirror Image"

Dr. Thomas L. Kimball, Exec. Director,
National Wildlife Federation

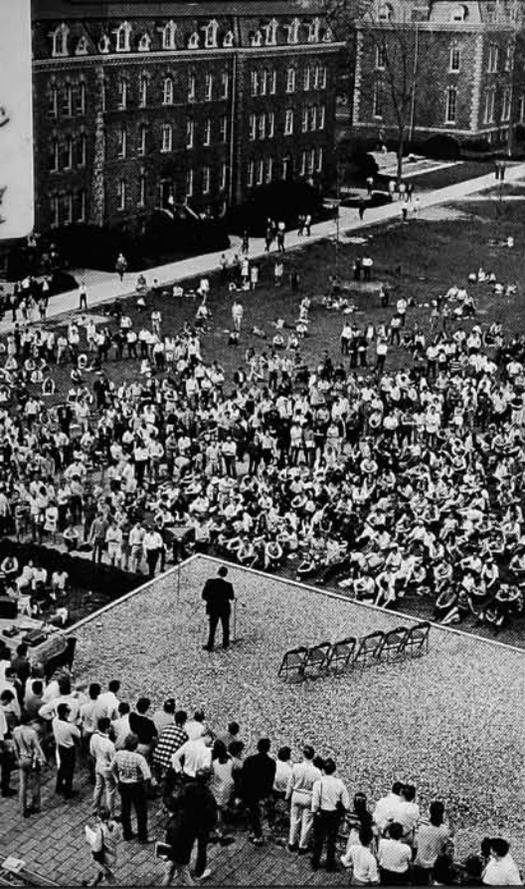
2:50 p.m.

"An Integrated Environmental Effort for Growth
Strategy"

Prof. Philip H. Lewis, Director, Environmental
Awareness Center, University of Wisconsin

3:30 p.m.

Question and Answer Session



CORNELL COUNTRYMAN

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NO. 2



The Encroaching Campus



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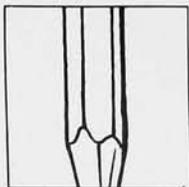
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ON THE COVER: *Scenes of Building Construction at Cornell*

CORNELL COUNTRYMAN

NOVEMBER 1970/VOL. LXVIII — NUMBER 2

EDITOR-IN-CHIEF: Joseph Bulsys

ASSISTANT TO THE EDITOR: Michael Barrett

EDITORIAL STAFF: Chris Ager, William Overstreet, Jon Pennino, Jody Siegle, Olive Smith, Eileen Specyal

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Cooperative Extension:

Challenge in New York City

by KAREN STONE

In crowded East Harlem Mr. and Mrs. Smith, both factory employees, have lived with their four children in the same apartment for 23 years. UPACA-TIPS gave the Smith family the opportunity to move from their rat and roach infested home to a clean, renovated building just down the street.

UPACA-TIPS is the Upper Park Avenue Community Association – Tenant Information Program Services, a local non-profit organization in East Harlem. The organization buys and renovates old apartment buildings,

then rents them to low-income families in the area. Mr. and Mrs. Smith will be invited to attend classes given by the Cooperative Extension Services of the Colleges of Human Ecology and Agriculture. Classes are offered to homemakers by the Cooperative Extension staff both before and after the family moves into their new home.

Space on the fourth floor of the Old Harlem Courthouse was given to UPACA-TIPS to serve as an orientation and demonstration center. Sessions cover such topics as furniture quality, pest control, food buying and storage, safety, and appliance cleaning. Workshops are held to refinish furniture and to make attractive wastebaskets and inexpensive wall hangings.





Inadequate sleeping accommodations plague the Smith family. Only a curtain separates the parents' room from the children's, where two sleep in a crib and two in a single bed.

The Jones family was given extra assistance by staff members because of their special problems. Mrs. Jones was identified as having a drinking problem. With the prospect of moving into a clean, renovated apartment, she began spending her money and energies for the improvement of her family's home life. She enthusiastically went to class sessions and learned to knit and sew. Mrs. Jones repaired second hand furniture and bought a used sewing machine so her daughter could learn to sew.

Mrs. Jones and others like her could continue training and become teaching aides to in turn help aid other families. This multiplier effect amplifies the know-how of a minimum extension staff and reinforces the information taught to the trainees.

The multiplier effect is also used in the New York State Office of Economic Opportunity projects. One example is the OEO and the College of Human Ecology Extension project in South Brooklyn. Thirty-three family assistants are working with families in the community. Each assistant meets with five families each week in an effort to pass along their knowledge to the community.

The training program of eight weeks includes classes and field trips in such subjects as money and home management, food buying, health, childcare, and awareness of community resources and services. At the end of eight weeks certificates are awarded to those completing the program.

The South Brooklyn Project began in 1968 with a grant from the State of New York. Wyckoff Gardens and Gowanus housing projects in South Brooklyn were chosen following the recommendations of the New York City Housing Authority. A two-bedroom apartment serves as the teaching and demonstration center headquarters in South Brooklyn.

Mr. Albert Harris, Jr., serves as the Program Director

of the OEO-College of Human Ecology Extension Project. Previously Director of the Colony South Brooklyn Houses Inc., he has worked with other community organizations. Miss Suzanne Matseh, an Assistant Professor in Consumer Education in the College of Human Ecology, is assistant director of training and service on the project. Mr. Edward Ostrander, acting as assistant director for evaluation research in the project, is an Associate Professor in the Department of Design and Environmental Analysis in the College of Human Ecology at Cornell.

Extension staff workers have identified lack of day-care centers, inadequate education, and housing as the most pressing problems in South Brooklyn at the present time. Now in its third year of operation, the South Brooklyn project is being evaluated and recommendations for a follow-up project are now being made.

According to Mr. Clifford Harrington, Associate Director of Agricultural Extension, Cooperative Extension began its consumer education in the 1940's in metropolitan areas of New Jersey, Connecticut, and New York. The program has consistently used radio, television, newspapers, and executives in business industries to reach its audience.

Miss Lucinda Noble, Associate Director of Cooperative Extension, serves as program leader and co-ordinator at Cornell for the City extension projects. She says, "It's an example of the University using its knowledge and resources to help people."

Evaluation of the two pilot programs in New York may in the future allow Cooperative Extension to share its "know-how" with more people.

The kitchen stove, used by the Smith family of six for both cooking and heating, has coated the walls with soot and filled the air with the odor of gas.





Growth Pains Afflict College

by EILEEN SPECYAL

This fall more students than ever before will populate the upper campus. The increase is due to a dramatic rise in the number of women enrolled in the College of Agriculture, the additional numbers of transfer students, and more out-of-college students taking agriculture electives.

But why does this increase involve mostly women? The new dormitory system provides the answer. The shift in room assignments, bringing men to former women's dorms and women to the previously all-male Baker complex eased the quota on female acceptance by the College. The North Campus dormitories also helped to alleviate the women's tight housing situation.

Therefore, the College of Agriculture added almost 50 per cent more females to the Class of '74. This year nearly 170 women and 445 men are registered in the College freshman class.

The increase in transfer students from 200 last year to 263 this year also reflects the growing outside interest in the College of Agriculture.

Feeling the pains of growth is Prof. William T. Keeton's basic biology course, Biology 101. Professor Keeton reluctantly turned more than 100 students away while Prof. Harlan Banks had to add

three laboratory sections to accommodate students in Biology 103.

Several other courses in the College have reached over the projected figures for registration. No one knows for sure whether the unusual size of classes is due simply to the increasing population in the College of Agriculture, the popularity of individual professors, or a general shift in interests toward practical life sciences. It is, perhaps, a combination of all three.

"It hit me completely by surprise," commented Dr. Paul Feeney of the Entomology Department, whose ecology course (Biology

361) registered 333 students this fall. "We had to refuse 150 to 200 students and still added two new teaching assistants to the staff." Professor Feeney claimed no single factor behind the sudden upsurge, but plans to take a survey later in the course to find out why the students enrolled.

Prof. Richard J. McNeil of the Conservation Department, on the other hand, very definitely attempts to make his environmental conservation course (Conservation 201) "a service course for the University."

"In the past few years," Professor McNeil says, "Conservation 201 has generally shifted emphasis, goals, and content." It is less oriented toward professionals and more towards making it a "useful course for students outside the College of Agriculture."

For convenience sake, the classes for Conservation 201 moved from Morrison Hall to the more easily accessible Ives Hall. Another lecture section and discussion groups were added in keeping with the goal to open the class to all students. Professor McNeil added, "The material is presented in a relaxed and comfortable way, and I think students enjoy the course."

Apparently, many people also enjoyed the series of Biology and Society lectures begun last year. This fall the two-credit course with discussion sections stopped registering students for credit at 1000. Lectures are given in Statler Auditorium to accommodate the crowds and are also broadcast over WVBR-AM.

Enlarged lectures, extra laboratories, and inconvenience for faculty and students are accepted consequences of increased enrollment, which is itself a result of the College of Agriculture's desire to bring more women and transfer students onto the upper campus.

Animal Research Complex Planned

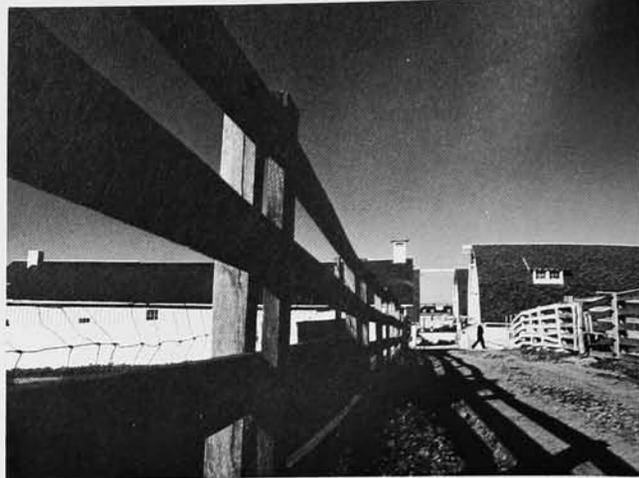
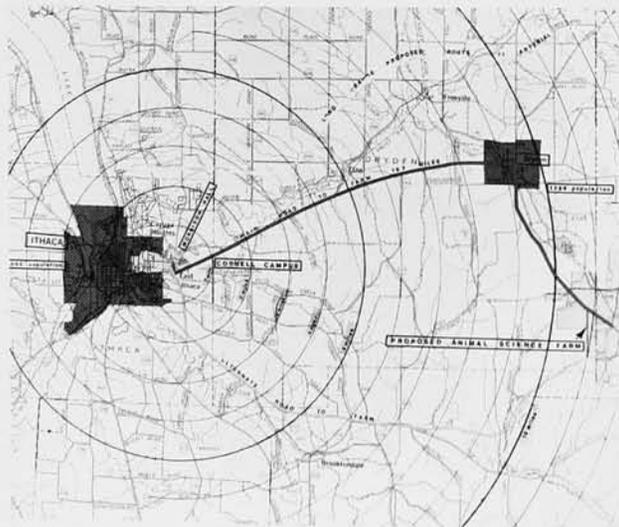
by MARTIN SENNETT

The New York State College of Agriculture at Cornell will soon become less bucolic, and a little more urban, as the beef cattle barns on Dryden road are razed to make way for a new parking lot extension. Within the next two years, the beef and dairy cattle will move to the greener pastures of the new animal science facilities located some 16 miles from Cornell. When they go they will remove the last major farm animal facility situated near the main College campus.

Although it may take about two years to complete the project, the transfer of animals and the construction of new facilities has been in the planning stage for quite some time. About six years ago, the Department of Animal Science, in conjunction with the administration of the College of Agriculture and the Cornell University comptroller, began searching for a location on which to construct new and expanded facilities. A primary objective was to obtain enough land so that the Department would be able to gather its heretofore widespread farm units together in one area.

The site finally chosen was a 2600 acre plot of broad valley land east of Dryden in the township of Harford. Formerly the home of seven separate farms, the land

The Animal Science Teaching and Research Farm will be situated along Route 38, east of Dryden. When completed it will provide a centralized research unit.



New facilities in Harford, N.Y., will replace the present dairy cattle barns located behind Morrison Hall.

has been consolidated into a cohesive whole capable of accommodating the diverse needs of the Animal Science Department.

The new centralized location will offer opportunities for expansion in all types of research, but particularly in the area of animal management. As Barth Mapes, administrative assistant for the Department, notes, "It's a once in a lifetime opportunity to install different types of facilities that we can try out and with which we can experiment." The fact of the matter is, Mapes points out, the College has had little to show farmers and students in the way of model barns for quite some time. As he says, "Except for a few pole barns, we really haven't had any new barns since the 1930's."

It is hoped that for the first five years the new facilities will reflect the latest in farm structures, and will provide ample opportunity for experimentation in such areas as feed and manure handling, building, and labor efficiency. The last area will receive special attention, since the centralized facilities will permit maximum utilization of labor for the first time in many years. As Mapes explains, a considerable amount of manpower was wasted in the past since much time was consumed traveling between the department's scattered units. However, with the barns in a fairly compact area, it will be possible to support considerably expanded research capability without a sharp increase in labor cost.

Since New York is primarily a dairy state, the main thrust of the research will involve dairy farming, as it has in the past. Most facilities projected for the first phase of construction will be for dairy cattle. Following the completion of this stage, work will begin on units for canine research operations as well as beef, sheep, and swine.

As one would expect, the new barns will be designed with research in mind, but will not be so sophisticated as to baffle the average farmer. "We like to be able

to think that we are practical farmers," Mapes notes. "We don't want to build something so elaborate or impressive that the average farmer will feel that it is out of his financial reach." Therefore, the new barns will strike a balance between the requirements of research and the demands of practical utility.

Although the ability to conduct research will be perhaps the biggest single advantage that will result from the construction of new units, other areas of concern will benefit as well. Undergraduate education will receive a boost with the addition of three classrooms at the Harford site — one each for dairy cattle, beef cattle, and sheep and swine. Once again, the modern farm facilities will be the big attraction, as animal science and agricultural engineering students examine the latest innovations and advances in farm building construction without having to travel far from the Cornell campus.

In the past, it was necessary for students in these fields to take extensive field trips to other parts of the State to view modern facilities in action, but the construction of new barns and other buildings will eliminate much of this need. Even feed processing can be studied close to home, as the modern units will include a small but very complete feed processing center that will fill the department's requirements.

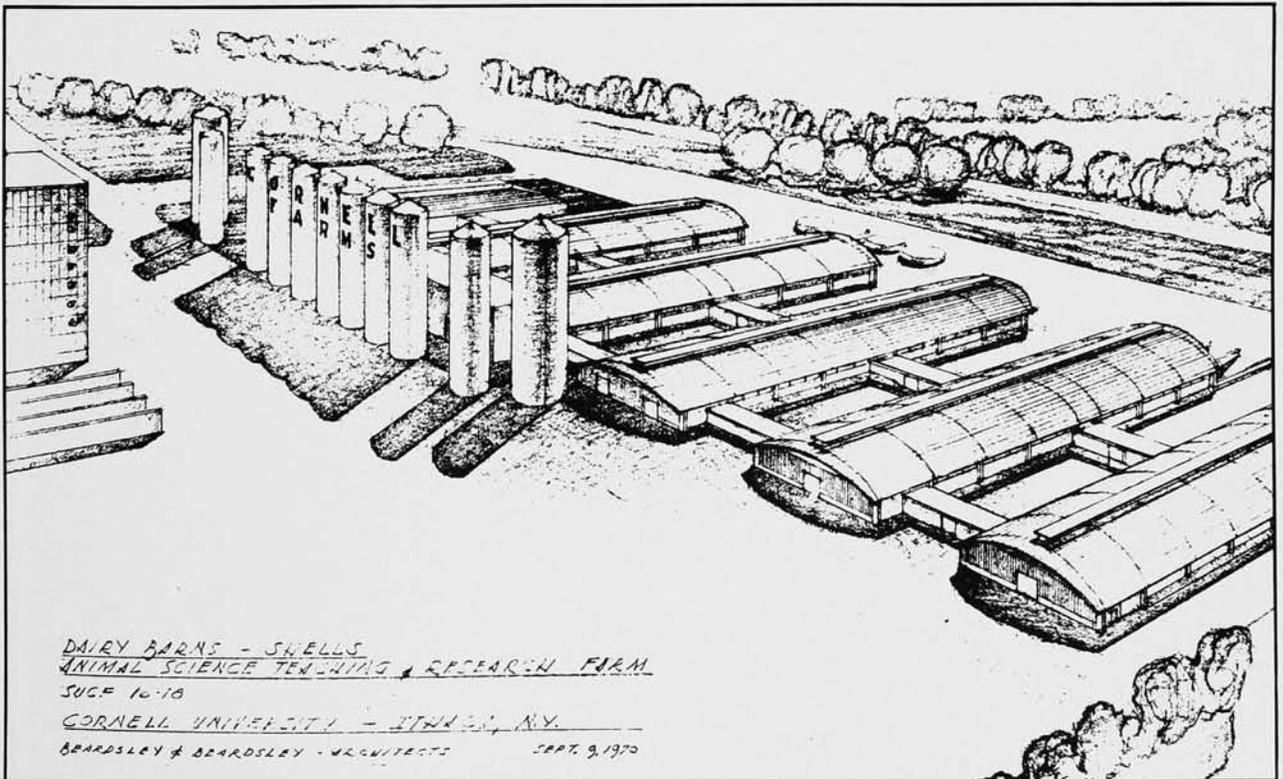
Closely connected with the construction of the farm center is the effect such a move will have on the economy and inhabitants of Harford. This is always a matter

for concern when a large interest such as Cornell moves into a small town like Harford, but in this case the results should be largely beneficial. Though the transfer of land to the College of Agriculture will result in the reduction of Harford's tax base by six or seven percent, the loss should only be temporary, for, as Mapes points out, the modern and attractive nature of the new facilities will soon be drawing people to buy and build homes in the Harford area. The net result, therefore, should be a gain in tax revenue. As a compensation the State will provide tax dollars while the facilities are being completed.

While the major focus is on the new facilities, the exact fate of the old units remains unknown. A portion of the land close to campus that is now being farmed will probably become the site of a new riding hall. It is also likely the Animal Science Department will continue to maintain at least some of its present cropland, since the new site contains only 1100 acres of tillable land, a figure somewhat less than the total being farmed now.

But no matter what fate eventually befalls the old barn facilities of the Animal Science Department, it is certain that attention will be focused on the new. For it is in the new Harford complex that exciting research will take place and significant discoveries will be made in the important areas of animal science and food production.

Architects drew this approximation of the proposed Animal Science installation. Bids were opened Sept. 23, 1970 and Albany accepted a bid of \$1,396,888 for construction of the initial five buildings on the Harford site.



DAIRY BARN - SHELLS
ANIMAL SCIENCE TEACHING & RESEARCH FARM
SUG. 10-18
CORNELL UNIVERSITY - ITHACA, N.Y.
BEARDSLEY & BEARDSLEY - ARCHITECTS SEPT. 9, 1970



The Encroaching Campus

by JAMES POGGI

"Far above Cayuga's waters..."

We all have at least a vague idea of the idyllic words of the Cornell alma mater. They seem to suggest that the Cornell University campus, with scenic Beebe Lake, McGraw Tower, and many other physical and architectural landmarks, is a place of beauty. In fact, the Ithaca campus has often been referred to as one of the most beautiful and picturesque of all college sites.

But the face of Cornell is changing. Pressures for additional modern facilities have added more than 40 major buildings since 1937. A significant problem now confronting campus planners is the question of what effects the building program, which may add an equal number of new facilities in the next twenty years, will have on the architectural and environmental harmony of the campus.

Some observers believe this harmony may already have been upset by recent construction. The face of the campus has become mottled with modern structures conflicting with older architectural styles. For example, Olin Library, nicknamed the "IBM Card" shortly after its completion, stands out against its older neighbor, Stimson Hall. The juxtaposition of the gaping windows and many doors of the new subterranean Campus Store and Barnes Hall — a red brick structure, small, poorly lit, and echoing the traditional structural style of Uris Library and McGraw Tower — is another illustration.

On the upper campus Bradfield Hall, the tallest building at Cornell, and its companion, Emerson Hall, create a starkly functional outline looming above the greenhouses and

flower gardens near Plant Science.

The area surrounding Day Hall, no longer the actual center of the campus, has changed noticeably in the past few years — and the alterations are far from complete. The shade trees adjacent to Barnes Hall disappeared in a flurry of progress with the construction of the Campus Store. Now the addition of the Social Sciences Building has eliminated the Ives Hall lawn as well as the Day Hall parking lot.

The whole campus seems to be contracting as needed facilities continue to encroach upon those open spaces remaining. As a result the green areas themselves are becoming crowded. On a warm spring day the Arts Quad seems as crammed as Coney Island beach during a mid-summer heat wave. The area between Uris and Olin Libraries, another major gathering place for students during class hours, is constantly congested.

Prof. Jot Carpenter, Landscape Architecture, is one of many faculty members concerned with the problems of preserving the beauty of Cornell and retaining what he calls "people places." While acknowledging the need for expansion of Cornell's physical plant, Professor Carpenter believes the human factor is being overlooked.

"We have a need for 'people places,' spaces where people can feel and function like people," he said. "It seems most outdoor spaces were designed with total neglect for the human aspect, considering people only as vehicles."

Necessary expansion on campus frequently overrides aesthetic and environmental considerations. Aesthetically, many feel the new buildings on campus are incongruous with the older ones. The contrast of Bradfield and the Martha Van Rensselaer annex, for example, has caused a great deal of controversy. Both are predominantly red brick and, in

addition to reducing the amount of open space, seem to upset the visual tranquility of the upper campus.

The North Campus Dormitories, also constructed of brick, have a significant effect on the appearance of their vicinity. They add yet another style of architecture to the aesthetic diversity of Donlon, Dickson, and Balch Halls.

In the area of environmental considerations, Cornell planners are now being confronted by the need for surveying the present environment and directing university planning as a coherent entity rather than as unrelated pieces of ground and individual buildings.

One of the most obvious environmental problems — and one of the major reasons for campus overcrowding — has been the ever-increasing traffic. This year, in an effort to eliminate automotive congestion and make Cornell a "walking campus," the administration decided to restrict unauthorized vehicles from using campus roads during weekdays. As a result the campus appears less confined, and a small measure of lost tranquility has been restored. With the eventual expansion of peripheral parking lots the possibility of making Cornell a walking campus may be realized.

Cornell's problem of weighing necessary expansion with aesthetic and environmental concerns is hardly unique. With the burgeoning educational needs of the country demanding increased facilities, the university not confronted by a similar quandary is a rarity. The demands are so great that Thomas Mackesey, vice president of planning for the university, believes the days of the small colleges are numbered. "It is probable," he notes, "that in the next 15 years there will be no such thing as a good small university."

Future years will determine whether Cornell was able to realize its obligation to provide a place of beauty, an atmosphere conducive to learning, for students and faculty while meeting the country's need for expanded educational facilities.

Water Pollution:

An Irreversible

Is degradation of lake quality by pollution an irreversible process? Can bodies of water spontaneously recover if pollution is prevented? Prof. Hugh Mulligan, aquatic ecologist formerly in the College of Agriculture, says research is beginning to show that polluted lakes and ponds have more ability to recover from pollution than was previously thought.

When fertilizers, detergents, and industrial wastes are added to the water, vast quantities of microscopic algae begin to bloom. This increase in quantity of lower order plants leads to a reduction in sunlight in the water, the color becomes a murky green, and no bottom weeds grow. In 20 test ponds near the Ithaca airport, each one 90 feet square and four feet deep, Professor Mulligan experimented with different levels of phosphorus and nitrogen. After fertilization in the summer of 1967 and 1968, algae growth was excessive and the

by **MICHAEL BARRETT**
AND DOUG MEYER

quality of the ponds seriously reduced. However, after 1968 no further nutrients were added and the ponds improved greatly in quality. Mulligan found that bottom weeds had grown back to normal quantities and heavy summer growths of algae no longer occurred.

The ponds, explains Mulligan, simulate the type of environment found in the shallow areas and stagnant bays of most lakes. He says, "Our hope is that one more year of surveillance on these formerly polluted ponds will bear out our guess that nutrient-polluted waters can recover quickly."

Mulligan found that the nitrogen level returned to

Aerial view of experimental ponds near Ithaca Airport. Professor Mulligan conducted his research on the 20 test ponds adjacent to the road.



Robert Johnson, pond manager, examines algae growth in one of Professor Mulligan's test ponds.

Process?

near normal in a year but the phosphorus level remained high for a much longer time. He says that large quantities of nitrogen and phosphorus were "tied up" in decaying plant matter in the sediments of the ponds.

"Excessive nutrients held in this manner will only be released gradually," explains Mulligan, "since the plants and algae decompose much more slowly than they are formed."

Cayuga Lake is one example of an overfertilized lake. The south end is a particular problem because the water supply for Lansing is drawn from the same water that receives the treated sewage from Ithaca and Cayuga Heights, and there is no local regulation of the water supply. Pollution in the lake could be cleaned up very quickly, Mulligan says, "if you stopped the pollution this summer it would be measurably better, perhaps to a degree where you wouldn't know that it had ever been polluted. And in just one summer."

Mulligan suggests stringent laws that are properly enforced as a means of ending this kind of municipal pollution. At present there is no legal barrier to agricultural run-off, but proper planning and management could greatly reduce the amounts of phosphorus and nitrogen pollutants reaching the streams and lakes from agricultural lands. Excess and improper applications of fertilizers not only cost the farmer extra money, but also create a source of pollution.

Animal waste disposal is also a problem. In many feed lots animals are confined to slopes that permit their wastes to be rinsed down to a nearby lake or stream. While the alternative of cleaning up the wastes before they are washed into the water system could be a large expense, Mulligan sees this solution better than allowing raw nitrogenous waste into the water system. "We have the technology. It just costs a lot of money and until the people are willing to pay for the cost of it, the pollution will never be cleaned up," predicts Mulligan.

As to the likelihood of recovering grossly damaged lakes, like the Great Lakes, Mulligan feels that it can be done, depending on what one defines as recovery. Bringing the lake back to its true virginal form is nearly impossible but once pollution is stopped a satisfactory balance could be achieved. The greater problem lies with the poisonous pollutants like mercury which has



made Lake Erie unsafe for fishing and swimming. This type of contamination can not be righted either easily or quickly.

West coast limnologist William T. Edmundson recently reported findings that back up what Mulligan is saying. In Seattle a campaign by concerned citizens resulted in the diversion of polluted sewage streams from Lake Washington. Edmundson reports that the water cleaned itself up rapidly when the pollution was curtailed.

The proposed nuclear power plant on Cayuga Lake might compound the situation now present on the lake. Mulligan says that the addition of warm water from such a plant would not in itself be terribly serious in an unpolluted lake, but Cayuga Lake in its present fertilized condition is another thing. Mulligan says, "To let the power plant go into a situation which is just explosive with nutrient capacity or the capacity to produce all kinds of algae and just make matters worse seems to be insane."

While spontaneous revival of a lake from nitrogen and phosphorus pollution can occur rapidly, it can not begin until pollution ceases.

A Cornellian at Monterrey

by MARCIA WITIES

"I have lived, observed, and learned. I have seen Mexico through the eyes of the tourist, through the eyes of the student and sometimes through the eyes of the people. I have acquired the wanderlust and my life has taken on a different meaning. I have grown and I have changed. I may never be the same, but then I may never want to be . . ."

from a letter written
by Dale Morse in Mexico
to Cornell, April 24, 1970

When Dale Morse (Agr. '70) was accepted to the Cornell Mexican Exchange program at the end of his freshman year, he did not realize what adventures lay ahead. He did not realize that the next year would be the best experience of his life, and that the insight and knowledge he would gain might ordinarily have taken four years to acquire.

Living at Cayuga Lodge, the home of Mexican Exchange students the past four years, Dale learned of an opportunity to spend his junior year in Mexico. He submitted his application through the Secretary of the College, Professor John P. Hertel, took the necessary interviews, and by June 1967, started planning for his year abroad.

Dale started the program in June, 1969, at the summer school in Monterrey Tec (officially, "Instituto Tecnológico y de Estudios Superiores de Monterrey"), one of the most renowned universities in Latin America. Located in Monterrey, Mexico's largest industrial city, the campus is fairly new, built about 25 years ago. Ten thousand undergraduates attend classes in one of the four classroom buildings.

Somewhat like Cornell, the University is divided into separate colleges. Yet the emphasis is decidedly on the more practical, technical fields. Engineering, agriculture, and business, for example, receive far more attention than the humanities. Although there are more scheduled class hours, homework seems to take far less time. And with only 15-40 students in a class, most professors conduct both the lecture and discussion sections of their courses.

Dale spent his summer session at Monterrey learning Spanish. "Classes started at 7:30 AM and did not end



Dale Morse, far left, participates in an entomology field trip with fellow students from Monterrey Tec.

until 5:30 that evening, with some time out for a 'siesta,'" Dale reported. "We had special language tutoring which was especially helpful. But I soon learned that there is more to learning a language than mastering its grammar. It is necessary to get out with the people before you can really speak or understand it!"

William Bockbrader (Agr. '70) who spent the 1968-1969 year at Monterrey had the same experience. He found that the Spanish language takes on a deeper meaning and becomes more a part of you as you "listen to the radio, take exams, write themes, and talk with your friends." Bill was pleasantly surprised when he noticed that many Mexicans, like the taxi drivers, sales people, bus drivers and shoeshine boys outside the campus, all want to talk with the "americano."

Dale commented, "As soon as I found myself taking lecture notes in Spanish without first translating into English, I knew that the language barrier was beginning to break. And I was surprised how flattered the people were that I, an American, was making a feeble attempt to speak in their language."

After an eleven-day excursion to Mexico City and Acapulco with several of his "gringo" buddies, Dale was ready to start the fall semester. During the first term, he took courses in embryology, entomology, biochemistry, Spanish and Mexican history; while in the spring he pursued studies in plant physiology, physics, biostatistics, economic entomology and sociology. He was able to transfer all credits, including those earned in

summer school, towards graduation at Cornell.

Student life at Monterrey is organized much in the same way as Cornell, with many special interest clubs and organizations. Most students join associations with others from their own state. The associations (similar to fraternities) elect their own officers and organize their own parties and intramural sports. Yet these groups caused Dale to feel far more accepted by other Central American students than the Mexicans there, "Probably," he suggested, "because we both felt we were floundering in a foreign country! But after a while, especially as my Spanish improved, I found all the students I met quite open and friendly."

One obvious omission on the Monterrey campus was — girls! Women in Mexico are subordinate to the men, and much protected, and so only a few girls continue their education. This situation has a strong effect on their dating behavior. "No respectable young lady in Mexico would go out with one young man one weekend, and with a different man the next. Dating is taken much more seriously," Dale said. Once a man starts dating one girl, he is expected to take her on as his 'novia,' or sweetheart, and to see that girl exclusively. That is, if she will accompany him without a chaperone!

Monterrey seemed to be a "rich man's school." Since hired help was cheap in Mexico, it was not uncommon for students to have their own maids. The tuition (\$350 per semester) is quite expensive for Mexicans, so the Tec attracts students from the country's richer families. The university is supported by private industry and only a few students are there on scholarship.

It took Dale some time to acquire a taste for the native foods. The hot, spicy dishes are generally made from two basic ingredients, either "frijoles" (beans) or "tortillas" (hot cornmeal pancakes). Sometimes for variety, tortillas were stuffed with ground beef or eggs and eaten with hot sauce. But fresh vegetables were seldom served.

During the course of Dale's stay in Mexico there were many opportunities to travel around the country both on vacations and weekends. All told, he travelled about 29,000 miles and spent over 20 nights sleeping on buses. Only two of his four major trips were organized group vacations. For the others, he managed to get out with friends to the country and visit several Indian villages where he had unforgettable experiences meeting and talking with the people — far from most of the tourist routes.

Living and learning for a year in a foreign culture is a unique experience. "Give this opportunity to a student who is already interested in international agricultural development, and he will be a leader in his field," predicts Professor Hertel. "These students graduate with a fluency in a foreign language, familiarity with a different culture and a solid knowledge of agricultural development."

William Bockbrader (Agr. '70) spent the 1968-1969 year at Monterrey. Here he gives a 4-H demonstration to Mexican youngsters of the Club Juvenil.



Dale, a biological sciences major, may be in the minority of exchange students, many of whom specialize in international agriculture. His experience has given him new perspectives, and now Dale is sure he wants to devote his career toward improving the quality of life. As a specialist in ecology, Dale plans to apply to medical school, and then work in the field of public health towards bettering the environment.

After a year in Monterrey, Dale summarized his experiences in these words, "If you open yourself up and enjoy the adventure of discovering a new way of life, this can be a wonderful experience; but if you don't expose yourself to something new and avoid getting involved with people, then it might well be the worst. This experience, like any other, is only what you yourself make of it."

Dale Morse and another American student shop for souvenirs on market day in Patzcuaro, Mexico.



Readers Answer Countryman Survey

by JON PENNINO

Thanks to 239 replies to the questionnaire in the May 1970 issue of the *Cornell Countryman*, the editors of the magazine now know something about its readers, their interests, and what they prefer seeing in print each month.

The majority of readers who responded are involved in either education or agricultural extension. This list includes libraries such as the Library of the College of Veterinary Medicine at Cornell, which has been receiving the *Cornell Countryman* since its inception in 1903. The librarians informed the editors that the veterinary students use the magazine for both information and recreational reading.

Some readers, like Prof. Robert Holland, head of the Food Science Department at Cornell, have been subscribing to the *Countryman* for 40 years or more.

Others went far beyond the scope of the questionnaire and, like F.D. Morris '37, included philosophical thoughts on the *Countryman's* role in this modern, ever-changing society.

A large number of regular readers involved in agribusiness also responded to the survey. J. Judson Smith '14, a semi-retired farmer and a reader for 60 years, wrote to say that he had served the *Countryman* as business manager in 1914.

One of the important questions readers were asked to answer was what type of articles they would like to see run most often. The responses were both flattering and surprising: more stories of every type were desired.

Most readers agreed with Elliot

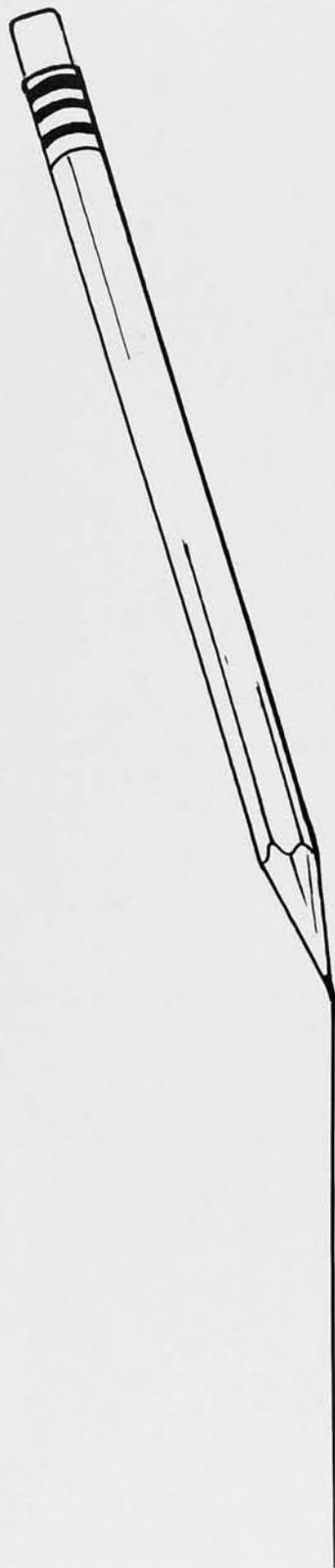
Rhodes '27, a subscriber since 1927, that they enjoyed all articles and could always read more of the same. The survey results indicated that 54 per cent of the readers wished to see additional articles concerning research and development in the College of Agriculture. About the same percentage wanted more human interest stories.

Each individual had his own favorite kind of article. Stories on agricultural development were of greatest general interest, followed by human interest features and articles on research in the agricultural sciences. Readers seemed least interested in research outside the College of Agriculture. *Countryman* Capsules and letters from alumni were, surprisingly, disliked by some readers, perhaps because *The Alumni News* covers this area more thoroughly.

The comments gave the editors insights into the readers' backgrounds and interests. For example, Rolla Van Doren '06, a reader since 1904, recalled having helped pull the plow that broke the ground for Roberts Hall.

A number of letters were received from former staff members and editors of the *Countryman*. Dr. Ernest Smith recalls sharing an office with the pigeons in Roberts Hall when he was managing editor of the magazine in 1961.

It is hoped that the comments received will spur the growth of an evermore professionalized magazine. The members of the *Countryman* staff therefore wish to thank all readers who replied to the questionnaire for their cooperation.





Certificate of Appreciation

"For six years of remarkable leadership as Chairman of the Council for the New York State College of Agriculture and the Agricultural Experiment Stations. For unflagging dedication and loyalty to Cornell University and to countless friends among its administrators, student body, alumni, and faculty over a span of more than three decades."

Awarded to Joseph King on October, 26, 1970, by Charles E. Palm Dean, New York State College of Agriculture.

David A. Smith, a 1969 graduate of the New York State College of Agriculture at Cornell University has been appointed to the faculty of the State University Agricultural and Technical College at Alfred.

Professor Smith received his master's in agricultural teaching at Cornell.

Dr. David Harrington, college president, in announcing the appointment, said Professor Smith will teach courses in vegetable crops and soil conservation.

Professor Kenneth G. Parker, a plant pathologist nationally recognized for his lifelong work on the control of major diseases affecting orchard trees, retired October 1, 1970, after 36 years as a research scientist at Cornell University.

A member of the Department of Plant Pathology at the N. Y. State College of Agriculture since 1934, Parker's work has resulted in effective control of several virus and bacterial diseases, an important contri-

bution to fruit growing in New York and elsewhere.

Parker plans to continue his research work after retirement as well as write papers dealing with pathology.

The three newly-elected students to the Educational Policy Committee of the Agricultural College Council are: Margaret McEachron (Floriculture '72) of Salem, N. Y.; Wendy Trozzi (Biological Sciences '72) of Brooklyn, N. Y.; and Stuart Young (Agricultural Economics '71) of Cortland, N. Y.

These students, elected for a one year term, will serve with six faculty members to establish College of Agriculture policy in such areas as admission standards, graduation requirements, curriculum, new courses, and S-U options.

Students have been actively engaged in standing committees for three years, but this is only the second year they have full voting power.

College of Agriculture Fund Highlights

Fund Highlights

Examples of generous support to the Fund:

A retired alumnus, Class of '17, has contributed \$1000. with a matching gift from his former company.

A College of Agriculture faculty member is contributing \$1000 which he received for consulting services, to be used for innovative teaching programs in the College, plus naming the College as beneficiary of a \$20,000 life insurance policy to establish an endowment providing scholarships for students in biological and animal sciences.

An Arts College alumnus, '09, has made a gift of \$1000. to expand the video-tape instructional program in the Communication Arts Department.

Several Emeritus Professors have named the College in their wills as recipient of a portion of their estate.

Open House

On Saturday, November 21, 1970, the College of Agriculture together with the College Alumni Association will sponsor the annual Open House for high school students.

The program is to begin at 9:30 A.M. and will include tours of college facilities, demonstrations, and discussions concerning student life, academic programs, and career opportunities.

Alumni assistance is needed in locating good prospects and transporting them to campus. For further information contact Albert Lounsbury, 87 Church Street, Saratoga Springs 12866, or Gorden Peck, 163 Roberts Hall, Ithaca, New York, 14850.

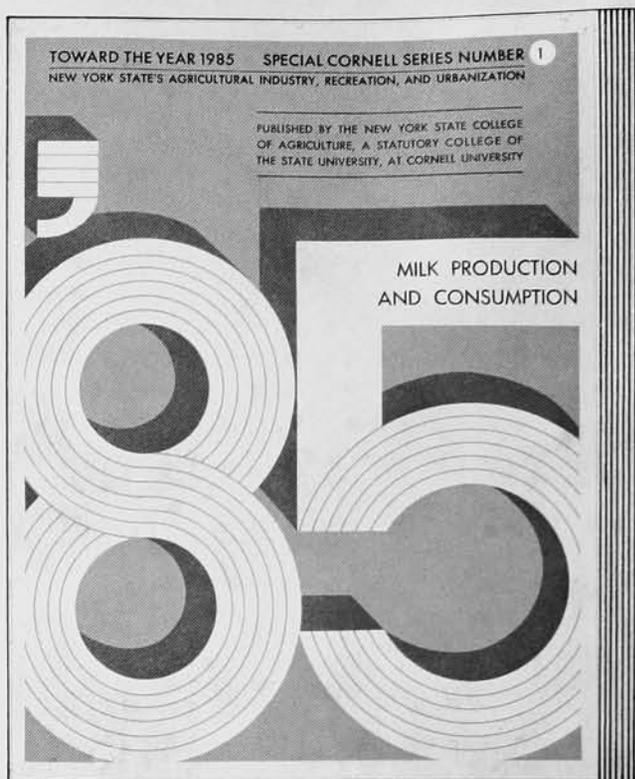
1 of 14

Pictured here is the first of 14 "Toward the Year 1985" special reports published by the New York State College of Agriculture. They focus on the future of the Empire State's agricultural industry, recreation, and urbanization. They are presented to aid in the process of planning both by individuals and by public agencies or organizations. They do not furnish precise predictions of the future, but their effort to identify the economic structure of agriculture and its related activities should make the planning process more comprehensive.

With the background and authors' estimates of what is likely to happen, readers are encouraged to think about how these trends can be altered and what is required for such changes. The summary report, which will be off the press later this month, attempts to integrate the "most likely future" of food production, manufacture, and distribution with that of urbanization and recreation and discuss the implications, issues, and challenges that this offers the people of the State.

This study was conducted primarily by the faculty of the Department of Agricultural Economics but with the cooperation and assistance of many other faculty members throughout Cornell University, public officials at the federal, state, and local level, and industry leaders.

Financial support was provided by the New York State Science and Technology Foundation, the Office of Water Resources Research of the U. S. Department of Interior, Agway, Inc., and from other funds of the New York State College of Agriculture.



The 14 titles are:

1. Milk Production and Consumption
2. Field Crops
3. Sheep, Hog and Beef Production
4. Vegetable Production and Utilization
5. Outdoor Recreation in New York State: Projections of Demand, Economic Value and Effects for the Period 1970-1985
6. Food Wholesaling and Retailing
7. Fruit Production and Utilization
8. Conversion of Land to Urban Uses
9. Interregional Competition in Dairy and Vegetable Production
10. Capital and Labor Requirements for Farming
11. Egg and Poultry Production
12. Food Manufacture and Farm Supplies and Services
13. Growth and Change in Ornamental Horticulture
14. Summary Report: Implications, Issues, and Challenges for the People of New York State

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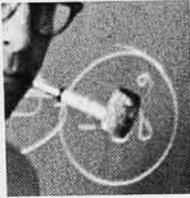
Peregrine Falcon: Species in Limbo

ON THE COVER: *Peregrine Falcon abstract by Jody Seigel*

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The Peregrine Falcon's Fight for Survival

by JAMES WELLS

The Peregrine Falcon is considered by many to be the king of sporting birds. For centuries, falconers have sought out this raptor to tame it and train it to hunt other birds. In its stoop, or hunting dive, the peregrine often reaches speeds near 200 miles per hour, and is considered to be the swiftest of all animals.

A native of the Old and New Worlds, and related to hawks and eagles, the peregrine usually builds its eyries, or nests, on cliff ledges, where the clutches of four eggs are laid. Today, although the eggs are still laid, very few fledgelings hatch or survive, and the species is approaching extinction. The cause of this catastrophe is the recently banned chlorinated hydrocarbon, DDT.

Hints of the oncoming disaster were seen as far back as 1947, only a year after DDT was released for public use, coming in the form of broken eggs in the nests. This was almost unheard of in pre-DDT years, but the

problem was misinterpreted as naturally caused by racoons or poachers.

It was not until the late 1960's that the correlation between DDT and the dwindling numbers of peregrines was realized. Derek Ratcliffe, an English raptor expert, noted that shell remnants in deserted eyries were thin and fragile. Comparing these with those of prepesticide years, he found that they were, on the average, 20 percent thinner, and unable to hold up through the incubation period. It was later laboratory proven that a by-product of DDT, DDE, adversely affects the pathology of eggshell production. DDT residues in the environment will affect the peregrine in the future, and unaided, the birds will become extinct.

To counteract this problem, the Cornell Ornithology Department has started an aggressive campaign to re-establish the peregrine in areas from which it has been

extirpated. "In order to do this," says Thomas J. Cade, "we must first develop a self-perpetuating captive population on a scale large enough to provide a continuing supply of birds for research. This short term goal alone will probably require five to ten years." Mr. Cade, an expert on raptors, is the head of the project, and has taken a specific interest in the peregrine since the first reports of the declining numbers, and he helped organize the Cornell Conference on the Peregrine in November 1969.

Cornell currently has eight birds and hopes to have ten pair when the new breeding facilities are completed in 1971. Cade said, "The desired goals could not possibly be attained if we simply put two falcons in a cage and waited for natural results." Therefore, experimental techniques must be used to increase the reproductive rate. Artificial lighting may be used to stimulate Arctic falcons which normally breed under 24 hour daylight conditions. Hormones may be used to stimulate ovulation, hopefully producing larger than normal clutch sizes. Artificial insemination may also play an important role in captive breeding, reducing the number of males needed. The reproductive rates may possibly be doubled by taking the parent's first clutch of eggs and causing them to recycle and lay again.

Mr. Cade does not foresee many problems with this artificial egg production and feels that the natural instincts of the birds will take over. If not, the eggs can be artificially incubated, and the young can be hand reared or given to foster parents. At Cornell last spring, John Snelling was able to rear 16 of the related American kestrel to fledgling size by this method. Cade is also optimistic about the domestically reared birds' ability to exist in the wild. He feels that the peregrine's

ability to hunt is innate, and that reintroduced into the natural environment, instinct will take over.

The falcons will be housed in a new breeding facility, currently under construction. The barn-pole structure is 227 feet long and 47 feet wide with wire mesh sides. The interior will be divided into ten units, each ten by 20 feet, where the birds will be housed.

T. J. Cade feels that Cornell is an ideal place for this project due the proximity of related facilities. Food will come from baby chicks, Coturnix quail, and homing pigeons from other Cornell projects, and the Department of Avian Diseases of the School of Veterinary Medicine can provide medical assistance. The Department of Poultry science is well known for its studies of avian reproduction and genetics, and the Department of Conservation takes a great interest in the success of the project. But despite this interdepartmental cooperation, two problems still exist.

More than the current eight birds are needed, and with the declining numbers of falcons and increasing numbers of protective laws, it will be difficult to obtain birds from the wild. Also, it will be difficult to get falconers to donate or sell their birds. Perhaps trades will be made: peregrines for younger birds of a different species.

The second problem is one of financing. The project will be operated on a \$4,000 annual budget, and a Peregrine Falcon Fund has been set up to handle public donations, but currently has a \$32,000 deficit.

Optimistic and ambitious are the best terms for this project. Perhaps this effort by Cornell's Ornithology Department will be the answer to saving the peregrine and possibly other birds from extinction, and Tom Cade and his fellow researchers intend to accomplish the feat.



DDT in the environment may mean the end of the Peregrine Falcon.

Fledgelings of this size are rare, and even now, they are threatened by pesticides.

The Conservation Leaders Forum

by MARIE HEWES
COLLEEN MC CORMICK

STEVE SCHAEFFER
CHRIS AGER

A massive and sustained attack on pollution by public, private, and government interests was called for by the Conservation Leaders Forum, held October 8 at Cornell. The program featured four experts in environmental pollution, Dr. Ned Bayley, Director of Science and Education, USDA; Thomas L. Kimball, Executive Director of the National Wildlife Federation; Henry L. Diamond, Commissioner of the New York State Department of Environmental Conservation; Philip H. Lewis, Direc-

tor of the Environmental Awareness Center, University of Wisconsin; and communications expert, Charles C. Russell, Department of Communication Arts, Cornell. The day-long forum was designed to give an overall view of programs and projects currently underway, and to call for a concerted effort to expand these programs.

Following introductory remarks by Chairman Nyle C. Brady, and a welcome by Dean Palm of the College of Agriculture, the program was led off by Dr. Bayley.

DR. NED BAYLEY

"The world is too small to be used as it has in the past. Man has the power to mend and manipulate that which surrounds him." Agriculture, because it is so deeply involved with the environment, must be the leader in this manipulation, so that natural resources being used today can be used in future generations. On the other hand, safeguards must be taken against creating a "global junkyard." Agricultural solid wastes must be disposed of in an efficient and safe manner, and eutrophication from fertilizer run-off must be minimized. Agriculture has done a great deal to expand its knowledge to urban areas, and Dr. Bayley's presentation graphically demonstrated the problems, and how these problems are being solved.

THOMAS L. KIMBALL

People are beginning to realize the problems in the environment, and the decline in the quality of our air, water, and land resources is ceasing. In order to completely stop this degradation of our biosphere, Mr. Kimball proposed a four point program. First on this program is to stabilize human population. According to him, rising population means rising consumption and pollution. Secondly, a comprehensive plan for land usage similar to urban zoning laws must be formulated. Third, before land is developed, a thorough evaluation of the land should be made to determine long and short term effects of the development. Fourth, an aroused public is necessary if this commitment to our environment is to be carried through.

CHARLES C. RUSSELL

Professor Russell traced man's exploitation of the earth and its resources from post-Civil War days to the present, and explained the differences in attitude of the various time periods, from "our resources are infinite" to the current concern over resource pollution and depletion. However, Russell also expressed a concern that, although interest is high, it may decline.

HENRY L. DIAMOND

Mr. Diamond stressed the need for coalition of various factions in the community, including citizen groups, universities, government, and young people. He also suggested the utilization of a "Think tank bank" consisting of records on experts in various fields. These could be called upon for their specific services when needed.

Mr. Diamond also called on educational institutions to provide students with programs in environmental concerns no matter what the vocational goals of the student might be, and praised last spring's Earth Day as "a turning point in public concern for our environment . . . when enthusiasm, and zeal, and public fervor for a better environment reached a peak."

PHILIP H. LEWIS

The question of where and where not to build parks and recreational centers, according to Mr. Lewis, must be determined by patterns of natural diversity known as environmental corridors. Not only should these corridors be considered in preparing recreational areas, but in the construction of highways, industry and housing.

Urban and industrial growth, according to Lewis, should consider four patterns. The first of these is consideration of agricultural value. Second, some land, due to its nature can not be developed. Canyons and flood plains often come under this area. Third, recreational value must be considered, and areas set aside. Finally, ethnic and cultural values must be considered a resource. Customs and culture should be maintained the same as physical resources.

Mr. Lewis stated that these techniques for planned development have been tested in the Midwest, and he hopes that an expansion of the techniques will occur, providing a unified effort to provide "positive approaches to environmental quality" to the entire world.

From *College Bowl* to Cornell

by HELEN BLOHM

Celebrity, teacher, and prominent local citizen — this is Robert Earle. The former moderator of General Electric's *College Bowl*, he is now enthusiastically involved in modern education and television. Mr. Earle is currently teaching two communication arts courses in the College of Agriculture, while regularly commuting to New York City to freelance TV commercials. Locally, he is serving his second term on Ithaca's Board of Education.

Born and raised on Long Island, Bob Earle first moved to upstate New York when he attended Mohawk College. During the summer preceding his freshman year of college, he worked for CBS as an usher at the old Hammerstein Theater—now the Ed Sullivan Theater. Majoring in English, he graduated with a BA in 1951 from Utica College, an extension of Syracuse University. By this time, he was already working at local radio stations in Rome and Utica.

In September 1953, Mr. Earle moved to Ithaca to teach in the radio department of Ithaca College. After serving as chairman of that department for four years, he was named Manager of Television. He later left Ithaca College to work at General Electric's Advanced Electronics Center as a community relations and communications expert. While he was at G. E. Allen Ludden, then moderator of the *College Bowl*, left the weekly show. Acting on impulse, Earle called the show's producer for an audition, and was chosen to replace Ludden. That was the beginning of an eight year career with the *College Bowl*.

Mr. Earle felt that one of the most memorable games of his *College Bowl* career was the Princeton versus Agnes Scott game. Agnes Scott, a small women's college in Georgia, managed to remain tied with Princeton throughout the game. With two seconds left to go, the tension in the audience reached a peak. The Agnes Scott team then answered a bonus question to defeat the Princeton team by five points. The highlight of the game was not that a small, virtually unknown women's college had beaten Princeton, but that the tie-breaking question was answered by a blind girl, the only person in the studio who did not know the score nor how much time was left!

His work on the *College Bowl*, as well as his teaching at both Ithaca College and Cornell, represents only a part of Bob Earle's involvement in education. He is also a member of the Ithaca School Board, which is respon-

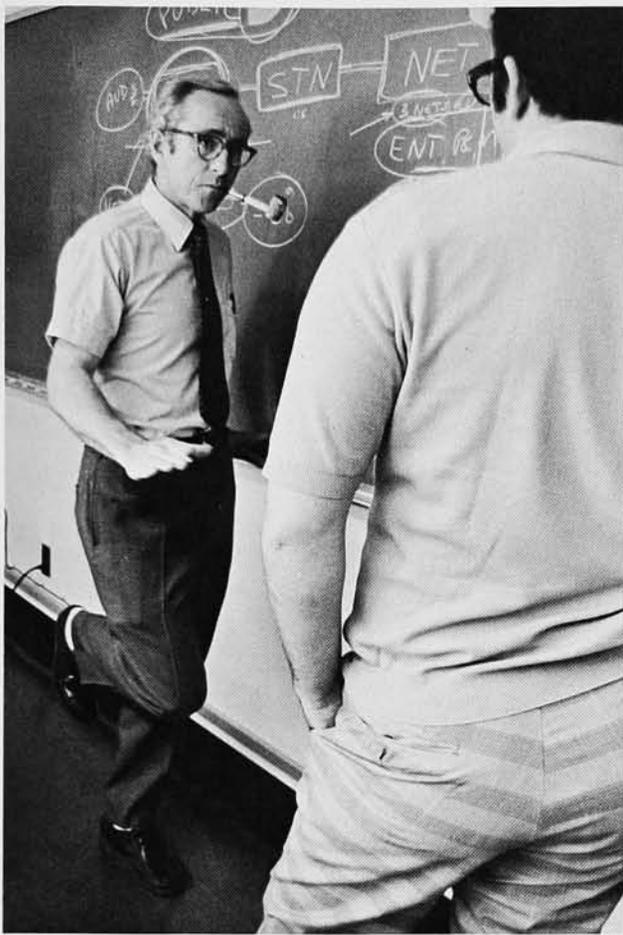
sible for providing a meaningful education for the 8,400 children in the Ithaca area.

Commenting on today's education, Mr. Earle says, "There's an emerging need to shift from content to process orientation in our schools. It is becoming literally impossible for teachers to continue presenting education as a set of facts to be learned, instead of as whole concepts to be understood. Education must shift its stress from teaching to learning if it is to be successful.

"Pre-school children experience the thrill of discovery and can be enchanted with the whole idea of learning something new. They come to the public school with this outlook in kindergarten and first grade. Then something happens. We try to squeeze and squash information into neat little packages and all their enthusiasm slowly peters out."

Through experimental programs such as Ithaca's East Hill School and the Alternate Junior High, Mr. Earle thinks that it may be possible to sustain a youngster's thrill of learning. "If we can ultimately find ways of preserving this throughout our school system and into





Bob Earle is known by students to be very animated, using his whole body to talk.

by adults who include what they think the children will want to watch. For the most part, they have been undershooting their mark. The *Sesame Street* people have approached the problem with a completely different frame of mind. They look at it through the eyes of a child and ask themselves what it is that the child wants to see. This is why *Sesame Street* is really successful. They have found in their first year that they have underestimated the ability of the preschool child to learn. They see things in the world as a child sees them, and a child's mind level can be a very beautiful thing. There is a lot of love, kindness, and understanding. I make it sound as though *Sesame Street* is the perfect be-all, end-all program — which it isn't, of course."

Earle feels that *Sesame Street* has made it all the more difficult for conventional teaching methods to work. The public schools are discovering that they must find new ways of sustaining the excitement of learning that *Sesame Street* has inspired. "Not only *Sesame Street*, but all the television shows and commercials a child watches before he even enters school can make the ordinary routine of school seem pretty dull to those very sophisticated five and six-year olds."

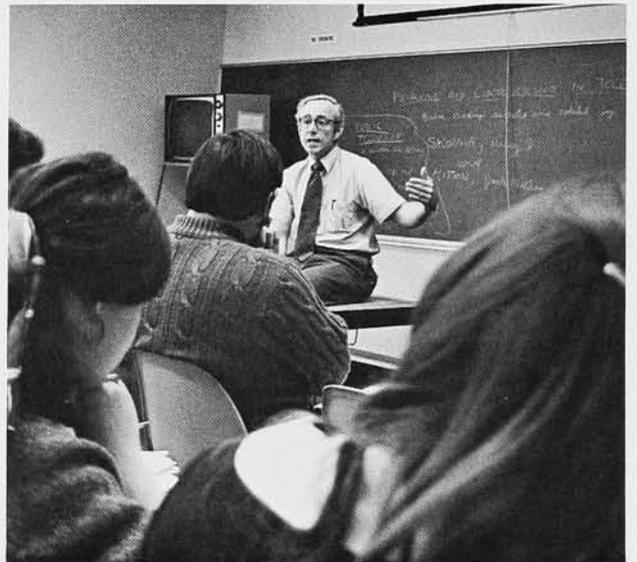
The students presently on American campuses are the first generation to be raised with television. Mr. Earle feels this carries with it some far reaching implications regarding the level of sophistication of today's students. "I have a lot of confidence in eighteen-year olds, because they know so much more than I did when I was eighteen. Their commitment to improving the quality of life through the political process, and population and environmental control, are all signs of a deep social concern about all of humanity."

our colleges and universities, we will have hit upon something not only wonderful but quite necessary if American education is going to survive.

"Our whole educational philosophy is predicated on a system of assignments which are to be fulfilled, leaving students little opportunity to generate their own tasks. We have been finding out that when a student has something to say about what he learns, he is really interested in learning, and works much better than by assignment."

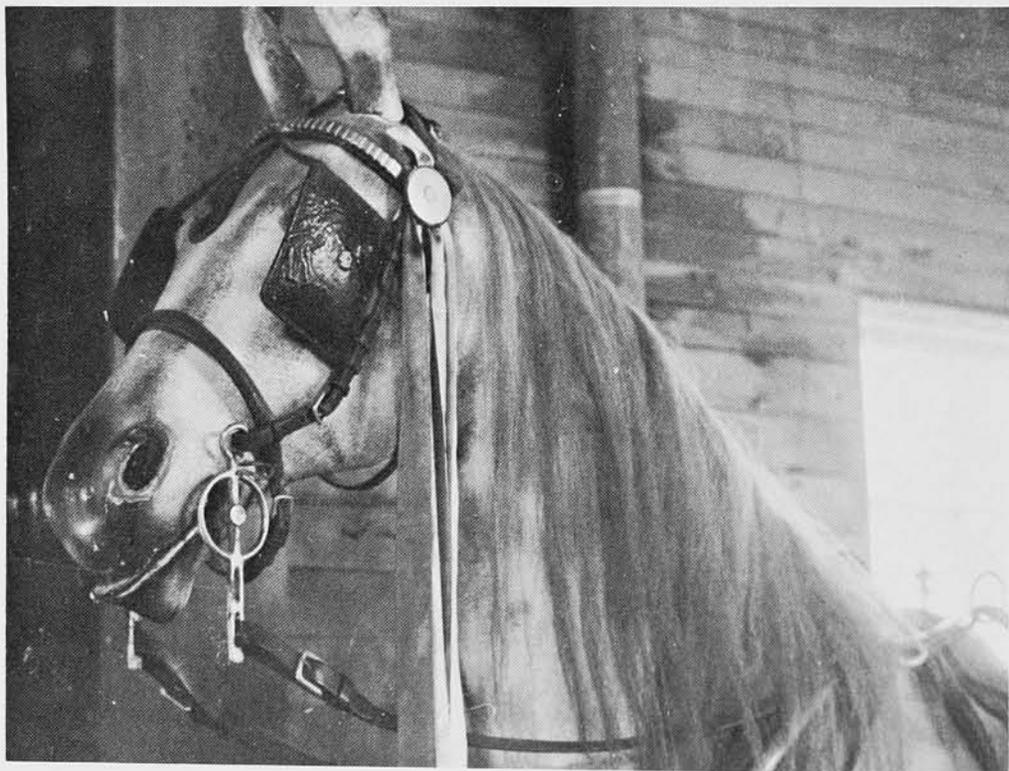
Robert Earle runs his classes on the open assignment theory. However, many of his students find his rather vague assignments a bit disconcerting. But Mr. Earle defends his method because he believes, "The student generates the kind of self-discipline that he will need later on if he is going to develop a successful program of activity for himself. I try to give guidelines to indicate general directions, but I leave the specifics up to the individual student. The world can be full of followers, and it most often is. I'd much rather have a world of people who were generating their own things to do, rather than having someone else tell them what to do."

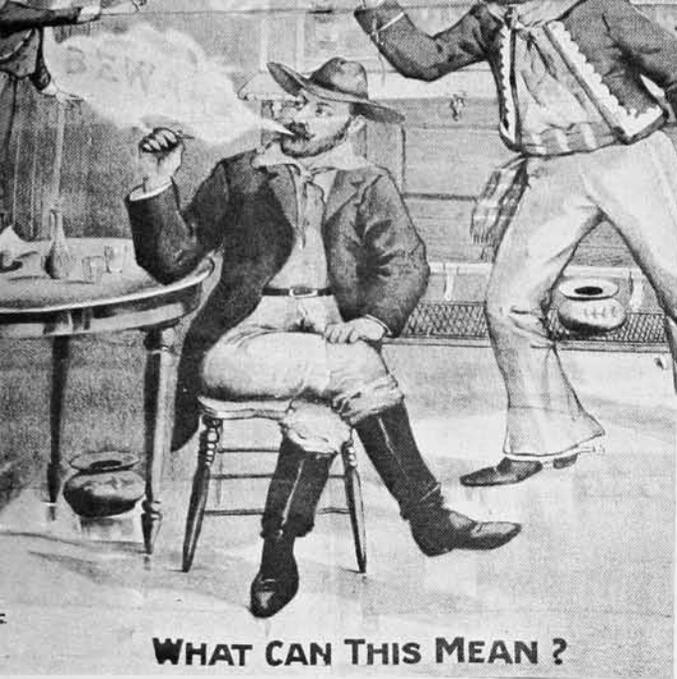
When asked about the success of educational television, and in particular, *Sesame Street*, Earle commented, "The whole approach is an intelligent one. Nearly all the other children's programs are put together



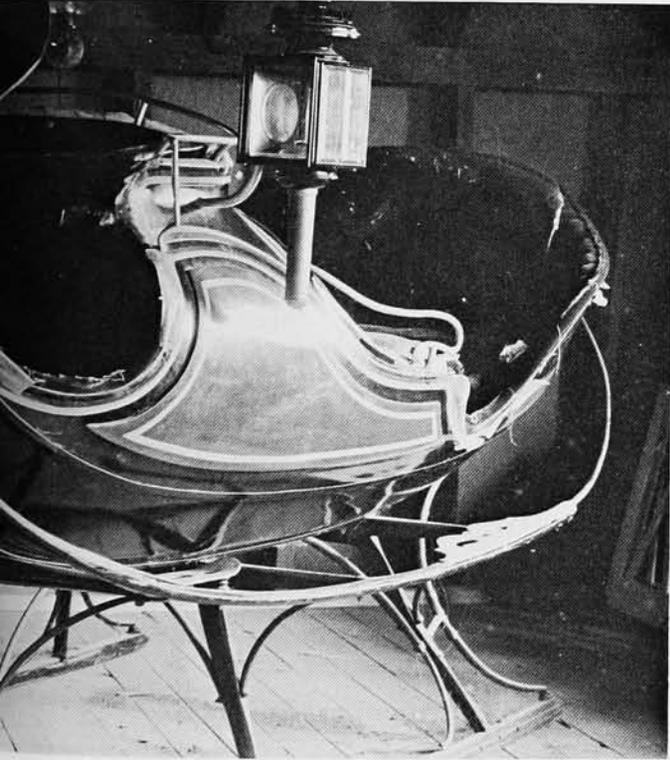
Big Red Barn's Antiques

by RONALD FREUDENHEIM

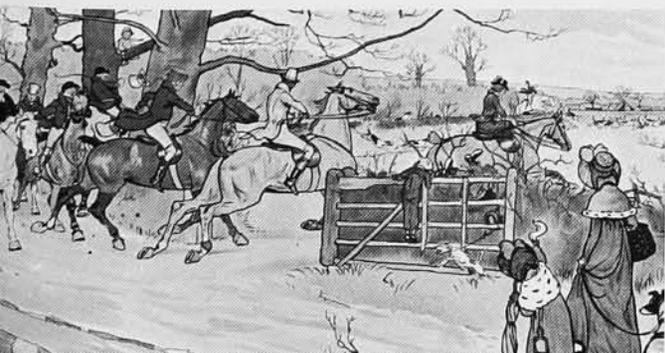




WHAT CAN THIS MEAN ?



The site of many post game reunions, the Big Red Barn was built in 1874 as the university president's carriage house. In 1955 the building was renovated as a meeting place for alumni, and today, after every home football game, you can find alumni enjoying the rustic atmosphere to meet former classmates and admire the many antiques donated through the years. These often bear plaques designating the donor, but some are unmarked, leaving visitors to wonder about the source. Relics vary from a life-sized wooden horse to paintings and cloth wall draperies, parts of which are shown here.



New York Deer

Face

Population

Dilemma

by DOROTHY KROTJE



Today there are more deer in New York State alone than there were in the entire United States when the Pilgrims settled here in 1620. Conservationists are concerned that the whitetail deer, numbering 300,000 to 400,000 in the state, may be overpopulated and that starvation may result.

When the first settlers arrived in what is now New York, most of the area was covered with a dense, mature forest which was not a favorable habitat for deer. Deer prefer a "woods edge" or marginal environment such as a grassland or brushland with a diverse cover. As the settlers pushed inland, felling trees and clearing land, excellent conditions for deer resulted. The whitetail population reached a peak in the 1940's when the habitat was so greatly increased by reforestation projects and the desertion of many small subsistence level farms.

A second factor contributing to the increase in the whitetail deer population is the decrease in the number of predators. The presence of wolves and mountain lions was incompatible with advancing civilization because of their attacks upon settlers and livestock. Today the domestic dog has taken the place of these wild predators, especially during the winter months when deer find it difficult to travel through deep snow and are easily exhausted. Dogs, which are frequently able to run over the crusted snow, then overtake the tired animals.

Professor Richard McNeil of the conservation depart-

ment claims, however, "The big killer, the one which has replaced the predators, is starvation." During a hard winter many thousands of whitetail deer may starve. The average weight of a buck is 20 to 30 pounds lower than on a good range, and the antlers are poorly developed with fewer points, decreasing their trophy value.

In addition to the outward signs of starvation, the reproductive rates are affected. The surviving does often abort or have stillborn fawns. As a result, fertility in starvation areas has been shown to be lower; a reduced fawn crop will occur one and a half years after a severe winter. This phenomenon is also due to a lower ovulation rate, lower conception rate, and a lower fawn survival rate. These natural density control mechanisms operate, however, at a level that, while preventing natural population growth, enables the number of deer to remain stable under starvation conditions.

Overpopulation not only affects the deer themselves, but their environment as well. The most pronounced damage that the overcrowding and overbrowsing of deer produces in the environment is the change in species composition of the habitat. In a forest that is overbrowsed there is a "browse line" at the height the deer can reach. Below this line there is very little undergrowth. This decreases the value of the forest with regard to water retention, food and protective cover for other species. The forest becomes clear and park-like with a reduced carrying capacity, the number of animals that a habitat can support in a healthy condition. This situation is particularly unfavorable for rabbits, grouse, and other ground-dwelling species that depend on undergrowth for their existence.

As well as altering the species composition of a forest, the overbrowsing of the whitetail deer produces a change in growth form. Shrubs and even trees take on a "hedged" look. This "hedge" effect is especially damaging to a commercial nursery or Christmas tree farm. While the degree of damage in nurseries and forests has never been documented, Professor McNeil believes that it must be substantial. The trees most preferred by deer usually are the same species which are valuable for timber.

Deer also cause a tremendous amount of damage every year to agricultural crops and automobiles. Hundreds of farmers suffer small losses and growers of high value crops such as grapes, apples, and cherries may be seriously hurt financially. More than 20,000 deer were killed in New York by collisions with cars, and damage to vehicles is more than \$2 million per year in this state alone.

Before any measures can be taken by the New York State Department of Environmental Conservation to curb the overpopulation of whitetail deer, the economic value of the deer must be considered. Sixty thousand deer are harvested annually; the value of the meat is \$1,250,000 and the hides are worth approximately

\$50,000. The total value of the recreational business generated by deer in New York is estimated at \$56 million per year. Each year half a million residents and 15,000 non-residents spend \$1.5 million for licenses to hunt in New York. Hunters spend about \$50 million for arms, ammunition, clothing, equipment, and food and lodging.

Since the whitetail deer is so important economically, it would be politically difficult to change the present regulations protecting deer. If the deer hunting season were extended or if the bag limit were increased, the deer population would decline. This decrease might be beneficial to the environment, farmers, and nurserymen, but the number of deer harvested and the recreational potential would decrease severely in the long run. In addition, nature enthusiasts would vehemently object to extending the season or loosening restrictions.

Fortunately nature is acting by itself to bring an end to the overpopulation of deer. Conservationists now feel that the peak in the number of New York State deer has already been reached and that a decrease in number will continue. The environment of New York, like all other environments, is constantly changing. Immature trees have become mature forests, marshes are being filled in with rotten vegetation. Many abandoned farms are becoming dense brushlands and will eventually become mature forests.

The time of an optimal environment for deer in New York would therefore seem to be passed, according to conservationists, and the number of whitetail deer will soon be reduced. In the future deer will cause less damage, despite the fact that today we may be overwhelmed by the quantity of deer and the destruction they cause. In fact the day may come when we will have to hunt the whitetail with a camera rather than a gun.

Browsing deer cause thousands of dollars in damage in New York alone.



Cornell Senate: Born in Crisis

by WILLIAM OVERSTREET

The calendar said spring, but the weather was cold and a chilling drizzle fell on Ithaca when 100 blacks seized Willard Straight Hall at dawn April 19, 1969. That single act, which culminated the following afternoon with the blacks emerging armed with rifles they had received during the night, has since precipitated more controversy than any other in the history of Cornell University. Yet in the days of crisis succeeding that somber weekend one problem was immediately apparent: a communications vacuum separating students, faculty, and administrators plagued Cornell. As a direct result of this realization and in an effort to establish a governing body representative of the entire university community, the University Senate was created in the spring of 1970.

The history of the Senate is a lengthy one, beginning in May 1968 when the Cornell Student Association, the only campus-wide student government, dissolved itself. At the same time a new adjudicatory system, composed of the Student-Faculty Board on Student Conduct (SFBC) and the Student-Faculty Appellate Board (SFAB), was hearing its first cases under the recently revised student conduct codes. The communications gap caused by the absence of an official student voice plus procedural difficulties in handling judicial cases involving several members of the Afro-American Society then led directly to the fateful spring '69 demonstrations.

The events of the week following the Straight occupation included the spontaneous appearance of an amorphous group composed of over 900 students and faculty that named itself the Barton Hall Community. If nothing else, the unruly body reopened the channels of communication that enabled the Senate to appear 12 months later.

The Cornell University Senate is an experiment, an attempt by the university community, in the words of

the Senate Constitution, "to govern itself in a manner reflecting the diversity of its membership." It is "the principal legislative and policy making body of the University in matters which are of general concern to the University Community."

Accordingly, its membership is representative of that entire community. Of the 132 members 60 are students, 60 faculty, two alumni, one vice president, and eight employees. Ex officio non-voting members include, for example, the university president, the provost, the deans of all colleges, and the director of the Africana Studies and Research Center. In October the freshman class elected ten non-voting representatives to serve until March 1971 when a newly elected Senate will take office.

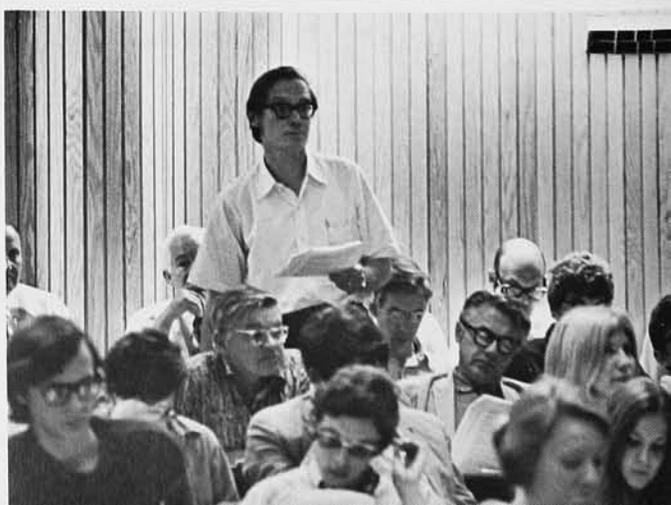
In addition to legislative control over non-academic matters, the Constitution grants special powers to the Senate, including the right to require the University Faculty to reconsider any vote it takes and to suspend new legislation until a second vote of approval is made by the faculty.

The Constitution and the Senate it mandated are the end products of over a year of intensive work begun by the Barton Hall Community and continued through the resulting Constituent Assembly. Changes and reinterpretations in the powers and duties of the Senate will undoubtedly be made, but the brickwork has been completed and the Senate is now employing that foundation to begin its work. But laying that masonry was not easy; when the Constituent Assembly convened for the first time in May 1969 the task seemed insurmountable.

The Constituent Assembly, officially created by resolutions of the University Faculty, the Barton Hall Community, and the Board of Trustees, began its marathon assignment before spring examinations were completed. Backed by a \$50,000 grant from the Ford Foundation, the 367 member body deliberated throughout the hot Ithaca summer, hoping to be prepared early in the fall to propose the government that might be able to bring Cornell back from the brink of fear, mistrust, and confusion of the spring.

The assembly represented the input of every depart-

Willard Straight . . . Constituent Assembly . . . Senate.



ment of every college of the university as well as the administration and employees. Fifty seats were delegated to special interest groups including foreign students, alumni, and the Black Liberation Front—formerly the Afro-American Society. In September 1969 with the addition of freshman representatives the body approached 380 members.

Yet even while the Constituent Assembly task forces researched, debated, and composed tentative proposals, the effects of the spring demonstration were being felt in the form of pressure from outside the university. The New York State Legislature enacted the Henderson Act requiring all colleges to file with Albany explicit procedures for handling future disruptions. The Board of Trustees, confronted with a July deadline, responded with the hastily drawn Regulations for the Maintenance of Public Order.

Cornell's judiciary, which many felt had never been given a chance to prove itself, was now burdened with the administration of more rules and codes. The University Faculty, realizing this urgent problem, created the Ad Hoc Judiciary Committee to further revise the student code and to recommend what adjudicatory procedures should be established by fall.

As a result of the committee's work, the Office of Judicial Administrator was established to examine possible violations of both the student conduct code and the Regulations for the Maintenance of Public Order; Joseph Bugliari, LL.D., professor of Agricultural and Business Law, was appointed to fill the position by University President Dale Corson. The University Hearing and University Review Boards were created to try all cases of alleged violations of the Regulations by any members of the Cornell community. The SFBC and the SFAB were retained to adjudicate student code violations. The revised judiciary was barely ready when September arrived; the Constituent Assembly was still embroiled in debate.

Early in October the assembly began serious consideration of the first of six proposed constitutions for a university-wide legislature. More than once the gargantuan body appeared ready to flounder in its own bulk, and the lack of a quorum became a serious problem. Finally, however, shortly before Christmas recess was to begin, a compromise proposal for a University Senate was passed 204-21. An Interim Election Committee was delegated to work for ratification of the Constitution and then to hold elections for the Senate. With a typically harsh winter descending on Ithaca, the Constituent Assembly then dissolved itself.

The University Faculty voiced approval by a 307-54 vote Feb. 11, 1970. Students and employees also voted to accept the Senate Constitution, and early in March the Interim Election Committee announced that elections that would make the Senate a reality would be initiated as soon as the Board of Trustees approved the

document. But another April had arrived before disagreements between the IEC and the trustees over several provisions of the Constitution were resolved.

On April 10, 1970, ten days short of a year since the black students had marched from Willard Straight Hall, the board met in Day Hall. With Cornell in the midst of another crisis precipitated by the burning of the Africana Studies and Research Center by an unknown arsonist, the University Senate was officially recognized by the trustees. The way was cleared and elections were held in May.

The first meeting of the Cornell University Senate was called to order at 2 p.m. on a warm Saturday afternoon, May 23, in Kaufman Auditorium by W. Donald Cooke, dean of the Graduate School and speaker of the Constituent Assembly. With the election of Arthur Spitzer, an undergraduate major in the School of Industrial and Labor Relations, as chairman, the machinery of campus government was ready to begin functioning.

The success or failure of the Senate may well be determined in its first year as it faces an awesome variety of complex issues that demand immediate attention. For example, the Senate has legislative authority over the newly created Division of Campus Life which includes departments of housing, dining, and parking as well as the Campus Store. It is now the responsibility of the Senate to decide if sophomores are to be required to live in university facilities, if the meal plan will be required for freshmen, how campus parking should be regulated, and how the Campus Store can get out of the red.

In addition, the Senate must make recommendations concerning admissions and financial aid, campus planning, and university investment policies. Committees are now examining the question of dropping physical education requirements, eliminating or altering ROTC, and changing the present academic calendar. The Constitution also states that the congress must "formulate a statement of the principles of academic freedom of students" and draft a Bill of Rights for all members of the Cornell community.

And there are the issues of April 1969, unresolved and still threatening 20 months later. The Senate must propose an adjudicatory system that all segments of the community will accept. Both the Regulations for the Maintenance of Public Order and the student conduct codes must be studied and revisions proposed. Better channels of communication must be instituted to attack such problems as racism.

There are no easy answers to the difficult questions confronting the Senate. Most of these issues, however, are not unique to Cornell; they are symptoms of the times felt by all universities. Cornell at least has taken the first step toward finding solutions by establishing the Senate. The answers themselves, however, lie hidden by some future spring.

The Tree Spirit

by PHILIP MICHALAK

used in the East come from only four species: the balsam fir, black and white spruces, and red cedar.

For many years now, the most popular tree has been the balsam fir. This tree is characterized by flat, round-tipped needles, marked near the base with two white bands. Its cones are yellowish to red, with purplish to green tips. This tree is particularly practical because its needles do not fall off, even after several weeks indoors.

The two spruces are rather similar, and slightly less popular than the balsam fir. Their needles are four-sided and blue-green in color, and the cones range in color from bright red to purple. Those of the white spruce are slightly yellowish, and the cones and needles are a bit longer than those of the black spruce. The silvery streaks can also distinguish the white spruce from its cousin.

The red cedar ranks between the black and white spruce in popularity. Its needles are dark green, slender, pointed, and not more than one-half inch long. Its cones are bluish and very fleshy. In fact, many birds often mistake these cones for berries and eat them.

No matter what tree is used, certain precautions need to be taken. Professors Fred E. Winch, Jr. and Gordon R. Cunningham of the College of Agriculture suggest a set of recommendations for Christmas tree safety. They suggest that you buy the freshest tree available and keep it well-watered while you have it in the house. Use a tree stand large enough to hold the tree securely, and locate it in the coolest part of the room, far away from open flames such as candles. Be sure the decorations are fireproof. Check all of your Christmas tree lights for loose connections, bare wires, tinsel in the sockets, and overloaded circuits. Finally, unplug the lights when you leave the room.

Thus, the Christmas tree is hardly a phenomenon of American commercialization. The tradition of its use abounds in a rich, colorful history of several centuries. And its role in spreading the Christmas spirit is certainly unmistakable. So have a safe, merry, and spirited Christmas!

Everyone knows about the Christmas spirit, and probably the most common symbol of this spirit is the Christmas tree. It is largely the Christmas tree and the tradition behind it which keep the holiday spirit alive.

It was not until the early sixteenth century that the evergreen was first used as a Christmas tree. This was during the time of the renowned theologian, Martin Luther. The story is told that Luther was strolling through the countryside one Christmas Eve under a starlit sky and became awed by the beauty of the heavens and snowladen landscape. The light from the moon was shining softly on the hills, the evergreens and the snowflakes. This scene reminded Luther of the nativity of Christ. So returning to his family, he tried to reproduce this outdoor glory inside his home. He brought in an evergreen and attached lit candles to it in portrayal of the beauty outdoors.

Educated guesses suggest that people may have later started using cotton and strings of popcorn to create the effect of snow. In order to add color, fruits such as apples and cranberries were hung on the tree. Because some real foods were too heavy, pictures or models of foods were substituted. Through these practices, the tradition of decorating the tree began.

What makes a Christmas tree? At least 25 varieties of pine have been used to sprinkle our living rooms with needles. However, over 80 per cent of the trees

COUNTRYMAN CAPSULES



Dean F. T. Orillo of the University of the Philippines (center) and his wife (right) talking to a guest at a recent reception on campus.

Dean of the College of Agriculture at Los Banos, University of the Philippines, Faustino T. Orillo, spent two weeks in late October visiting the Cornell campus. Orillo discussed the Cornell-University of the Philippines Graduate Education program with Dean Palm and director of international agricultural development, Kenneth L. Turk. Time was spent reviewing teaching, extension, research, and international extension programs and observing modern agricultural facilities, both in Ithaca and Geneva.

Cornell has been assisting the Los Banos College since 1963, in developing faculty and teaching and research programs. A program to get information from the Los Banos College to the farmers has been developed, and the improved facilities have made the College a major agricultural information center in the Philippines.

Have You Made Your Pledge?

Over 1000 Alumni have made pledges to the COLLEGE OF AGRICULTURE FUND. Have you made yours yet? Income from the fund will be used to support student scholarships and innovations in teaching. Please fill out the card below and mail it to:

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AGRICULTURAL COMMUNICATORS OF TOMORROW

The newly formed Agricultural Communicators of Tomorrow (ACT) is a group of students throughout the United States, some majoring in agricultural journalism or communications and all actively interested in careers in agricultural communications.

ACT organized this summer at Cornell University, Ithaca, New York, during the convention of its parent group, the American Association of Agricultural College Editors (AAACE). Purposes of ACT include stimulating interest in the profession of agricultural communications, promoting the interchange of ideas among students and faculty members at colleges and universities that offer professional education in agricultural communications, and providing a means of contact between students and professional agricultural communicators. ACT also affords an opportunity to meet and work with students who share your career interests.

ACT sponsors a national student communications contest with cash prizes. This contest consists of entries in categories such as news stories, feature stories, photography, radio productions, magazines, miscellaneous publications, and advertising. The entries are judged by outstanding men in the industry, and winners are announced at the national ACT convention.

As a member of ACT you will receive a monthly newsletter to keep you in touch with other agricultural communications students throughout the nation. It can be a medium of exchange for you to express your ideas and learn the ideas of others.

To become a member of ACT is simple. Membership is on an individual basis and any student who has a professional interest in agricultural communications is urged to join. Dues amount to one dollar a year, and cover the cost of producing and mailing the ACT Newsletter.

ACT MEMBERSHIP APPLICATION FORM

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Welcome to Agricultural Communicators of Tomorrow!

Direct all questions and membership forms to ACT National Treasurer, c/o Steven Kearn, ACT Representative at Cornell, 61 A Maplewood Road, Ithaca, New York, 14850.

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CORNELL COUNTRYMAN

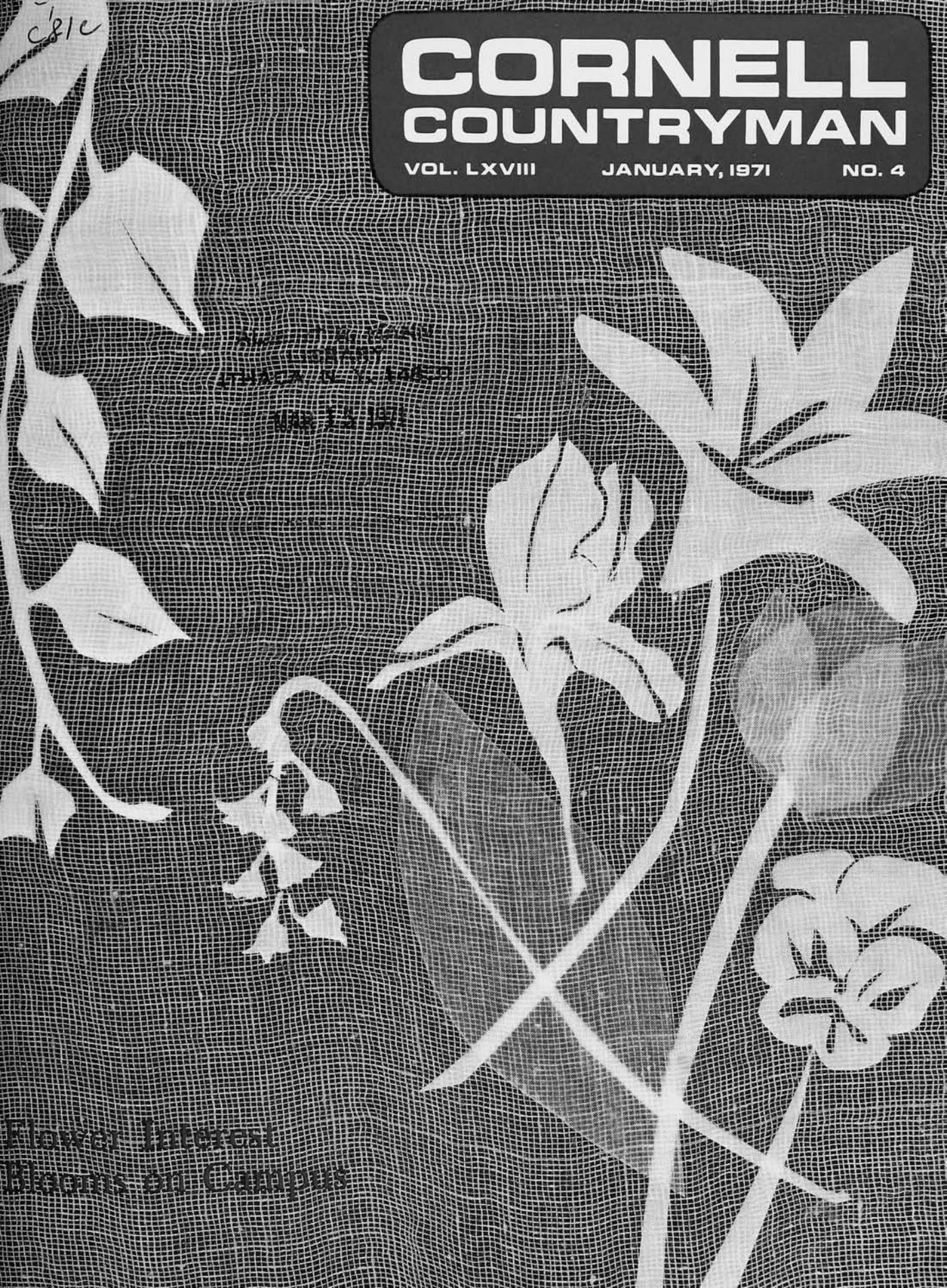
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Flower Interest
Blooms on Campus



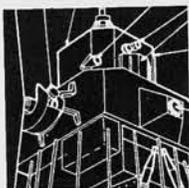
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ON THE COVER: Flower photograph by Jody Siegel

CORNELL COUNTRYMAN

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Whither Flowers?

Prof. Boodley Sees Blooming Industry

by JUDITH G. GOODMAN

*"Full many a flower is born to blush unseen,
And waste its sweetness on the desert air."*

Thomas Gray

"Flowers have long been the unspoken language of poets." In this way, Prof. James Boodley, chairman of the Floriculture and Ornamental Horticulture Department at Cornell, describes the unusual significance of his field. Floriculturists study methods of cultivation and management of ornamental and flowering plants. Professor Boodley feels that no other gifts can so easily convey emotion or portray sentiments as well as the living beauty of ornamental plants. They are potent communicators for people.

The industrialized United States has taken relatively little notice of these products. A projection of past trends would indicate a decreased interest in ornamental plants as our society and world grow increasingly mechanized. Yet Boodley predicts not only the perpetuation of flowers as a means of expression, but also an increased use of flowers in the United States.

According to Professor Boodley, North Americans do not utilize flowers the way Europeans do. "In Europe, flowers are as much a part of everyday life as food is in ours." People purchase a few blossoms and a sprig of greenery to brighten up their working places. Boodley reports the presence of bouquets even on breakfast tables in camping areas. In homes, most rooms boast a small arrangement. Urban apartment house designers are expected to include window boxes in their plans. Apartment contracts often require tenants to abide by seasonal planting schemes developed by both the tenants and the building owners. This plan prevents one window box from clashing or destroying the total effect of the building design.

Professor Boodley suggests that the dissimilar uses of ornamental plants in the United States and Europe is due partly to a difference in the pace of life. North Americans seem to have less concern for the substance of life than the quantity of production returns. "In the United States, we are in a constant rush to get things done. Flowers reflect a more relaxed atmosphere."



Delicate orchids and other flora are a common decoration in Hawaii but a rarity in mainland United States.

Only ten per cent of the potential flower market in the United States has been reached in the past. In spite of this history, Boodley believes that the business will grow substantially in coming years. The growth of industry has provided new occasions for the use of flowers, although the traditional reasons for buying plants, such as Mother's Day, have not changed.

Industry strives for greater efficiency in distribution and production of goods. Professor Boodley points out that this results in "fifty-acre black-topped shopping plazas" and industrial sites plastered across the landscape. People are housed more efficiently, vertically, in cities of uninterrupted walls. Professor Boodley believes the monotony of such areas could be broken up by well-designed botanical beautification.

With the arrival of a shorter work week, another result of industry, Boodley feels there will be more time for people to participate in outside activities such as home beautification. For the homeowner, gardening may prove a satisfying change from golf and bowling, but gardens may demand more time and care as pollution problems intensify. Apartment dwellers wanting to bring nature indoors will have luck with indoor gardens, for, as Professor Boodley points out, "Plants do better in air conditioned areas than outdoors," particularly when grown in specially designed potting mixtures such as Cornell Peat-Lite mixtures.

In addition to greater demands produced by industry, there will be a natural increase in purchases due to population growth. Garden owners and commercial



Flower-arranging, an ancient art in much of the world, is becoming popular in the United States.

growers, trying to satisfy this larger market, will have to contend with damage done to plants by air pollution. According to Boodley, the requirements and make-up of modern society make substantial decreases in pollution unlikely.

Currently, the floriculture outlets located in metropolitan areas are being stifled by polluters. Orchid growers have already been forced out of many areas, unable to withstand costly crop losses due to dry sepal, a direct result of air pollution. Slower plant growth and leaf damage, such as bleaching, are common sights in urban regions, where sulfur dioxide and fluorides are in high concentration. (Strangely, fertilizer production is a major source of fluoride pollution.) Most growers cannot afford expensive air filter systems necessary to prevent damage in greenhouses and there is no known guaranteed protection for plants trying to grow outdoors, as many city dwellers who try to raise flowers in window gardens have discovered.

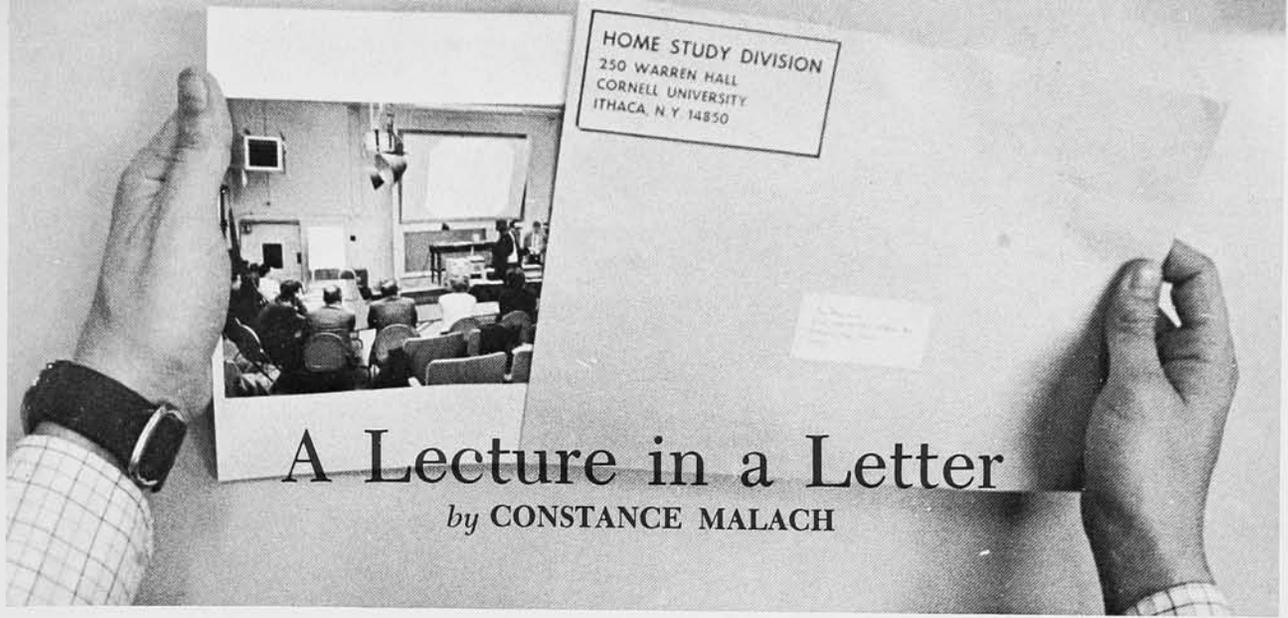
Yet, despite the harmful effects of air pollution on live plants, artificial greenery is used only as a last resort in Europe as in most of the world. Extremely low light conditions or toxic air in larger cities sometimes stifles the possibilities of live ornamentals, but the combination of greater expense and an inexplicable sentiment prevents artificial plants from claiming first preference.

Research in both air pollution protection and growing techniques will be a necessary corollary to an expanding flower market, Professor Boodley says. He notes that the use of fertilizer must become more sophisticated. Cultivars (varieties) of ornamental plants which are resistant to pollution must be bred. Cornell could produce such stock for commercial groups. To date, such cross-breeding research at Cornell has been limited to agricultural crops, mostly grains. Biological control of insects — that is, control of insect pests with corresponding insect predators — could also provide a means for decreasing amounts of pesticides needed.

Such research, however, is limited in value to the floriculture industry and to the nation. The problem of the industrial sector requires more comprehensive solutions, says Professor Boodley. Floriculturists are investigating more total ecological plans called “closed systems,” which would integrate the various services needed by society, utilizing the waste products as inputs. Nuclear generators would supply necessary electrical power to the city and working complex. Thermal discharge from nuclear generators would be used to heat: 1) a large complex of greenhouses, possibly a 100-200 block, 2) the soil of outdoor areas where feed crops are planted, 3) the water of pools where fish would be bred for consumption. The resulting cold water would be used to cool the generators. Fertilizer would come from two sources: the manure of livestock raised on the feed crops and garbage from the city processed with waste heat.

Such systems would have several advantages. For example, greenhouses would have inexpensive electric light available, which would provide better control of floriculture crops. The cost of lighting now, on a small business scale, is prohibitive. Centralization of production, sales and shipping would leave other areas free for maintenance of a “green belt.” So-called “waste” products would become useful rather than adding to pollution.

Professor Boodley believes that as awareness of the environment grows, people will be searching for alternative patterns of life to solve current problems. These solutions will require careful planning which takes into account all aspects of life. Professor Boodley views flowers as an indication of the amount of interest in the substance of daily living. He hopes that his predictions of an increase in the popularity of ornamental plants means a greater consideration of the quality of life in the future.



A Lecture in a Letter

by CONSTANCE MALACH

Recently, a student wrote a letter to his instructor explaining why his assignments were to be handed in late. But instead of the usual excuses professors receive, this student accused the course and his recently gained knowledge. The delay was caused by a lack of time due to a promotion he had just received from his employer because of his further studies in the food industry.

Few Cornellians are aware of the Cornell Home Study Courses administered through the Food Industry Management Program on the main campus of Cornell University. This program was founded in 1963 to extend the educational opportunities available at Cornell in a meaningful and practical form to employees in the food industry.

Every employee in all aspects of the food industry, regardless of position or previous education, is eligible to enroll in the Cornell Home Study Program. Course content is aimed at approximately the junior college level, but does not carry college credit. Some of the courses currently available include economics for business, designed to acquaint and familiarize all food industry personnel with the basic economic principles which affect the flow of goods from producer to consumer through the supermarket; food distribution; business law; food warehousing and transportation; accounting; business mathematics; checkout and personnel management; and business English and letter writing. The practical application of course material to daily work activity is heavily stressed. Any course can be completed easily within six months, and Cornell requires that it be finished within one year from the date of enrollment.

The Cornell Home Study Program is a non-profit educational project partially endorsed by the National Association of Food Chains. The enrollment fee of \$25

for each course covers the cost of the textbook, study guide, grading, counseling, and certificate of completion. Applications for enrollment are accepted on a continuing basis to better accommodate the student.

The Home Study Program has been very successful so far, and is continually progressing and developing new ideas and methods of teaching. Enrollment has increased from the original 3500 to the present 5000 students. According to Mr. Gene German, program director, "Sixty per cent of those employees who enroll in a course finish its study. This is a higher percentage of completion than that of a freshman class entering Cornell University."

New courses are continually being developed. A few of these now in preparation include advertising, store security, communications, and merchandising.

Some food chains are utilizing workshop sessions to supplement the values of home study and to provide direct applications of the principles to the company's policies and operating methods. Assignments and problems are discussed thoroughly at a workshop session and allowance is made for an exchange of ideas between the students themselves and between the students and the instructor.

Now being tested is a new method of instruction employing the use of cassette tape recorders. This would allow the student to actually hear a lecture and verbally reinforce the material in his mind. With this method the student would feel as if he were receiving more personal instruction. It is also closer to the standard of college teaching.

Participation in the rapidly developing Cornell Food Industry Management Program, either through home study or workshop sessions, is an attempt to gain the advanced training so necessary in today's modern food industry.

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DAYTIME



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Orbit 233

Cornell Tunes In on Nimbus

by ELIZABETH CARVER

Before World War II, an organized program of meteorology did not exist at Cornell. Only courses used primarily to help farmers correlate weather patterns with crop growing were offered under the auspices of the department of agronomy in the College of Agriculture. Today, although a division of the agronomy department, the meteorology program has grown in size and now has about 26 students enrolled in an undergraduate program and five graduate students doing research work for more advanced degrees. And the number of majors is growing every year.

Students with diverse backgrounds are being attracted to the field for a variety of reasons. Job opportunities with the government, private industry and educational institutions are fairly numerous and lucrative. However, the field is not strictly limited to males. Four of the 26 majors are women. Nor is interest in department courses confined to meteorology majors. Students from outside the division are also attracted to the more basic courses through interest or need to fulfill a science requirement.

With this increase in student interest, the two full-time professors that staff the division, Bernard Dethier and Warren Knapp, are kept busy. They are responsible for the 14 courses taught at the undergraduate and graduate levels throughout the year. These courses include a basic course in the principles of meteorology which often attracts a large number of students and other courses ranging from climatology to atmospheric pollution to the physics of clouds, rain and rainmaking.

Along with their teaching duties, Professors Dethier and Knapp supervise the graduate research work. Two of the projects now being undertaken deal with air pollution caused by ozone and other oxidants and the construction of a receiving station for data sent from United States weather satellites. The first project involves 24-hour monitoring of the air by instruments and plants for the level of ozone. Ozone, O_3 , is a poison that damages vegetation, decreasing yields and quality. The Cornell station is a part of a project monitoring the levels of ozone in the atmosphere in various environments in the northeastern United States. The data secured by Cornell provides information on the level of ozone in a rural area. The data received will be exchanged with other members of the team and will be

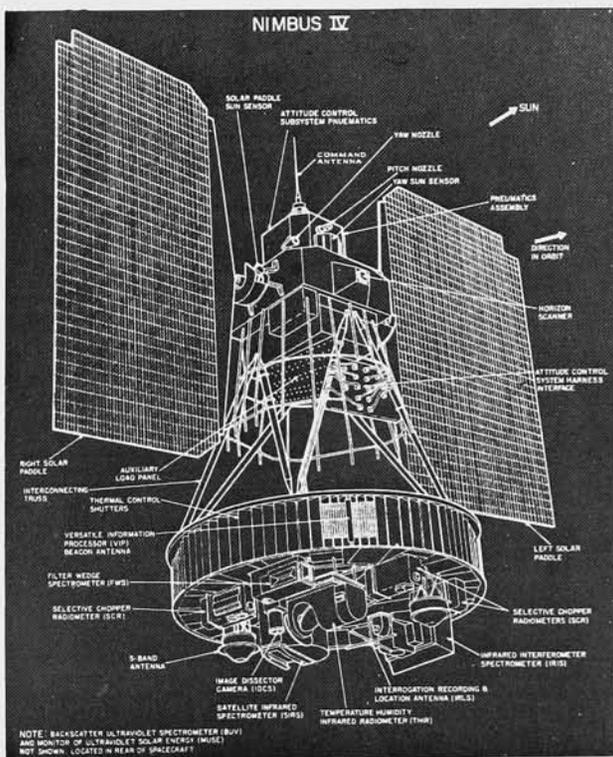
used for further study to determine the conditions that allow ozone to build up in the air.

The satellite receiving station is being built under the direction of Dr. Knapp. The station, located on top of Emerson Hall directly above the meteorology division, will be designed to receive signals from the Nimbus weather satellites now in orbit and from the new weather satellites, ERTS A and B, to be launched early in 1971. The signals received at this station will be translated into data, recording weather phenomena such as cloud patterns, frequency and precipitation.

The meteorology division also does service work for the Ithaca area. The local weather station, as well as five others around New York State, are owned and operated by the division. Many of the weather forecasts used by the local newspapers and radio stations are furnished by the division as part of the daily schedule.

Through its services and research, the meteorology division has established itself as a useful and important part of the Cornell community.

Structural aspects of a Nimbus Weather Satellite are shown in this drawing. Radio signals from the device are received at ground stations such as the one being built at Cornell.



Left: Photographs of cloud patterns, like the one at the left, help Prof. Knapp of the meteorology division to study weather. A satellite receiving station is being built atop Emerson Hall.

Hortorium Started in Shoebox

by LOY VAN CROWDER, JR.

The Bailey Hortorium was founded in 1935 by the former Dean of the College of Agriculture, Liberty Hyde Bailey. As defined by Dr. Bailey, a Hortorium is "a place for the scientific study of garden plants, for their naming, for their classification, and for their documentation."

The Bailey Hortorium originated at Sage Place, Dr. Bailey's Ithaca residence. With the aid of his daughter, Miss Ethel Bailey, he did much of his writing, research, and collecting of plant specimens there. The Hortorium's numerous catalogues from all over the world, the nearly 350,000 specimens, and the library of some 100,000 books stem from the work Dr. Bailey did at Sage Place. The card index files, numbering over 200,000 cards now, was started in a shoe box at Sage Place by Miss Bailey. These files, housed now in large metal cabinets, serve as a source for much of the Hortorium's operation.

Located in Mann Library, the present Liberty Hyde Bailey Hortorium is a research institution where herbarium collections, procedures of taxonomic botany, and knowledge in botanical systematics are made available to the horticultural world and the lay community.

In its 35 years of evolution, the Hortorium has increased its staff and has grown into a department dedicated to fulfilling educational goals and basic research needs of the College of Agriculture, with its core program focused on the expansion of horticultural systematics. The continuous research efforts of the Hortorium put it in a position to take on the extension activities in botany for the College of Agriculture, with Dr. Peter Hyypio as extension botanist.

In extension service, Dr. Hyypio must answer the public's often humorous questions about various plants. For example, one day Dr. Hyypio received a sample of a weed from an extension agent. He explained that the local sheriff was suspicious of the man who grew the weed because anytime someone came near the man's crop, he threatened the trespasser with a gun. The sheriff hypothesized that the man was growing marijuana. Why else would he be so violent in his efforts to keep away curious neighbors?

Dr. Hyypio carefully examined the weed, and pronounced it to be

the root of an Irish potato. Apparently, the farmer, thoroughly confused by the sudden interest in his crop, was only trying to protect his potatoes.

Judging from the number of inquiries, Dr. Hyypio reports that quite a few people are interested in marijuana these days. A letter he received one day from a frantic mother contained shreds of what looked like tobacco. She had discovered the tobacco in her son's pocket, and was desperate to know whether or not he was smoking "grass".

Dr. Hyypio made a careful analysis and found that the boy



A variety of strange textures and shapes fills the aisles of the conservatory.

had indeed been smoking — but only cigarettes; and the doctor could even tell which brand. A small piece of the cigarette paper containing the brand name had been left with the tobacco.

Not all of Dr. Hyypio's requests are so simple. A few years ago, a lady complained of skin rash every time she worked in her garden. Her doctor diagnosed it as a type of poison ivy. A careful search of her garden, however, revealed no poison ivy, oak or sumac to cause the irritation. But the rash continued, with no one able to find a cause. Finally, in desperation, the case was referred to Dr. Hyypio.

Hyypio could find no garden plants which could be responsible for the skin irritation. Suddenly, however, he realized that the only time the lady broke out was when she was spreading peat moss. Dr. Hyypio took a sample of the peat moss to the Hortorium for analysis.



The brilliantly-colored bird-of-paradise plant is grown in the conservatory used by the Hortorium.

In it, he found a few stems of poison sumac, just enough to create the skin problem.

Currently, Dr. Hyypio is trying to identify 28 pressed roses sent to him by the National Arboretum in Washington D. C. The roses were collected from Shenandoah National Park, and the information is needed for a forthcoming book.

The L. H. Bailey Hortorium has long been involved in researching material and the collecting of information for use in botanical and horticultural publications.

Through the publication of *Hortus Second*, a book based on *Hortus*, a dictionary of cultivated plants in North America by L. H. Bailey and E. Z. Bailey, the *Manual of Cultivated Plants*, and journal articles *Baileya* and *Gentes Herbarum*, the Hortorium has brought together both botanical and horticultural knowledge.

Under the leadership of Dr. David M. Bates, the Hortorium is now working to complete *Hortus Third*, which will present a vast accumulation of the cultivated flora of the world. It will include the correct botanical name, authority, synonyms, and description adequate for identi-

fication of each of some 3,541 genera and 23,814 species.

In the future, Dr. Bates hopes to put into action the use of electronic data processing to save time and provide ready information for the Hortorium's publishing responsibilities. This would mean the extensive accumulated data at the Hortorium and incoming data could be rapidly handled and analyzed.

Another direction Dr. Bates feels merits the Hortorium's attention is reaching the public with scientific yet readable accounts of plants.

Dr. Bates indicates the huge scope of the work the Hortorium is undertaking and the realms it will encompass in the future when he states: "With the current and undoubtedly continuing interest in the quality of the environment, demands for information concerning plant resources from all segments of society will increase. Such information must be based on an accurate knowledge of the cultivated flora of the world. This flora does not respect political boundaries. The problems are international, and hence, the Hortorium has been and must continue to be an organization of international stature."

Chemistry, Pollution And Pills

by JAMES POGGI



Involved students are attempting to classify and pinpoint sources of air pollution in the Ithaca area.

As you walk into Baker 119 on any Monday or Wednesday at 12:20, you might find a student giving a chemistry lecture on a topic he has researched himself. It might be a study in steroid chemistry, the "Metabolic Effects of the Pill." This topic and many others of interest to young people today are being studied in the course. This is Chemistry and Society 203. It is chemistry that looks at the world around it through the eyes of the students who participate in it.

This course, perhaps even more than its sister courses, Biology and Society 201 and 202, thrives on the active participation of its students. Professor Lawrence Hendry, who is in charge of the class, says that its purpose is to "get students interested in constructive work in chemical ecology." It is toward this end that a number of student research projects have been directed.

To carry out his idea of student research and participation, Professor Hendry has lectured extensively, providing background information so that students may work on their own projects. Lectures the first few weeks included pressing social problems such as birth control, chemical and biological warfare and pesticide use. Now most of the course time is devoted to student presentations.

A great deal of research work by the students centers on chemical pollutants, especially in the Ithaca area. Here, as in other respects, the course is unique. It not only focuses on determining the pollutants and their sources, but also attempts to follow up on the results obtained. As Professor Hendry explains, "We would like to try to initiate lawsuits against some of the major polluters."

Some of the research projects undertaken by the students are aiming at water pollution in the Ithaca area. Two studies are being done on Fall Creek.

One of the projects investigated the pesticide levels of the creek, trying to discover whether the farmers or the Cornell experimental farms contributed significantly to this pollution. Although the work on this project is not complete, Professor Hendry said that "little DDT has been found in Fall Creek. We're uncertain how much Cornell or the local farmers contribute to the pollution of the stream. One interesting result is that construction is a major source of pollution in this area."

Another study on Fall Creek tried to study emissions flowing into the stream. Counts on coliform bacteria, which often result from putting effluent into a stream, have been done. Two pipes that lead from the university to Fall Creek have been checked for types of emission.

Steam has been the main emission from these pipes. Their effect is uncertain; however, a few dead and discolored plants have been found near the gorge outlet.

Although a map shows most of the pipes running under the campus, it is often difficult to find out exactly what buildings contribute to this situation and to what extent. For instance, one of the pipes running to

Fall Creek exits from Baker Laboratory, where pollution research is based, but also serves Clark, and Rockefeller Halls. The other pipe, which seems to be coming from the Arts Quad, is not shown on the map. In addition to this problem, some things seem to disappear. Professor Hendry claims that Baker Laboratory used to have a holding tank for its organic chemicals which used to overflow into the gorge. However, no one seems to be able to find the tank or its overflow pipe.

Oil pollution is another problem that is being probed by the students in the course. Although its effects have been discussed at great length in terms of salt water, according to Professor Hendry "little work has been done on oil pollution in fresh water. We are trying to discover what effect it has on plankton and the maintenance of the ecological balance."

Problems that oil pollution pose are wide-ranging. As one student said, "Microscopic forms of life are certainly affected. But the effect on waterfowl such as ducks and geese is even more devastating. The oil penetrates their feathers and makes them unable to fly. They are then left helpless."

The group working on this project has found two places where oil pollution is of substantial proportions. One is a pipe leading to Judd Falls which students in the course have seen spewing raw gasoline into the water. The pipe leads to the heating plant where the gasoline flow was said to be an isolated occurrence. However, the water in the area is quite warm, and plant growth at the outlet of the pipe lends some evidence of thermal pollution, according to Professor Hendry.

An area of worse oil pollution is below the bridge over Six Mile Creek on Route 13. Students found the mud filled with oil and suspect that many microorganisms have been killed. Professor Hendry explains that "this is a very polluted area where chemical fertilizers which have been dumped add to the problem." Work is now being done to find out what has been the major source of this pollution.

Various commercial products which are potentially harmful to health have come under scrutiny in students' research. The Shell "No-Pest Strip", which contains toxic inert gases, has been an object of study. A survey was taken by students of restaurants in the Ithaca area and about 90 per cent of them were found to use the device. One was even found in the accident room at Tompkins County Hospital. The students published information suggesting the removal of the No-Pest Strips and most have now been taken down.

The Hartz-Mountain flea collars, which contain the same substances, have also been studied. They have been found to kill small animals, especially when collars designed for dogs were used on cats.

Air pollution in Ithaca has not been studied in great detail, according to Professor Hendry. So a group of

students set out to discover who contributes what pollution to the air. As a student said, "Even though the Health Department says the air is all right, the Air Index ratings got relatively high during the summer." The object of the students' study is to try to classify the air pollution by type and source, as was done in Elmira.

Of course, the concerns being handled by the students in this course are only a fraction of the issues now being raised throughout the country. Perhaps the amount of new research being generated in the course will not be used. But then this is not the sole purpose of the course. The development of student interest in areas of chemical ecology is really the standard against which the course will be judged.

Chemistry and Society 203 uses social awareness of problems crucial or interesting in the eyes of its students as a starting point for the study of chemistry. This element of humanization brings home the relevance of this area of "hard science" to the modern world.

Chemistry students are investigating the quality and content of regional lakes and streams.



Animal Waste: A Dilemma

Scientists Face an Offal Problem

by JAMES WELLS

Agricultural waste management is a discipline that has arisen from necessity. Feeding our nation's growing population has forced agriculture to continually utilize more efficient ways of producing foodstuffs. In terms of livestock and poultry this has meant confining large numbers of animals to very restricted areas. This confinement creates the problem of having huge amounts of organic wastes also concentrated into a very small area. The waste management program is the study of this problem, utilizing information to create feasible systems in combating the waste problem.

High-density livestock wastes create a two-fold pollution problem. First, there is the problem of what to do with the massive bulk of manure produced. Today, it is not uncommon to find a poultry farm housing 100,000 to 200,000 laying hens. This operation produces a waste disposal problem equivalent to a city of 10,000 to 20,000 people. A city of this size would cover many square miles and the cost of the sewage treatment plants would be shared by all its inhabitants. The poultry farm, on the other hand, is on relatively few acres of land, owned by one person and usually isolated, making it impossible to set up a cooperative waste system with other farmers.

Still, the livestock producer cannot ignore the effect of his operation on the total environment. It is necessary to develop an economically feasible waste disposal system without concentrating it into a small block of land where it kills all vegetation around it and has the possibility of polluting surface and subsurface waters with runoff and leached chemicals.

The second problem which must be considered is

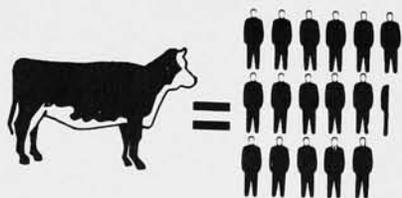
what to do about the odor released by these huge amounts of wastes. Years ago this would not have been a factor, production was not as intensified and farmers had only other farmers as neighbors. Today, farmers have new neighbors. The push of suburban and city populations into rural areas through housing developments and resorts has brought a new definition of environmental quality. Consequently, waste management systems must be developed to control not only land and water pollution by liquid and solid wastes, but to combat offensive waste odors.

At the New York State College of Agriculture at Cornell, some pioneering programs have been set up to combat the many facets of the waste problem. A task force has been implemented to coordinate the many disciplines in this area. It includes people from the Departments of Agricultural Economics, Agricultural Engineering, Agronomy, Animal Science, Food Science and Poultry Science. Each group is doing research particular to its own specific field, but they are also cooperating with each other in an effort to form some economically feasible systems of waste management.

R. J. Young, professor of Poultry Science and the coordinator of the task force, stated that, "Waste management is so complex, not only because varying systems are needed for the different types of livestock raised but, in many cases, for the different environmental conditions under which they live." These problems show the need for multi-disciplinary action in waste management.

A project which has been particularly effective is the waste research laboratories at Cornell in Riley Robb

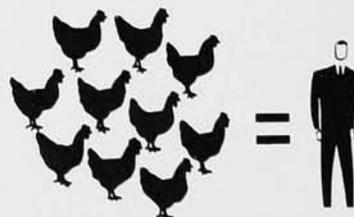
The waste produced by one cow equals that produced by 16.4 persons, that of one hog almost two persons, that of ten chickens one person.



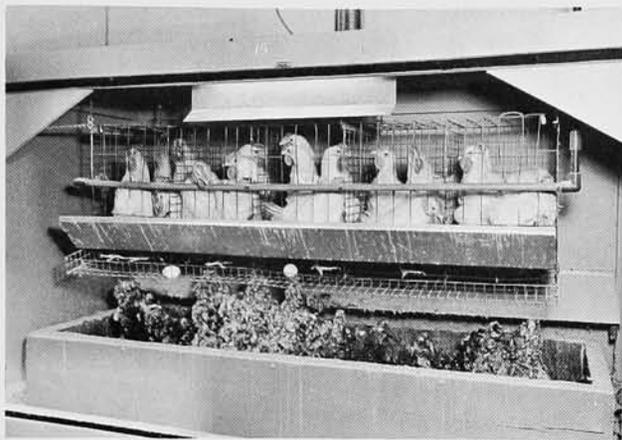
1 COW = 16.4 HUMANS



1 HOG = 1.9 HUMANS



10 CHICKENS = 1.0 HUMANS



This environmental chamber, containing 15 birds, is used for studying methods of handling poultry manure for optimum odor control.

Hall and on Game Farm Road. The lab in Riley Robb is used for basic research. Many theoretical systems are introduced and tested for feasibility and effectiveness. From there the most promising systems go to the Agricultural Waste Management Lab on Game Farm Road. This is a larger operation with the accent on simulating the disposal systems and the problems encountered as a result.

Many different facets of the waste management problem have been undertaken at the lab. Evaluation of an oxidation ditch, odor control, and investigation of the chemical processes and problems associated with agricultural waste are only a few of the topics being studied. Recently, the lab has been divided into four rooms each containing 250 laying chickens to determine whether the best way to handle and treat poultry waste is in a liquid or "dry" form. One room is operated on the liquid system in which wastes are oxidized aerobically in an oxidation ditch.

Two rooms are operated on the dry waste systems. The fourth is a control, being operated under practices commonly used today. These systems will hopefully show that source control of wastes may lead to a possible reduction in pollution.

If the techniques tested in the lab work, they are introduced to the public. A system for poultry waste initiated through these facilities is now being introduced to producers in the Syracuse area.

Professor Young is optimistic about the development of systems for waste management but he sees other problems. Young says, "It is not enough to develop the systems; you must also teach the producers how to manage them effectively." He goes on to say that, "A person who has an effective storage system and then spreads the manure in the wrong season defeats the whole purpose."

Cornell has recently introduced a graduate studies

program in waste management. It offers lectures and seminars in all areas of agricultural waste management. Its purpose is to give agricultural students an opportunity to pursue the problem of waste management in their own field, whether it is poultry science or agricultural economics.

The graduate program is intended to help a student approach a problem, organize ideas, obtain desired data, and reach a possible solution. It is hoped that this preparation will develop student self-reliance that in turn will help them solve present and future problems in waste management.

Professor Young sums up the objectives of agricultural waste management by stating, "It is now absolutely essential that the cost of livestock operation must include the waste handling and disposal activity as a total part of the management system."

Agriculture Waste Management Conference

The annual Agricultural Waste Management Conference will be held at the Hotel Syracuse on February 10-12. It will be sponsored by the State College of Agriculture at Cornell. The coordinator, Prof. R. C. Loehr, is from the Department of Civil Engineering at Cornell University. Professor Loehr has said that this year's conference will be unique. In previous years it has dealt specifically with research being done in the many different areas of waste management.

This year the emphasis is being placed on the applications of waste management research. Those who attend the conference will first define the problems and then, with the research data, try to come up with some practical solutions.

The first day of the session will be devoted to keynote addresses in the morning and defining problems of agricultural production in the afternoon. The keynote addresses will be given by representatives from the President's Council on Environmental Pollution and by the Environmental Conservation Committee in Albany.

The second day will include discussion of different treatment processes for both liquid and solid wastes and the management needs of today's producer. The third day, producers using actual waste management systems in their operations will talk about the experiences and problems they have had.

COUNTRYMAN CAPSULES

E. Z. Bailey Awarded Medal

The Smith College Medal has been awarded to Miss Ethel Zoe Bailey, botanist and retired curator of the Liberty Hyde Bailey Hortorium at Cornell University.

The medal is given annually to Smith alumnae who, in the judgment of the college's board of trustees, "exemplify in their lives and service to their community or to the college the true purpose of a liberal arts education." Miss Bailey was awarded the medal before an audience of 2,000 alumnae and students in an all-college assembly held on the Smith campus. Miss Bailey lives in Sage Place in Ithaca, New York.

After graduating from Smith in 1911, Miss Bailey became private secretary and assistant to her father, the late Liberty Hyde Bailey. He was then dean of the College of Agriculture and the foremost leader in American horticulture.

The first woman in Ithaca to obtain a driver's license, she acted as driver, field assistant, and co-collector of botanical specimens for her father on field trips. The most extensive of these trips were to Japan and China in 1917, to Brazil in 1922-23, and to the west coast of the United States in 1926. Other specimen-collecting trips were made to Puerto Rico, Barbados, Trinidad, other West Indian Islands, and Venezuela.

Miss Bailey worked with her father until his death in 1955. A recognized collector, compiler, editor, and author in her own right, she did much of the editing of her father's six-volume *Standard Cyclopaedia of Horticulture*, published from 1914 to 1917. She also researched and assisted editorially in his dictionary of cultivated plants, *Hortus*. The dictionary was largely revised, edited and contributed to by Miss Bailey and co-authored with her father in a second edition.

Until her retirement in 1957, she edited the *Manual of Cultivated Plants*, and eight volumes of the botanical periodical *Gentes Herarum*.

Prof. Durward F. Bateman, chairman of the Department of Plant Pathology at the New York State College of Agriculture, and Prof. William F. Rochow, a member of the College faculty and a research plant pathologist of the U. S. Department of Agriculture, were recently elected Fellows of the American Phytopathological Society.

The 2700-member scientific organization, which is devoted to the study of the nature and control of plant diseases, recognized the two scientists for their outstanding contributions to plant pathology and their distinguished service to the Society. Three other Cornellians were named Fellows previously.

Students representing the College of Agriculture in the University Senate are the following: Gerald Adams (Animal Science '73) of Dexter, N. Y.; Diane Carley (Animal Science '71) of Salamanca, N. Y.; Gary Fitchett (Food Science '72) of Poughkeepsie, N. Y.; Stephen Forward (Animal Science '72) of Madison, N. Y.; Michael Horowitz (Biological Sciences '72) of Burlington, Mass.; Herbert Orange (Science Education '71) of New York, N. Y.; William Overstreet (Communication Arts '71) of Hudson, N. Y.; Donald Waterman (Agricultural Engineering '71) of Port Byron, N. Y.; and Mark Wurzel (Agricultural Economics '73) of Port Washington, N. Y.

College faculty members on the University Senate are Professors D. F. Bateman, Joseph M. Calvo, Bernard E. Dethier, Neal F. Jensen, Richard P. Korf and Richard D. O'Brien, all from Biological Sciences.

Professor Peter L. Steponkus represents the non-tenured faculty from this division.

Professors Joseph P. Bail, Gordon J. Cummings and D. I. Padberg represent the social science departments.

The Departments of Food Science, Animal Science and Agricultural Engineering are served by Professors Ronald Furry, Norman Potter, Peter J. Van Soest (tenured), and Paul D. Miller (non-tenured).

Ronald W. Pedersen '61 has been named first deputy commissioner of the state's new Environmental Conservation Department, which replaces the former Conservation Department. Ron helped draft the

legislation establishing this new department in his former position as assistant to the Secretary to the Governor where he was working on program analysis and organizational structure of state government.

A former head of the Department of Plant Pathology at the New York State College of Agriculture has been selected to fill the newly created position of coordinator of planning and development in the office of the Dean of the College.

George C. Kent, whose appointment was announced by Dean Charles E. Palm, will continue his duties as professor of plant pathology in addition to his new position.

According to Dean Palm, Professor Kent will be working with University planners on campus development. He will also coordinate the physical facility needs of the academic program and participate in faculty recruitment and program development.

Correction

In the November, 1970 issue of the Cornell Countryman a capsule was published on the appointment of David A. Smith to the faculty of the State University Agricultural and Technical College at Alfred. It should be noted that the correct name of the college president announcing the appointment is Dr. David H. Huntington.

College of Agriculture Fund

Several Smaller Funds Help Make One Larger Fund

In addition to the regular endowment portion of the College of Agriculture Fund, there are several memorial endowments that have been established as part of the Fund. These memorials, in addition to adding a valuable dimension to the Fund, also provide a fitting means of recognizing the individuals for whom they have been named.

The memorial funds that have been established to date are:

- H. B. Munger Memorial Endowment Fund — established by Farm Credit Association of Springfield for undergraduate scholarship.
- C. W. Sadd Memorial Scholarship Fund — to provide undergraduate scholarship in food distribution, marketing and business management.

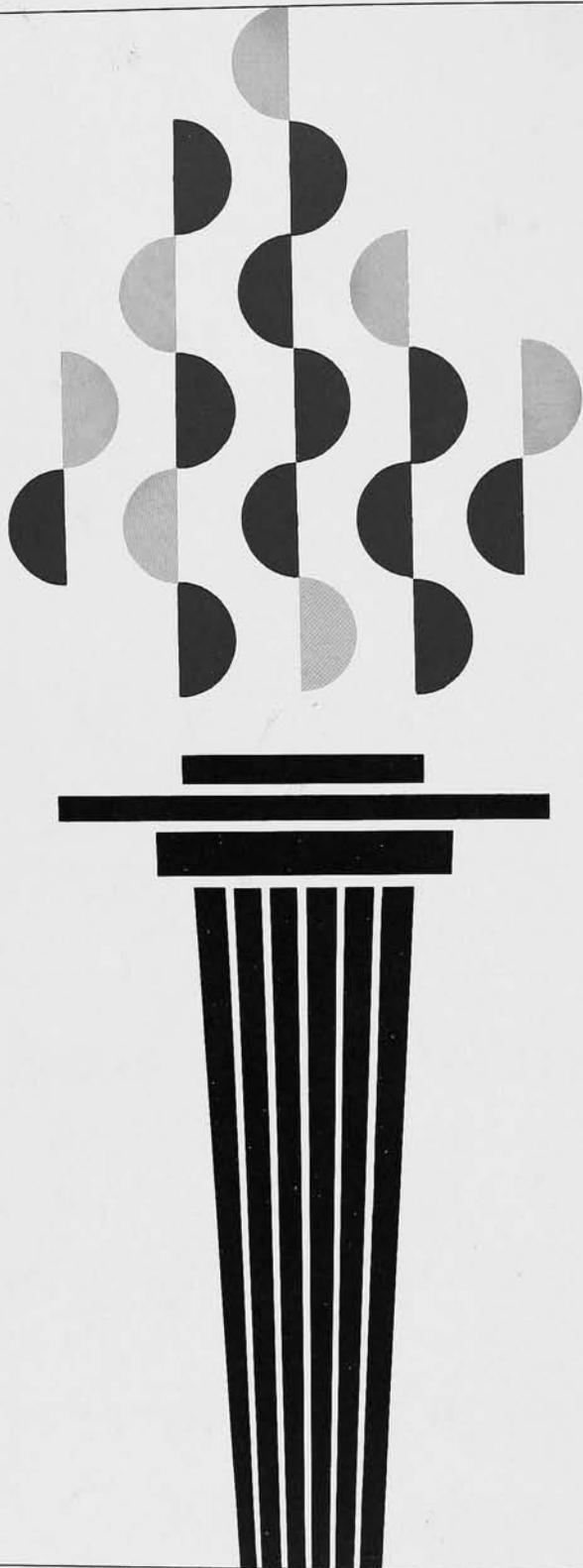
- Jeffery E. Dawson Memorial Fund — award for graduate study in Soil Science.
- Poultry Science Department Memorial Fund — to provide undergraduate scholarship in food distribution, marketing and business management.

Persons wishing to contribute to any of these funds may send their check to:

College of Agriculture Fund Office
122 Roberts Hall, Cornell University
Ithaca, New York 14850

Additional information about any of these funds is available upon request.

College of Agriculture Fund / Action for a Creative Future



COME TO THE FORUM

You have a special invitation to attend our annual Agricultural Leaders' Forum on Thursday, March 25, from 9:45 a.m. to 3:30 p.m., in the Alice Statler Auditorium on the Cornell Campus.

This year's theme, "EDUCATION IN THE 1970'S AND '80'S", is of concern to all of us. Changes in higher education are happening swiftly. Some are in favor, others opposed to what is taking place. This forum is for the purpose of generating thought and discussion about a vital issue. You will hear the views of outstanding educators in the Empire State and they will share the platform with students.

It will be an interesting day, so please put the date on your calendar now.

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ON THE COVER: Snow-covered statue of Andrew Dickson White, first president of Cornell University, on Arts quad this winter.

CORNELL COUNTRYMAN

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EDITOR-IN-CHIEF: Olive Smith

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Floating University Takes World Tour

by KAREN STONE

"Your attention, your attention please. Good morning ladies and gentlemen. A lifeboat drill will be held for all passengers at 1100. I repeat, a lifeboat drill will be held at 1100 for all passengers. Thank you very much." The Dutch voice boomed over the public address system with its morning message as I ran to my morning class.

It is typical enough that a student be running late to class, but a bit unique that classes be interrupted for a lifeboat drill.

For the spring 1970 semester, I was fortunate enough to be a student aboard *World Campus Afloat*, a program offered by Chapman College in Orange, California. Each year, Chapman College rents the ss. *Ryndam* from Holland-America Lines. "*Mama Ryndam*," as the ship is affectionately called, has been converted from a passenger liner into a floating university with 12 classrooms, a well-stocked library, a large theater, a science lab, and a student union. The ship also has a small swimming pool, basketball and volleyball courts, and a small hospital with a full-time doctor and nurses.

Each September, *World Campus Afloat* leaves New York and travels to Europe and South and Latin America, docking in Los Angeles at the end of the semester. During the spring 1970 trip we traveled to Hawaii, Japan, Hong Kong, Thailand, Singapore, Ceylon, India,

Kenya, Tanzania, Union of South Africa, up to Senegal, Morocco, Spain, and Portugal. Our longest stays were about a week in Japan, India, and Kenya; the average stay in other ports was three to five days.

The 450 students and 50 faculty members are from all over the United States. They transfer to WCA for a semester, sometimes for both semesters, while the head deans are from Chapman College. Our youngest students were sixteen, while our oldest was 74 years old.

Classes are held six days a week while at sea, and if you cut a class, it's hard to avoid the professor for very long! Liberal arts courses are offered and are fully accredited and transferable. Each course is related to the countries visited as much as possible. Religions of the Far East concentrated on Hinduism, Buddhism, and Mohammedism. In American Foreign Policy, we looked at the United States' historic and present relations with each country before we docked. In port, *World Campus Afloat* arranges programs and tours of which students may take advantage. Students and professors can also travel on their own.

In Capetown, South Africa, students of geology traveled to Table Mountain, while students interested in government visited the National Parliament Chambers. Inside the Chambers, a government official (who had

attended Cornell for three years) explained to us the government's policy of apartheid and answered our probing questions. Later, Ben Dekker, a young Afrikaner and leader of the resistance movement to apartheid, spoke to students on the ship.

In many ports U.S. Embassy officials and heads of U.S. Foreign Aid programs were invited aboard. In Capetown, we had a lively discussion with two Embassy representatives on the pros and cons of U.S. investment in South Africa.

Also in Capetown, we found park benches and bus seats marked "white" and "non-white." Entrances to the post office are separate for whites and non-whites. One afternoon while shopping, a few of us went into a wine store and the owner asked, "Please go next door. There's a much better selection there." We left in bewilderment. Only when outside did we notice the sign over the door: "Non-whites Only." I talked with the young owner of an ice cream parlor who advocated apartheid, then to a young Afrikaner housewife who believed that the government would soon have to abolish the policy. We met coloured students who were restricted by the apartheid rules. In any case, we certainly left Capetown with a much more vivid picture of South African apartheid.

Language barriers, "funny money," and unfamiliar territory provided added adventure when traveling on our own. In Japan, friends and I spent a night in a ryokan, a Japanese inn. Before entering, you must slip off your shoes and put on slippers provided for you. Inside we were served hot green tea and sat by the hibachi (pot of hot charcoal) to warm ourselves. It was winter in Japan, and with no central heating, we spent the night in bed rolls on the floor with covered hot bricks to keep our feet warm.

During our travels we had the opportunity to see different kinds of foreign entertainment. In Tokyo, many of us attended a performance of the popular Kabuki theater. Naturally it was in Japanese, but with a translated storyline, we were able to follow the play. In



The Chamber Singers prepare for their TV appearance in Hong Kong.

Hong Kong, we took our turn at entertaining when our Chamber Singers were asked to sing on television for a popular Ed Sullivan-type program.

Special trips are also organized with an extra fee. While in Bombay, two groups of students and professors flew to New Delhi for two days and visited the Taj Mahal. In Kenya, two to five-day safaris were organized. One safari group visited Olduvai Gorge, where Dr. Leakey, the noted anthropologist, and his researchers were excavating. Another group traveled to Mount Kilimanjaro and stayed at the famous Tree Tops Lodge.

From time to time, we hosted foreign visitors on our ship. In Hawaii, two Japanese professors sailed with us to Japan and spoke in many of our classes.

Constant traveling and life aboard the ss. Ryndam also had its uncomfortable aspects. The third day off the coast of California we hit a violent Pacific storm. Most of us were seasick and pretty discouraged, but the ocean calmed and we eventually developed our "sealegs." Dramamine was the "Big D" then, but later if we drank or ate contaminated water or food, "Big D" became another ailment.

Sailing around the Cape of Good Hope, we again experienced high winds and rough seas. A crew member was sitting on deck when the ship suddenly lurched forward and a huge wave washed him overboard. Life preservers were thrown by students, and after a tense hour where we were afraid we might even lose the rescue team, he was finally brought safely back to the ship.

Traveling and studying abroad is becoming available to more and more American students. From World Campus Afloat, just like any other educational experience, a student gains proportionately to the efforts he puts into it. Having visited mostly the underfed, underdeveloped, and overpopulated countries of the world, we gained new perspectives on our roles as individuals in the world, and as citizens of the United States.



Students view official mace in South Africa's Parliament Chambers.

Cornell Aids Indian Communication Plan

by WILLIAM OVERSTREET



Uttar Pradesh Agricultural University at Pantnagar, India, celebrated the tenth anniversary of its founding in November 1970. But the past year witnessed more than just the start of a second decade of instruction for the nation's oldest agricultural college; November marked the opening of a Communication Center — the first of its kind in India — dedicated to the principle that a coordinated communication program is essential to the development of a modern agricultural economy.

Two professors of communication arts at the New York State College of Agriculture at Cornell University, William B. Ward and Royal D. Colle, have played central roles in the planning and implementation of UPAU's Communication Center. Professor Ward became involved in the program in 1967 when the Ford Foundation asked him to go to India and recommend what he felt would be needed to establish a department of communications in Hyderabad.

His initial introduction to Indian education convinced Professor Ward that university structure in the United States has had great effect on India's young institutions. "India's 13 agricultural universities are all patterned somewhat after the land grant colleges here," he says. "This is an entirely new concept in Indian education, which had traditionally been based on the British system. Before 1960, no university in the country was engaged in research of a practical nature to agriculture or agricultural communications, although a few governmental institutes did conduct some research."

After six weeks there Professor Ward submitted a preliminary proposal for a centralized communication unit that, in addition to conducting research, would offer an academic program in agricultural communications and also serve as an information service. Following careful review, the Ford Foundation agreed to provide a grant of \$120,500 for establishing a center based on Professor Ward's plans. Then during his 1968-1969 sabbatical leave, he returned to India to assist in the preparation of detailed plans for the nation's first university-based agricultural communication program.

During that year Uttar Pradesh Agricultural University at Pantnagar was selected as the site of the experimental program, largely due to the interest of Dr. D. P.

Singh, an administrator at UPAU. "After a year in India," Professor Ward notes, "I returned to Cornell with the understanding that the Communication Arts Department here would ask one of its key professors to go to Pantnagar and help the faculty, staff and administration implement the program. As a result, Professor Colle spent the past year in India, returning to the United States near the end of January.

The communication program was designed in four phases. The initial stage of development called for relocation of communication facilities previously spread throughout the university in a remodeled wing of the College of Agriculture. This stage has now been completed with writers, photographers, editors, and audio-visual specialists now operating for the first time from a centralized location. Stage two, the offering of basic undergraduate courses in agricultural communications on an elective basis, is currently being implemented. Plans eventually call for both an undergraduate major and a Master of Science program in this field. The final two phases call for in-service communication training programs for university personnel and a comprehensive program of communication research.

Occupying about 7,000 square feet of the College of Agriculture building, the Communication Center includes a radio recording studio, photography laboratory, art studio, audio-visual facilities, translators' rooms, a library, and staff faculty offices. In addition, a complete printing operation is located in the administration building. These arrangements, however, are only temporary. Eventually all facilities will be relocated in a new structure currently being designed by architects.

One of the more immediate problems facing the Communication Center is training academic and technical personnel to work in the Center itself. Professor

Ward has recommended that most of the academic people study in Asia rather than in the United States. "I feel most strongly," he affirms, "that training should be conducted where conditions and problems are most similar to India's. I've suggested, for example, that some of the staff study at the Mass Communications Institute at Manila in the Philippines."

Arrangements for the training of technicians — broadcasters, photographers, special artists, and designers — by the mass media within India are now being worked out. "For example, if technical writers are needed, they can gain experience by working for newspapers through the Press Institute of India," Professor Ward says.

Much of this introductory training will be of a practical rather than an academic nature. Professor Ward asserts that, while both are needed, it will take time to evolve a complete academic program. Currently only four courses in basic agricultural communication are offered, and these are mainly products of the extension program at the university. One of Dr. Colle's top priorities during his stay in India was to help formulate a more extensive course program in writing, broadcasting and graphic arts. Between 150 and 200 students are now taking courses in the Center.

"One of the major tasks facing India's universities is the training of young people in the science of communication," Professor Ward notes. "But it is also essential that the universities get out to the cultivators and farmers with the information gleaned from research at the country's experiment stations. Trained personnel are now available from the mass media or a few governmental agencies such as the Ministry of Agriculture."

According to Professor Ward, the problem has been compounded by the difficulty of establishing a national communications network. "Unfortunately," he says,

"there simply isn't any single place in India where you could do a total communication job for the whole nation." Although the government has decreed that within two years Hindi will replace English as the official language, many other languages and hundreds of dialects are now spoken. In addition, the majority of India's population is illiterate, making the use of print media for disseminating agricultural information ineffective. Uttar Pradesh, the most populous of India's 17 states with 100,000,000 people, is faced with the difficulty of reaching 80 per cent of its population in rural villages.

Now that India's universities are beginning to train communication specialists, Professor Ward feels that solutions to the country's unique problems can be found. "The universities are starting to make progress, but it's been a very slow process," Professor Ward adds.

While he has no plans to return to India in the near future, Professor Ward affirms that Cornell is certainly not going to drop interest in the Communications Center. "Exactly what our part may be in the future is uncertain," he says, "but we'll definitely keep in contact with the Ford Foundation in India and with the university — even if communication is on an informal rather than a formal basis."

Noting that the UPAU Communication is serving as a pilot project and that several of India's 13 agricultural colleges now have similar facilities in the planning stage, Professor Ward believes the Pantnagar Center may play a major part in the modernizing of the nation's agriculture. "Of the most immediate importance, however," he concludes, "is the fact that for the first time in India a total university commitment has been made to raise the science as well as the service of communication to a level which, I believe, is its rightful place in a university system."

Radio tape recording studios and control rooms are the most modern in India.





Professor Steponkus (far right), and two assistants examine plant tissue cultures for their cold-hardiness.

Survival Clue Found

by DOROTHY KROTJE

We may often doubt our own ability to fight Ithaca's winters, yet somehow we usually make it through the season. Surviving low temperatures is difficult for any organism unless it is especially well-adapted. However, research at Cornell University's College of Agriculture has found that by appropriate conditioning of a plant's genetic potential, its ability to survive freezing temperatures may be increased.

This genetic capacity known as "cold-hardiness," is actually a plant's ability to survive freezing temperatures. Plants are only able to survive under such conditions if the proper environmental cues stimulate the plant's genetic capacity to survive the low temperatures. The expression of the genetic capacity of cold-hardiness is known as cold acclimation.

Professor Peter Steponkus, a plant physiologist in the Department of Floriculture and Ornamental Horticulture in the College of Agriculture, recently made a discovery which may cast more light on the mysterious mechanisms involved in cold acclimation. Steponkus discovered a protein-sugar complex which may cause cold-hardiness in plants. With the assistance of a \$20,000 National Science Foundation grant, Prof. Steponkus is continuing his study of cold-hardiness in English ivy and other woody ornamentals.

Cold acclimation depends on certain cues for expression. These cues include the shorter days and lower

temperatures of fall. Triggered by these cues, plants during the dormant period in the fall prepare for cold weather. Frost-sensitive plants lacking this inherent capacity to adapt to low temperatures, are therefore limited to the warmer climates.

If the proper environmental cues do not stimulate the expression of cold-hardiness in a plant which has the genetic capacity, it is said to be in an "unhardy condition." The same plant that survives freezing winter temperatures may be killed by a moderate frost during low summer temperatures.

Environmental cues are not enough to protect cold-hardy plants. Before the winter even begins, they must have accumulated enough sugar linked with proteins, Prof. Steponkus discovered. "The protein-sugar link may be the key factor which enables plants to resist the cold," Steponkus reports, "for the presence of some sugars prevents the denaturation of proteins which causes cellular damage."

Cold-hardy plants may still freeze under sub-zero temperatures. Yet their unique ability to survive is in their tolerance to the frozen state and its resultant injury.

The total problem of winter injury or "winter-kill" includes not only direct freezing injury but also damage to shade trees during early snowfall, bark splitting during frost, killing of annuals in an early frost, destruction of buds by spring cold spells, and drying out of broad-leaf evergreens.

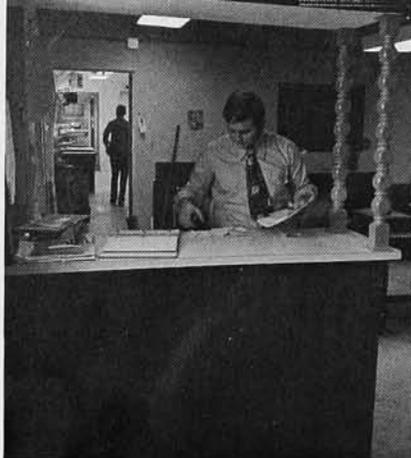
Discovering the mechanism that plants use to adapt to various climates could lead to the establishment of flowering dogwood and magnolia in colder climates than they are ordinarily accustomed to. "However, the possibility of growing citrus trees in cold regions is remote," Steponkus said, "because they have no genetic capacity to sense the cold and get ready for winter in contrast to cold-hardy plants."

As Prof. Steponkus points out, the mechanism enabling animals to survive cold conditions differs greatly from cold-acclimation in plants. Dr. Arthur DeVries of Stanford University studied antarctic fish that remain under cold conditions throughout the year. He found that these fish have adapted to the cold but do not experience any special winter preparation. They do not freeze solid as plants may, but evade the cold through the "antifreeze glycoprotein" in their cells. Thus animals evade freezing without severe injury.

Unfortunately, cold-hardiness for man has yet to be an evolutionary adaptation. In the meantime, we'll have to rely on the old stand-bys of clothing and a warm house.



The order comes into the Exhibit Shop desk . . .



is designed . . .

On Judd Falls Road across from Morrison Hall is a quonset hut. No, it's not an old army barracks, it's the Visual Communications Exhibit Shop.

Under the direction of Les Baldwin and Charles Fisher, two large displays are produced annually to represent the Cornell Colleges of Agriculture and Human Ecology at the Syracuse State Fair. The shop also creates smaller exhibits for various departments throughout the year.

Another important part of the work is the loan service, providing small portable exhibits to banks, shopping centers, counties and other interested organizations. Sometimes as many as six copies of an exhibit are made for this purpose.

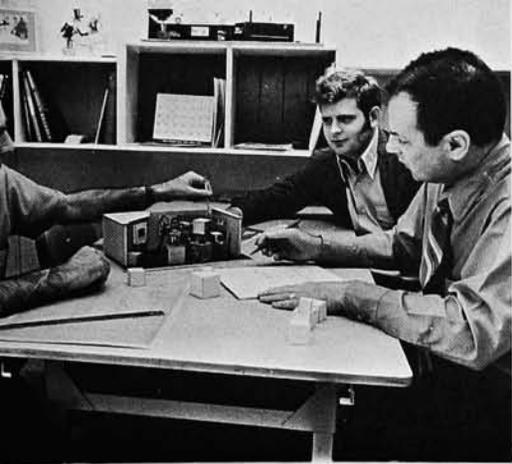
The displays usually start on the drawing boards on the fourth floor of Roberts Hall. Here, Chuck Hurlbutt and his staff produce the preliminary drawings. Aided by Vic Stephen, blueprints and a scale model are made and finalized. The work then moves to the exhibit shop where construction begins. Silk-screening and hand lettering are completed, while the Roberts Hall crew produces photos and transparencies. Finally the exhibit is completed and either stored in the back room until it is actually needed, or shipped immediately to the site where it will be used.

The following sequence of pictures trace the entire process involved in producing an exhibit — from when the order first enters the exhibit shop to the finished product on display.

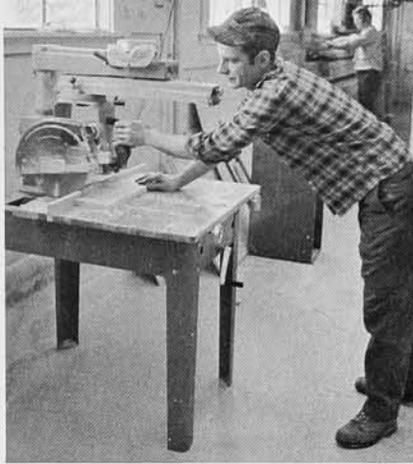


Local Exhibits Built in Comm. Arts Hut

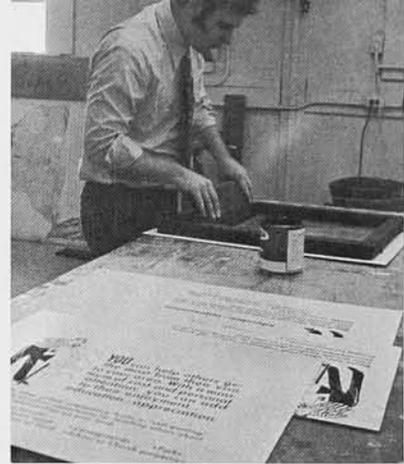
by CHRIS AGER



a scale model is made...



construction begins...



silk-screening...



hand lettering...



stored until used...

...the completed exhibit for Human Ecology is viewed at the Syracuse State Fair.



The J. G. Needham.

by **JIM POGGI**

The J. G. Needham is an appropriate name for Cornell's new 40-foot research vessel. This teaching facility for aquatic science is a fitting tribute to the man who initiated classical limnological studies on Cayuga Lake about 1900. Just as the studies done by the late Dr. Needham set educational precedents, the purchase of the J. G. Needham is a great educational innovation.

A sailing laboratory like the Needham expands the scope of what Cornell can do in research and teaching of aquatic science. According to Dr. Ray Oglesby, administrator of the vessel, "The Needham will provide us with the capability to go into a greater depth of research than we could with previously existing facilities. For instance, one of our graduate students is doing research on whether the introduction of heavy metals into Cayuga Lake changes the rate of carbon uptake in aquatic plants and what effect this may have on the rate of photosynthesis. The use of the Needham, which enables us to stay out on the water for days at a time, make this research more feasible than before."

In appearance, the Needham is a steel hulled houseboat. It has two 225 horsepower engines, is carpeted and has all the comforts of home. But it is much more than this. In addition to increasing Cornell's research potential, the Needham is a floating classroom where students can learn first-hand lessons that have formerly been given in the classroom.

Since its purchase in May, 1970, the Needham has proven its suitability as a floating classroom. About 20 students can use its facilities at a time. Several courses,

not only of Cornell but also of other colleges, have held classes on the Needham. During the summer the vessel was used on Oneida Lake in an introductory course in field ecology. Students of Wells College took out the Needham in October to collect samples of invertebrate zooplankton for a course in invertebrate zoology. Laboratory sections of an oceanography course went out on it for a demonstration of basic equipment and techniques.

Its ability to be used as a research facility or a floating classroom is a credit to the diversity of equipment to be found aboard the Needham. "It is being equipped by the Water Resources Center," explained Prof. Oglesby. "In addition to the scientific equipment already aboard, the Needham will also be a temporary home for new types of equipment which we will be testing. This will be the first time we could test equipment on a very large scale. We have already used it to test underwater television gear this past summer. It attracts professors from all over to test new devices. Dr. Daniel Livingston of Duke University used it to test a bottom coring device he planned to use in Africa. The size and stability of the Needham make it excellent for testing large pieces of equipment such as the underwater television camera."

The Needham is equipped with a hydrographic davit (a crane which projects over the side of the ship) and a winch which has a variety of uses. The davit was used this summer to lower the heavy underwater camera. When the davit is used with a recording fathometer,



David Child, about to take a plunge.

Search of Facts

samples of water and plankton can be taken and the depth of each recorded. The fathometer shoots a cone of sound into the water and the time it takes the beam to return is used to measure the depth of the sample.

The photofluorometer aboard is used to measure the fluorescence of chlorophyll. With this device it is possible to determine the amount of algae in a certain area and also the amount of photosynthesis occurring.

"The Needham is also able to fly drogues, types of underwater kites. Using these kites, which look like square pieces of plastic, we hope to be able to determine some of the sources of nutrient pollution coming into the lake," according to Dr. Oglesby.

"The rest of the scientific equipment we have aboard which enables us to measure oxygen content and temperature of the water adds new dimension to our research facilities. When we did the study on the proposed Bell Station our facilities were strained. However, we could now easily conduct a study similar to it," asserted Dr. Oglesby.

In addition to the Needham's excellent array of equipment available to students and researchers, it is capable of a range of operation that brings the length and breadth of New York State within the scope of the floating lab. The craft, with its stable houseboat hull design, is large enough to cruise the state's canal system



Sandy Schuam (standing), and Paul Godfrey, work with davit and winch.

and beyond. "The Barge Canal system makes it possible for a vessel the size of the Needham to travel to Seneca, Oneida Lakes, the Hudson River and even the Great Lakes," according to the professor.

Research is being conducted on the vessel in a relatively new area of interest. Dr. Oglesby said, "We have known for a long time that heavy metals, such as copper and iron, accumulate in bodies of water over periods of time. However, until now, no one has done much work on what effects the introduction of these metals has on the ecology of lakes. We are presently conducting studies in this area to find out a variety of things. We are using the drogues I have already mentioned to find out where they are coming from. We are also trying to discover whether these metals change the way plants photosynthesize and whether these metals find their way quickly to the bottom of the lake or whether they remain suspended in the water for a time."

Population dynamics in the lake is another study which has been conducted for some time by Cornell. For many years, all lake trout in Cayuga Lake have been marked by various kinds of fin clippings to determine the age and sex of the fish rapidly. Many of the fish are netted every fall and studied to determine their growth and survival rate.

In studies like those on population dynamics, idle curiosity of the public can often be a nuisance. Dr. Oglesby reported that many people like to see how close they can get to the buoys attached to the collection nets. Sometimes these nets and the drogues are taken. However, curiosity has also been valuable. "When many people catch fish that have been tagged, they return them to us because they are interested in finding out what type of work we are doing and what we can find out from the use of the tags. This happens quite often and helps supply us with valuable data."

A number of studies are now being conducted for the benefit of New York State through the Water Resources Center. One such study is being conducted by Associate Prof. Gene E. Likens of the Ecology and Systematics section. He is studying the effects of varying watershed utilization on nutrient inputs on Cayuga and Seneca Lakes.

Presently the Needham is ashore waiting for the installation of facilities which will allow it to remain on the lake all year round. With the spring, the Needham will again be out on Cayuga Lake. Researchers such as Dr. Dondero who will be conducting studies on microbial growth patterns of a tributary of Cayuga Lake, and Dr. Oglesby who will be working on eutrophication (over-fertilization) as a problem of the Finger Lakes will find its facilities equal to their immense tasks. In addition to research, students will again be using the Needham for classes.

Research tool, equipment test bed, sailing classroom are all ways to describe the Needham. It is certainly a valuable and versatile addition to the University.

Reporting, "Rapping" and Rock:

WVBR Channels Student Talent

A flick of the switch, a nod seen through a glass soundproof window, the red light flashes a warning that means "on air" and thousands of people hear, "This is WVBR-FM stereoithaca."

by DITH GOODMAN

To the casual observer the process is simple. Someone turns the dials, someone speaks, the discs spin. But if this were the extent of the challenge, the more than 50 students who run WVBR would spend their time elsewhere than in the depths of Willard Straight Hall.

Airtime is now anytime, 24 hours a day. Activity swells and subsides according to the hour and the needs of the program currently on the air: a disc jockey may be the sole person necessary, while a talk show such as "Triologue" may involve ten or more people. In any case, there is much hidden "peoplepower" in the form of prepared tapes, maintenance and repair of equipment, and written copy and program sheets.

Job categories parallel major divisions of the program schedule: music (including a director and disc jockeys) news (director, announcers, editors, reporters), advertising (business manager and salesmen), a "tech" or technical crew supervised by a chief engineer and the core of management personnel combine their organizational and technical skills to maintain a smooth sound performance.

Legally, the station is owned by the Cornell Radio Guild, which is incorporated under New York State law and is a non-profit membership organization. (It is a common misconception among members of the Ithaca community that WVBR is owned by Cornell University, whereas in reality it is a completely separate entity.) The corporation is the legal responsibility of seven trustees including businessmen and media professionals, a top executive at Westinghouse Radio, WVBR alumni, Cornell administrators, and Chairman Pat Nordeheimer, a journalist.

Unlike most student-run stations, WVBR has a regular commercial license which permits high power transmission rather than the low (10 watts) power granted to educational stations.

Members of the Cornell Radio Guild are elected from the WVBR staff and in turn choose their own officers who constitute the backbone of the station. The president and general manager, currently J. Thomas Marchitto, a grad student in electrical engineering, oversees the total operation. He appoints the directors, writes and produces station editorials, and makes sure that everyone is doing his job properly. The Guild vice-president, Pamela Peterson, Arts '71, is in charge of the "compet" program which trains students for possible staff positions, distribution of much-coveted parking permits, and station security. The role of the treasurer, Craig Nohl, E. Eng. '72, is to hang on to the purse strings and consider requests for funds for purchases, and to formulate a budget and budget policies. The function of the secretary, Sharon Schatz, Hum. Ec. '71, includes noting the proceedings at Guild meetings, and coordinating the social functions of the corporation (banquets, parties). In addition to the directors mentioned above, a program director is appointed whose responsibility is determining the type of music and general "sound" of the station.

Until the fall of 1968, WVBR was split into an AM and an FM station, each with its own format. The AM station featured progressive or rock music and operated

only on carrier current; the FM classical music station had a power allowance of 3000 watts.

Following a period of loud debate, both within WVBR and across the Cornell campus, the CRG approved a new format known as an AM-FM simulcast, airing primarily rock music. Although classical music listeners still complain about the switch, it is unlikely that the former format will be renewed, for the change has brought financial prosperity. This year WVBR hopes to collect a gross total in sales revenues of more than \$75,000, almost five times the amount earned in the 1967-68 period, more than any other student-run station in the nation.

According to a survey made last spring by Hooper, Inc., WVBR is first in a market of three commercial AM and three FM stations. Programming is now aimed at young adults, mostly in the 18-20 years age bracket. Rock constitutes the main portion of the musical diet, with folk music, jazz, and country music featured on weekends.

Reviews of local musical performances and movies are broadcast in conjunction with news broadcasts as a public service. Newscasts are originated partly locally and in part are those of the ABC-FM network. News features, including commentaries by Howard K. Smith, Harry Reasoner, and Howard Cosell ("speaking of sports"), are provided in conjunction with "talk" or discussion shows to enhance listeners' understanding of the news content.

"Dialogue," a regularly scheduled discussion program, is one example of such a show. People in the news are featured as guests and interviewed by staff reporters. People in the community are given the chance to join in debating current issues, on the air, by telephoning the station from their homes.

Each summer, carefully selected staff members continue this diversified programming. Winter revenues pay salaries adequate to replace the funds students might otherwise earn at other summer jobs — money on which many depend to carry on their education.

The summer operations vary greatly from the more relaxed, volunteer basis of the winter months. With a minimal staff, efficiency is at a premium. By the time school begins again, the crew has developed a fine camaraderie.

Currently all operations must be carried out in the cramped 700 square feet of space which WVBR has rented in the Straight. Two studios, two control rooms, a technical workroom, and a news-reception room are arranged in a patchwork fashion with the traffic flow through them following a circular path.

The inconvenience of the arrangement most affects disc jockeys who, operating from the main broadcasting control room, must run the circle to get records. The layout also causes confusion, as well as merriment, during major productions. The exercise may, however, be beneficial to the physical health of station staff.



Large productions take place here in Studio A.

The current quarters do constitute a real obstacle to expansion of both staff and broadcasting offerings. The room from which news is broadcast is barely large enough for two people, a single microphone, a tape-recorder and a telephone. Both control rooms are not much larger, leaving only the main studio of sufficient size to accommodate a discussion group of several actors during the production of advertisements or "promotion spots" (which advertise future programs).

In the midst of the actual production work, the technical crew must carry on its repair work. Their electronic instruments and tools are housed in a tiny room known as the "tech pit," and stored in intricately devised cubbyholes or carefully stacked shelves to maximize available space. With no sufficient working space, the "tekkies" and their projects generally end up either in the large studio or sharing the news desks in the news-reception room. These desks also must double as working room for various directors and managers and for persons involved in reception work.

The news room also serves as the primary play-relaxation-gossip center for staff members who are temporarily free, and their friends. In this crowded room, the reporters of the news department stab out the news stories on a row of typewriters, rip and sort copy from the news agency teletype machine, and news announcers prepare local newscasts.

With their new prosperity, WVBR managers have decided to find more spacious quarters. At the present time, the station is negotiating a lease for 3800 square feet of space (more than five times the current studio area) located in a building on Linden Avenue in Collegetown.



Student about to change disc on the turntable.

Plans for the new studios have provided for several two-channel stereo recording studios and broadcast facilities. A recent purchase from a small recording company will equip an unusual quadrophonic (four-channel) stereo control room. It is unusual to find such a well-equipped radio station in a city the size of Ithaca, and rarer still to have such an operation completely owned and run by students.

Perhaps due to the cramped quarters, certainly due to the teamwork necessary to coordinate the complex operations of radio production, WVBR is a social organization. Students with no previous experience in the field of radio, who pass the requirements set up by the biannual "compet" programs, more often than not find an enjoyable circle of friends and a home at WVBR.

Many steadily gain experience in the several facets of radio broadcasting, acquire some degree of expertise and after graduation enter the professional field. Others enjoy the experience for its own sake, while some students majoring in Communication Arts log their duties and receive practice credit for their efforts.

In all cases, this unusual radio station provides a unique educational opportunity. Anyone can learn the basics of radio broadcasting and earn the responsibility of being part of the production process. Professional stations prefer to leave actual production to the pros rather than to student employees. At WVBR students are solely responsible for their errors, and for the quality of their sound.



Repairman works in WVBR's "Tech Pit".

COUNTRYMAN CAPSULES

Henry W. Simons '38 is now manager of rural sales for the New York State Electric and Gas Corporation. Mr. Simons resides at 23 Monroe Avenue, Binghamton, New York.

E. Gordon Woeller '49 is farm employment representative covering Monroe and Northern Livingston Counties for the New York State Department of Labor. Mr. Woeller lives on 368 Macedon Center Road in Macedon, New York.

Dorothy M. (Schmidt) Connelly has recently been touring England, Wales, and Scotland. She is presently a research assistant in the Age and Isotope research unit of the Department of Geology and Mineralogy at Oxford. Dorothy Connelly resides on "Lakeside" Downs Road in Standlake, Witney, Oxen England.

Mrs. John (Claire Herrick) Yetter '40 of 35 Holly Circle, Weston Massachusetts is tutoring English in Boston's inner city. She is teaching students taking English as a second language.

David H. Wagner '53 of 39 Lawrence Avenue, Monticello is current manager of Mountain Pride Farms, a division of Inter-County Farmers Co-op Association of Woodridge, N.Y.

John S. L. Browman '67 is agricultural officer in the 19,000 square mile county of Berbice, Guyana. John mentions, "I have found the job most interesting and enjoyable and have a staff of 17 technicians to help me carry out Agricultural Extension education." He is presently stationed on Princess Elizabeth Road, New Amsterdam, Berbice Guyana.

Scholarship Awards

Nine new scholarship funds have been established for the College of Agriculture for 1971-72, providing 20 new scholarships in all. These endowments are intended to help students meet the rising costs of college.

These scholarships are:

GEORGE Q. ADAMS SCHOLARSHIP, an annual scholarship, established by the Western New York Nurserymen's Assn. Foundation for students in the Department of Floriculture and Ornamental Horticulture;

AMERICAN AGRICULTURIST FOUNDATION: Six scholarships of \$600 each for students transferring from two-year colleges in N.Y. State;

OSCAR MAYER SCHOLARSHIPS: Two \$1000 scholarships for students whose career interest is in the food industry;

C. W. SADD MEMORIAL SCHOLARSHIP: Established in memory of the late general manager of P&C Food Markets, this award will be presented to a student interested in food distribution, marketing and business management.

TURNSTYLE RETAILING FELLOWSHIP: A \$500 fellowship for a senior specializing in food industry management, provided by the Jewel Company.

These awards are presented on the basis of character, scholarship, financial need and promise for future leadership.

Peace Corps Recruitment

The Peace Corps will still accept volunteers for the Spring of 1971 to work in Liberia and Iran. Positions open include some in agro-mechanics, soil science, range management and agricultural extension.

Volunteers must have a degree in the appropriate area and/or practical experience in the field. Single men and women and married couples, sometimes with pre-school children, can qualify.

Staging and in-country training for each program begins early in March. Opportunities exist for teaching and working with the ministries of each country.

For more information, please call collect to John Meyer at 716-546-4900 ext. 1370. For applications write to Ed DeAnton, Career Center, 14 East Avenue, Ithaca, New York 14850.



WOMEN'S 'LIB'?



For the first time women have been accepted in the early decision admissions program of the New York State College of Agriculture at Cornell. Outstanding high school seniors are notified in early December whether they have been accepted.

Formerly, the College accepted men only under this program. The policy change is another step to equalize the opportunities for both men and women. About one fourth of this year's freshmen are women, and this percentage will probably increase each year.

This admissions policy complies with the abolition of admission quotas for women throughout Cornell and new rules governing women's residence in dormitories. Previously, the number of women admitted was limited by dormitory space available.

Those students who apply and are not accepted initially as early decision candidates are automatically considered under the regular admissions program.

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From left: Cornell's Dean Charles Palm, Mrs. Orillo, Dean Orillo of the University of the Philippine's College of Agriculture, Cornell's Director Kenneth Turk.

Long Philippine-Cornell Ties to End

by JOHN PETERSON '72

Nearly every Cornelian knows of many significant on-campus research projects aimed at helping solve world problems. Few of us, however, are aware of Cornell's role in international research and development.

Since 1952, Cornell College of Agriculture professors and graduate students have taken part in programs to rebuild and create new facilities and faculty for the study of agricultural problems in the Republic of the Philippines. The Philippine project has existed in essentially two phases. Phase One was called the Cornell-Los Banos Project.

During World War II, much of the campus of the College of Agriculture of the University of the Philippines was destroyed. The campus was used as an internment camp for U. S. prisoners. Under the financial aid of the International Cooperation Agency (now the Agency for International Development), this project sent Cornell professors to the Los Banos campus for periods of one to three years. During Phase One, which lasted from 1952 to 1960, some 51 American profes-

sors spent time at Los Banos, 35 of them Cornellians. These men saw the rebuilding of the actual physical facilities and they assisted in the establishment of an experimental station to deal with the problems of developing and raising new strains of grain, fruit, vegetables, and new breeds of livestock.

While in his term at Los Banos, each Cornell professor had one or more Filipino associates. Some were already professors in their own right and others were men eager to develop new skills. Cornell professors also worked with Filipino undergraduate students who showed promise of going on to advanced studies, helping them develop research projects in their field and teaching them new techniques.

With the help of this program, Filipino graduate students had the opportunity to come and study in the United States. Seventy such students participated in this exchange, most of them attending Cornell. About eighty percent of these are still associated with Cornell-Los Banos. Twenty of these students earned their PhD's at

U. S. universities. The exchange of knowledge and experience was considered of invaluable mutual benefit to both universities and both countries.

With the termination of Phase One of the Philippines project in 1960, the Los Banos campus, now often called U.P.-Cornell, was back on its feet, with new facilities built, entrance examinations to stabilize enrollment, and a student population of 3,676. Some 188 Filipino staff members had received advanced training at either Los Banos or in other countries.

Looking back on the work of Cornellians in the Philippines and on other programs in progress, Dean Palm of the College of Agriculture set up a committee in 1961 to investigate the role of agriculture at Cornell in world development. Investigations resulted in the committee's informative report, *World Agriculture, Our Challenge*.

In 1962, the committee recommended that a program of International Agricultural Development be established, and that a director be appointed. Dean Palm chose Mr. Kenneth L. Turk to fill the post of director, who had spent time in the Philippines in 1954 and 1955, working to help the Filipinos in his own field of study, animal science. Mr. Turk still holds the post of director of International Agricultural Development and he has made seven return visits to the Philippines.

When the International Agricultural Development program was established, several objectives were set forth. It was hoped that a program could be set up to educate American and foreign undergraduates and graduate students for international agricultural services. A program of basic and applied research in all types of sciences applicable to low income countries was desired. The program set forth the objective of cooperation with universities in other countries for developing their staffs and faculties, and for overseas teaching and research by our own staff. Finally, the exchange of graduate students and professional staff members between Cornell and cooperating universities was proposed.

Despite the great advances made during the eight years that Cornell was involved in the Philippines, there is still much to be done. With the above mentioned objectives in mind and with primary financial support of the Ford Foundation and additional assistance from the Rockefeller Foundation, Phase Two came into being in 1963. It was named the University of the Philippines-Cornell Graduate Education Program.

The program stresses the development of Filipino leadership for the Philippines itself. In all cases of Filipinos taking part in exchanges in the U.S., special emphasis is placed on returning to the homeland. It has been found that in a period of as long as five years, some students become acclimated to our culture and often do not wish to return to the Philippines. For this reason, the exchange periods are two to three years of intensive study at Cornell. Many of the Filipino graduate



Jacob Kampen, Dr. G. Levine, and Filipino participant experiment in rice field.

students return to Los Banos for their thesis research dealing with agricultural problems. Professors from U.P.C.A. also have the opportunity to come and study at Cornell and provide new and interesting perspectives and information for Cornell College of Agriculture students.

Though there has been progress, some definite problems still exist. Increased costs have not been met by increased appropriation of Philippine funds. Despite the construction of 10 major buildings at U.P.C.A., there is need for further improvement of the physical plant, as well as a need for new teaching and research equipment. Existing programs will soon have to be funded completely by the Philippine government, as the Ford and Rockefeller Foundations will soon step out.

In 1972, Cornell's association with the University of the Philippines is scheduled to be terminated. Phase Two will end. The Filipinos have reached the point where they have the capabilities and desire to continue on their own. A Phase Three is being discussed, but, if it exists at all, it will be a far less formal arrangement than the 20 years prior to it. The professional and personal relationships that have been established between Cornell and the University of the Philippines will continue long after a formal arrangement ceases. The knowledge and experience provided by this cooperative program has been perhaps as beneficial to the American participants as to the Filipinos.

Alumnus Donates Tape Library

by JAMES WELLS '72

The Department of Communication Arts in the College of Agriculture has recently been named the recipient of an annual grant of \$1,000 and an endowment of \$15,000. The benefactor is Roscoe C. Edlund, a Cornell graduate of the Class of 1909. The pledge will be used for the advancement of the video tape center in Mann Library, which will greatly strengthen the Department's program in oral communication.

Mr. Edlund majored in English and public speaking while at Cornell. He feels that his experience and debating have helped him immensely throughout his life. As a student at Cornell, he was president of the English Club and an active member and president of debate clubs. He also served on the editorial staff of the *Cornell Era* and, as a senior, held the position of 1909's Class Orator. Mr. Edlund won first place honors in the 1894 Memorial Debate Stage and the Woodford Oratorical Contest. He was a member of Phi Beta Kappa, Delta Sigma Rho, and Alpha Chi Rho.

Upon graduation, Jacob Gould Schurman, then President of the university, selected Mr. Edlund to serve as the President's Secretary, a position he held for three years. At this time, Liberty Hyde Bailey was the Dean of the College of Agriculture. The university's student population was then less than 5,000, the major colleges being Mechanical Engineering with an enrollment of 1162, Arts and Sciences with 902 enrolled, and the Col-

lege of Agriculture with 729 members of the student body. At that time, freshmen were not allowed to smoke on campus and had to yield their seats to upperclassmen on the trolley.

The change Mr. Edlund found most startling at Cornell was in the curriculum. He stated, "I was shocked to find that the College of Arts and Sciences no longer had a program of public speaking. Through further investigation, I found that it had been taken over by the Department of Communication Arts.

Mr. Edlund first decided to establish more prizes for public speaking contests. He explained, "I have long treasured the prizes I won in such contests and thought that this might be a good way to repay the University for the training I received." However, discovering the video tape center lacked funds to function satisfactorily, he decided that his contribution would be more beneficial in the training of students in the art of public speaking. Thus, the Roscoe C. Edlund Video Tape Collection came into being.

The Collection will include some of the great speeches of the past, such as Martin Luther King's "I Have A Dream" speech and John F. Kennedy's Inaugural Address. The Center will also have taped speeches by professors in the department. The remainder of the gift will help finance new equipment for the taping of students' speeches for teaching purposes.

Mr. Roscoe C. Edlund.

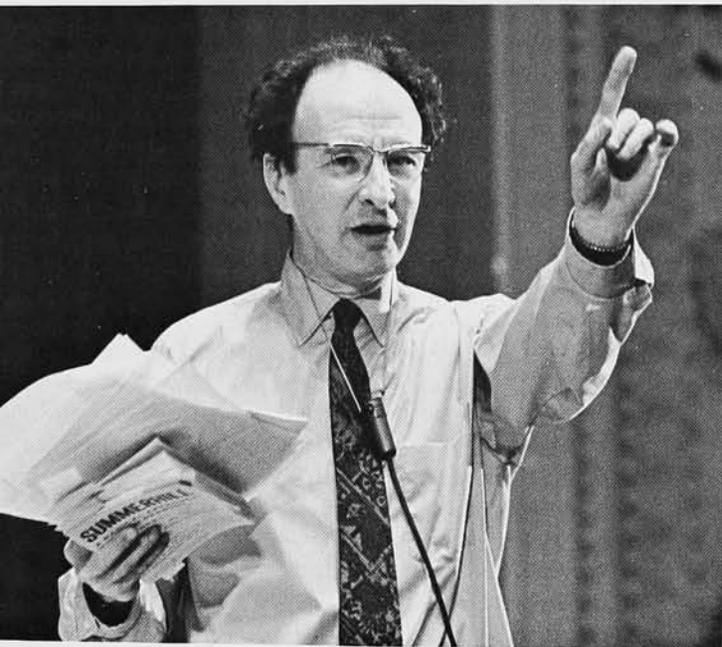


Communication Dept. honors Edlund at recent dinner.





Live in Bailey Hall . . .



. . . Televised in classroom.



TV Provided

by JODY SIEGLE '71

The project actually started out of a challenge," explained Dr. Urie Bronfenbrenner in commenting on his class experiment this fall. A study was done in his Human Development and Family Studies 115 course, the Development of Human Behavior. Wanting to make the course available to the entire university on a Satisfactory-Unsatisfactory grade basis, he ran into disagreement with the Human Ecology faculty. There seemed to be a general assumption that S-U grading lowers study motivation. Dr. Bronfenbrenner decided to find out the facts.

Accepting the burden of proof, Dr. Bronfenbrenner began his research. "At that point, I thought it would be useful to profit from collective wisdom, so we got together a group of graduate students in the department and the faculty. Out of their discussions emerged an experiment for HD&FS 115. While most students would attend the lecture in Bailey Hall as usual, one-third of the class would watch the lecture over closed circuit television in Martha Van Rensselaer Hall. The three grading conditions, also randomly assigned, would be automatic pass, S-U, and letter grade.

"The issue of the effectiveness of television instruction was prompted actually at the initiative of John Hershburger of the Educational Television staff here," said Dr. Bronfenbrenner. "We decided the most sensible first step would be the one that's closest to what is actually happening in society now . . . the use of television as an extension through closed circuit without feedback. So we chose to test first that which would have the greatest implication for current educational procedures." Dr. Bronfenbrenner stated that the main positive point for television is in its ability to bring the speaker up close with clearer diction, but the obvious drawback is that the speaker is not "live."

"Television as it's currently used is a give with no take," Dr. Bronfenbrenner said. "That is, you sit in front of it, it entertains you. You listen to what they think rather than having to do your own thinking. The question is how we can use this very important medium so that instead of making passivists out of us, it makes activists out of us, both intellectually and, if I may so, socially. Now supposing you were on the passive end of a television set but what you're seeing is other stu-

Multiple Approach to Learning

dents like yourself actively thinking. Does that have any impact? I don't know whether it does or not. We won't know until the course is over and we evaluate."

Dr. Bronfenbrenner discussed the techniques of the research. For tests, he explained, students had two types of exam questions — one on specific information and the other requiring thinking with the information. He stressed that whether the television people do as well or possibly even better than the Bailey Hall people will be significant. If they do, Bronfenbrenner thinks there is hope for television as a teaching device.

Appearing on television presented new situations. Famous for his animated teaching style, Dr. Bronfenbrenner was restrained by a microphone. During his first lectures, he often referred to it with good-natured annoyance as his "leash," but after a couple of weeks he said he did not notice it at all.

"I have deliberately not watched my own tapes," said Bronfenbrenner. "I may now that the course is over. But I felt that if I started watching my own tapes this would introduce still another variable in the situation, namely me, and we had enough variables."

The research required that attendance be taken at each lecture session. Dr. Bronfenbrenner has never taken attendance in class before, so he didn't have comparative data. Still he was surprised to learn that "roughly, one-fifth of the class didn't come to lecture every time. If anything I think my teaching has improved rather than gotten poorer. So I credit this to an era of permissiveness in which we create the impression that it helps people not to expect them to do things. I think that's incorrect. I think we do students a great disservice by conveying to them that we don't care. That makes it a lot harder to have impact."

If there is a differential attendance between Bailey Hall and the television sections, Dr. Bronfenbrenner will not know this and other facts until evaluation of the data is completed. Nevertheless, both students and John Hershburger noticed in Dr. Bronfenbrenner a growing consciousness of the television audience during the course.

The ETV Center's John Hershburger commented on his role in the experiment. "I'm basically against putting a camera in front of a lecturer and calling it

educational television. It usually doesn't work very well that way," he explained. "Bronfenbrenner is different, however, in that he has such a dynamic personality and communicates with the people in Bailey Hall in a one-to-one sort of situation, asking them questions and encouraging them to participate."

Halfway through the semester a questionnaire was distributed to the students in the television sections. The results indicated that 158 out of 236 students had positive attitudes toward the televised lectures, while 66 of the students did not like the programs. The major complaint dealt with poor visuals, as special television visuals have been prepared for this program. Part of this, explained Mr. Hershburger, is because Dr. Bronfenbrenner rewrites each lecture freshly before presentation, so visuals often cannot be planned ahead.

Dr. Bronfenbrenner is trying to find the extent to which this course makes a student feel he can affect social change and what kind of change he believes is possible. What does the student coming out of the course think is the relative importance of heredity? What does he think is the importance of early experiences in childhood, especially during the first six years of life? Does this alter his attitude towards various social movements around the country? "The materials in this course obviously speak to social issues in varying ways," he says. "We want to find out what are the unintended consequences of a course of this kind. Do we change people's attitudes as well as give them information?"

Dr. Bronfenbrenner's career extends far beyond the lecture hall. Cornell is his alma mater and he received his Ed.M. and Ph.D from Harvard and the University of Michigan respectively. Recently he served as one of the three leaders at the White House Conference on Children. He is a member of the Social Science Advisory Board of the U.S. Arms Control and Disarmament Agency and a consultant for the Health, Education and Welfare Department's Office of Child Development. He has worked with Project Head Start and is a consulting editor to *Developmental Psychobiology* and the *Journal of Personality and Social Psychology*. Dr. Bronfenbrenner's first book *Two Worlds of Childhood: U.S. and U.S.S.R.* was published in 1969.

Cornell Professor

In Asia

by PHILIP MICHALAK '72

The Cornell campus extends far beyond Ithaca for some of its faculty. The research of Professor John W. Mellor of the agricultural economics department, for example, has taken him far around the globe.

During the fall term, 1970, Professor Mellor has been doing research in East Pakistan, West Pakistan, India, the Philippines, Taiwan, Thailand, and Japan. Most of these visits have been in connection with a book he is writing with the financial support of the Twentieth Century Fund. This book will deal mainly with the agricultural sector of Asian countries and its implications to other sectors of their economy. In order to gain even greater knowledge of this problem, Professor Mellor will return to India and Pakistan this March to further his research.

Yet this book and the research for it comprise only one half of Professor Mellor's concern during his leave. He is also working on a research contract concerning employment and income distribution for the Agency for International Development, AID. In this effort he is making a study of the relationship between rapid technological change in agricultural methods and the changes in the distribution of income, as well as its effects on employment among the people of low-income countries. This project involves a substantial number of graduate students who most go to the field in order to collect their data. This information is an integral part of the project, and also is of great value to the grad students, who can use it for their Ph D dissertations. The project trains graduate students with substantial practical field experience, in addition to supplying much needed information for the project itself.

The graduate students used in programs such as this one for AID are not solely supplied by American universities. They may be from America or from other over- and under-developed countries. In most of Professor Mellor's work, the project becomes a joint effort between Cornell and the institution in the receiving country. In this system, all the work is researched and supervised through the local institution. Once the research results are obtained, they are published by both Cornell and the local institution. Such programs have already been set up in India and Thailand, while negotiations are underway for similar programs in other countries. Upon completion of a project, Professor



Professor John Mellor

Continued on page 10

Research Abroad

Professor Kathleen Rhodes of the College of Human Ecology has helped in the development of a home science curriculum at the University of Ghana at Legon. Research related to the program was oriented to studying the role that women play in maintaining health conditions in the household and its relation to varying levels of education. The university program itself is designed to prepare young women for a variety of professional level positions which will enable them to contribute to the improvement of family living practices in Ghana.

Miss Rhodes had formerly worked on a similar program for teachers at the post secondary training college at Winneba in Ghana. Her experience there she said, "served as an entrance" not only to the program at the University in Legon but also to building relationships with Ministry personnel in Education, Health, and Community Development. As external examiner in the University Home Science Department, Miss Rhodes' official capacity, she is able to keep in touch with curriculum development both at school and college levels and to feed in relevant research results both at school and at college levels.

The program was built at the diploma and degree level but the background research was done in the communities of Ghana. In the words of Professor Rhodes, "sound programs at college and university levels must be built on relevant information, some of which certainly can only be obtained at bedrock level." Health programs and educational programs existed long before Professor Rhodes and researchers began their work in 1966, but comparatively little use had been made of any knowledge of home living and productive health practices. Programs were often based on European concepts rather than on observations of Ghanaian life.

Ghanaian women are active and independent. They frequently assume considerable responsibility for the upkeep of the household through selling in the market and farming the land. They also care for the babies, preparing food, and maintaining sanitary conditions. Although primary education has been available for many years in certain sections of the country, fewer women than men are educated beyond the primary level.

A study in a village in which there were both illit-

In Ghana

by ILENE M. KAPLAN '73



Professor Kathleen Rhodes

Continued on page 11

Mellor and his associates will usually try to encourage the local institution to carry on related projects on their own. If the institution can do this, Professor Mellor knows his efforts have been successful.

All of this research work would be in vain if it left no effect on the host country. In order to help insure effectiveness, Professor Mellor will often confer with nationals from that country who are naturally very familiar with their country's problems. By utilizing the knowledge and research experience of these people, Professor Mellor can orient his research to the particular country's needs.

In the problem of economic development, Professor Mellor feels that the greatest stumbling block is the lack of knowledge and that the answer lies in generalizing ours to the specific problems in foreign countries. If lack of knowledge is the problem, then the most reasonable answer lies in field research which can tackle the specific problems of low income countries.

As far as getting research results into a policy context, the low income countries face problems which bear a strong resemblance to those in the U. S. Just as our research on racism, housing or poverty may take two to five years to reach a policy commitment, it takes similar periods for relevant research in economic development to become policy in the low income countries. Professor Mellor has been exerting his efforts for a long enough time now to see some of his past research findings showing up in actual policy. In this way, the efforts of the ardent research worker are rewarded.

How do these research projects affect Cornell and relate it to world-wide agricultural development? The field and training experience which the graduate gets during these projects are extremely valuable to their individual futures. In addition, these projects help further the faculty's education. Professor Mellor feels that these projects have helped expand his overall knowledge, as well as helping our country as a whole. Some of these projects have proved helpful in broadening our range of observation in addition to helping us formulate more general conceptualizations of the way economics works. This has in turn contributed to a more imaginative approach to our problems, just as our successes and mistakes have helped other countries in their approach to our problems.

As for Cornell's role in the world's agricultural development, Professor Mellor, speaking as a member of the faculty, takes an informal stand. His approach is that there has been a long history at Cornell in projects like those he has undertaken. Therefore there are many people scattered around the world with whom we have been associated for a long period of time. Faculty members have many personal contacts which help immensely in international exchange of information. This allows Cornell's projects to be all the more productive.



Consultation takes place in cornfields in India.

No matter how one looks at it, international exchange is terribly important to the progress of our modern day nations. For a great problem facing the low income countries today is how to arrive at a position in their foreign relations between colonialism on one hand, and losing all foreign contacts in isolationism on the other. This makes it all the more important that we meet on an even intellectual plane with these countries, and exchange our knowledge and ideas.

As for Professor Mellor's future, he sees a change as his primary concern. For the past ten to fifteen years, he has been concerned with the problems of how to accelerate the rate of growth of agricultural production, with emphasis on structuring research and extension programs. Now progress is being made in increasing agricultural production, so that Professor Mellor is becoming more concerned with how to adjust to a system of more rapidly increasing production.

Professor Mellor feels more of a challenge and excitement in his new endeavor. Thus one of his primary problems to cope with now is how the present day low income countries can avoid the complicated problems of growth we have encountered here at home. Though some people feel we have been very successful in our development, many others feel we have been terribly unsuccessful in coping with the problems incident to growth. In addition, the problem of creating serious divisions within a country must be avoided. Our accomplishments do not become real unless rapid progress is made in increasing food production and in improving the living standards of the entire mass of people. The nation must grow as a while in order for it to be progressive and successful. As long as we have industrious researchers such as our own Professor John W. Mellor on the job, we have at least a fair chance to succeed.

erate and educated women produced many unexpected results. Women with children in the first class of primary school made up a sampling of people in the village. The health knowledge and physical condition of the children were compared with the knowledge and practices concerning health of their mothers. It was found that the higher the women were on the educational ladder, the better the home sanitary conditions were and the more diversified the family diet.

Surprisingly though, education of the Ghanaian women was not the only determining factor. Women with little or no education but who were employed outside the home also had better sanitary practices and food diversity than their stay-at-home sisters. It seemed that the more the women could circulate around the community and the more modern were their viewpoints regarding health practices.

Health attitudes, however, are always hard to change especially if there is a clash between modern medicine and traditional customs. For example, it is hard for some Ghanaian women to accept the belief that a pill taken regularly could have anything to do with the prevention of malaria, which has been endemic to the area for many years.

Since the school must be considered a stronger source of knowledge than the home where families are illiterate, a pilot study was also conducted which investigated the health knowledge of the older children. As expected, positive correlation was found between the level of education and home practices and the child's health knowledge.

Teachers used the local language along with English, which is the language of instruction in Ghana. In areas where parents were illiterate and the teachers themselves did not have a good command of English, the children were probably hindered by a language barrier rather than a lack of ability. In spite of cooperation by

Children enjoy game in their village.



Ghanaian mother prepares meal.

the Ministry of Education, lack of money and materials presented constant difficulties for the teachers.

When asked about barriers that the researchers met, Professor Rhodes stated that a primary problem was that "changes in practices are really dependent upon changes in beliefs and thus takes a very long time." People often find it difficult to believe that modern methods of preventing or treating health problems can be fully effective. "Western medicine" has not yet fully been accepted and people often go first to the traditional "healer" with the result that hospital help may be too late.

There is no doubt that community development, including adult education and educational radio programs, as well as widespread free primary education since 1952 have helped in the development of modern attitudes. Since 1961, education from the ages of six to sixteen has been compulsory. The University of Ghana is rapidly growing. There are also specialized colleges for certain types of technical and teacher preparation and many colleges for preparing primary and secondary school teachers.

Unquestionably modern ideas are taking effect but this also takes time. One urgent national problem is the reduction of the rapidly increasing birth rate. Many Ghanaian families number twelve to thirteen, Professor Rhodes reports.

Professor Rhodes attributed part of the success of the research to the cooperation of Ghanaians as interviewers and researchers. In this way language and cultural difficulties were minimized and interview situations were made easier for Ghanaian families. The staffs of the Ministries of Education and Health were considered especially invaluable in obtaining accurate information.

Professor Rhodes felt that similar studies might well be carried out in the United States in rural poverty areas. Similar studies to those in Ghana could be used she said and "we could be learning about our own country as well as others."



Sketch of An Artist

by CHARLES HUNT '72

Picture an artist. Is he quiet and reserved with an intense aura about him? If so, you have imagined Professor Robert J. Lambert Jr. '50 of the freehand drawing department. Walking around his studio-classroom in a white smock, occasionally drawing on his pipe, he gives the impression of ease while examining his students' works. His concentration often changes from casual to intense.

Professor Lambert originally came to Cornell to study ornithology after attending an art institute the summer before his freshman year. He took several art courses while in college and his senior year assisted Professor Birkman in teaching art courses.

The Freehand Drawing Department dates back to the founding of Cornell University when it was offered as a course which included mechanical drafting, which Ezra Cornell thought to be a useful skill.

Beginning courses entail the drawing of still lifes, figures, imaginary sketches, and weather permitting, landscapes. Advance courses allow emphasis of the individual interests of the students, except in the scientific illustration course where accuracy is important. "We try to put emphasis on the fact that a person

doesn't have to be an artist. Some of our students haven't drawn since sixth grade. I am primarily concerned with day-to-day improvement," Mr. Lambert explains.

Freehand drawing courses require no papers, outside readings, or exams. However, this does not make the course easy by any means. Those who are sincerely interested find the six hours of lecture and studio time and keeping of an outside notebook enjoyable.

Though there is no major in art, freehand drawing has led some students to such areas as art education, study at the Boston Museum of Fine Art, and landscape architecture. Students in the science fields find it helpful in illustrating their thoughts and research.

Professor Lambert feels that extensive use of the media has increased the use of art in the last few years, opening up more avenues, making graphic art extremely effective. "Many advertisers are using it because it can be easily interpreted on television. Some communications are quite outstandingly done," he says. Professor Lambert feels that through awareness of environmental problems, people are more tuned in to an aesthetic approach.

Professor Lambert is primarily a watercolorist with a deep interest in landscapes. These interests are reflected in his choice of favorite artists: Emile Nolde, a German expressionist, Dunoyer de Segonzac, a French landscapist, and Eugene Boudin, an early French impressionist.

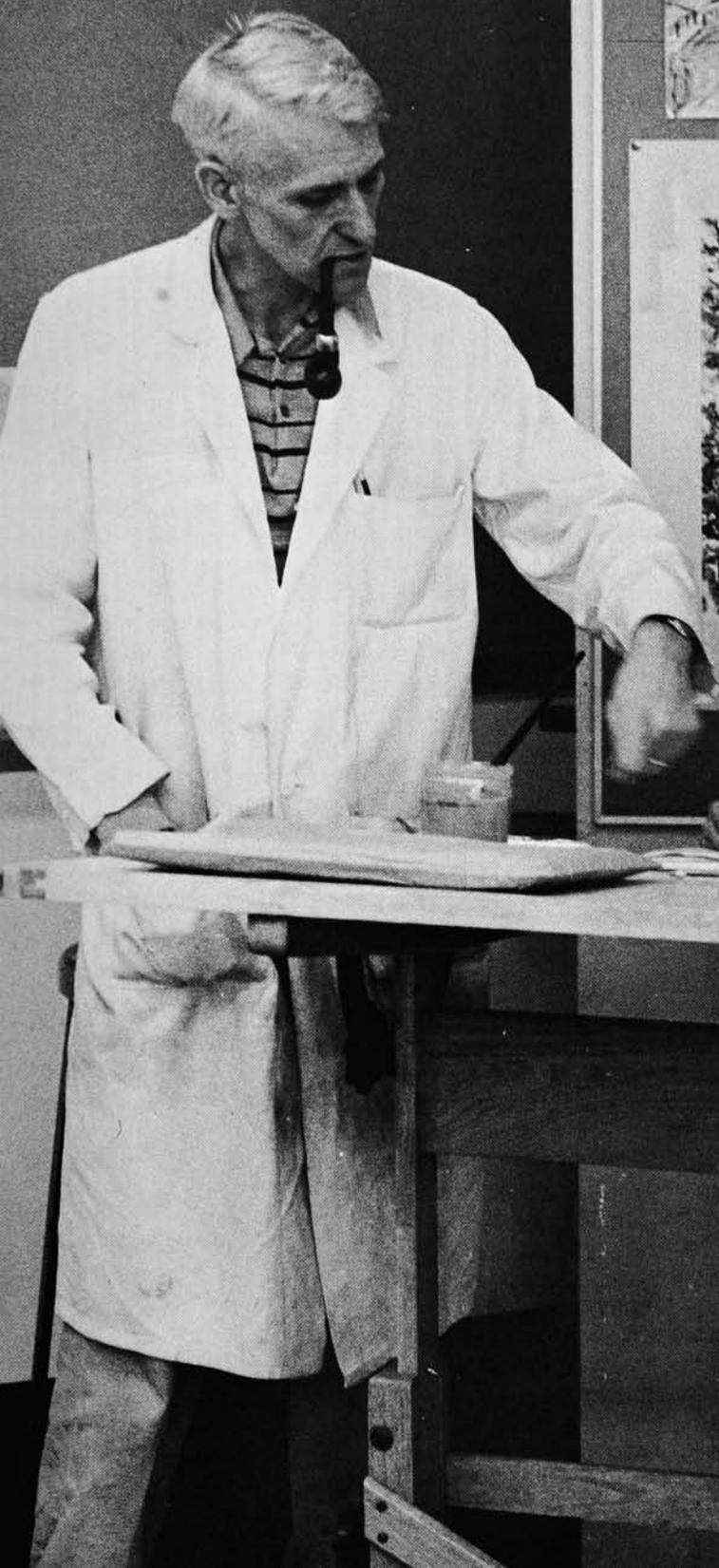
Many people wonder if any special talent is required to be an artist. The answer is not a simple one

according to Professor Lambert. "Anybody can be taught to draw and paint. Some people have a naive talent all their own, while others have a naive talent that needs to be developed," he says. "Some people have a great amount of talent but are unable to fully utilize it, while some people have a natural talent for certain areas of art," he explains.

"To be a good artist requires a certain flair," states Professor Lambert. "A good artist may have the right temperament and personality, such as enjoying intricate work," he says. "A person with talent but without the correct temperament will never be a great artist."

Describing the artist, Mr. Lambert quotes Eugene Delacroix when he says, "His mind was in the clouds but his feet were always firmly planted in the mud."







Students examine Puerto Rican soil.

Field Trip To Puerto Rico

by **MARCIA ORANGE '71**

If you are interested in tropical agriculture, Puerto Rico is the island to study. That's what 28 students found out when they, under the guidance of five Cornell professors, spent their intersession on a field study tour throughout the island from January 18-30, 1971.

Except for two seniors, the travelers were all graduate students from four major fields of study: animal science, crop science, soil science, and plant pathology. Under the leadership of Professor Robert McDowell of the Dept. of Animal Science, this is the fourth year that such a field trip has been offered at the College of Agriculture.

Puerto Rico is an ideal "laboratory" for the study of tropical agriculture. Within its 2,500 square miles, is a huge variety of topographical and climatic conditions. For example, distribution of rainfall on the island is such that students could visit a tropical rain forest at the eastern end and cactus plants on the other. However, the trip was not limited solely to the study of

Puerto Rican agriculture, but it also served as a basis for study of the characteristics and problems in the tropics in general.

Foreign students on the trip could easily compare the methods and material they saw in Puerto Rico with those already familiar to them. For several of the American students who only knew about the tropics from what they had read or heard, this trip was a particularly broadening one.

As a "multi-discipline exchange," Professor McDowell explained that the trip attempted to give students a "picture of the overall problem." Unfortunately, he pointed out, too often at Cornell a student only concentrates in his major field, without concerning himself with the broad picture. A trip like this tries to break down that barrier to widen the student's understanding.

However, at the various stops, such as the University of Puerto Rico at Mayagüez, experiment stations, processing plants, and private farms, a student still focused his attention in the field of agriculture he is studying at Cornell. For example, those in soil science, like Robert Holmes of Florida, were curious as to how the farmers compensated for the elements lacking in their soil.

Other seeming paradoxes of the island puzzled them too. First, Puerto Rico has relatively high unemployment, yet the farms suffer from a shortage of labor. Secondly, interior farmlands are often on steep mountainsides, yet they still cost about four times as much as the acreage would in New York. And thirdly, even with the ideal conditions, the government must pay heavy farm subsidies to encourage people to stay in agriculture.

During the spring term, the students will meet in weekly seminars to evaluate and discuss the trip under the guidance of one of the professors. They are Professors: Loy V. Crowder, plant breeder, Robert E. McDowell, animal scientist, Harry A. Macdonald, agronomist, Richard W. Arnold, soil scientist, and Roy L. Millar, plant pathologist.

The cost of the trip was shared between the students and the University. Each student was responsible for his transportation between Ithaca and New York City and food and lodging while in Puerto Rico. A Ford Foundation grant and other sources were used to provide air fare to Puerto Rico and bus transportation for the group around the island.

Dr. McDowell speculated that the trip for many students might well be the highlight of their Cornell career. Indeed, aside from the vast educational benefits, this roving classroom affords an exchange of ideas not possible in a traditional class situation.

COUNTRYMAN CAPSULES



Million Dollar Idea

State Senator William T. Smith explains his "million dollar idea" to Joseph P. King of Rochester (left) for reaching the goal of the New York State College of Agriculture Fund. King is general chairman of a drive to raise \$1,000,000. Senator Smith contributed to the FUND \$5,000 he received from the Federal Feed Grains Program and suggested some New York farmers might want to use this approach to enlarge educational benefits for students in the College of Agriculture.

Human Ecology Institute

"Aging: The People and the Process" is the theme of the 1971 Institute of the New York State College of Human Ecology at Cornell University. The event, set for Tuesday, March 23, from 9:30 a.m. to 3:30 p.m. in the Alice Statler Auditorium, is the College's eleventh annual institute for community leaders.

The institute program will center around three speakers: Professor Donald Kent, chairman of the Department of Sociology and Anthropology at Pennsylvania State University; Dean Juanita Kreps of Woman's College, Duke University; and Dr. George Warner, director of the Bureau of Long-Term Care for the New York State Department of Health.

Professor Kent will talk on social policy relating to aging; Dean Kreps, the economics of aging; and Dr. Warner, the environmental and physical aspects. In the afternoon Mrs. Arpie Sheldon, extension associate at the College of Human Ecology and director of research for the Isabella-Geriatric Center in New York City, will serve as moderator for a panel discussion on "the responsibility of the University to aging."

Guldin Award Nominations

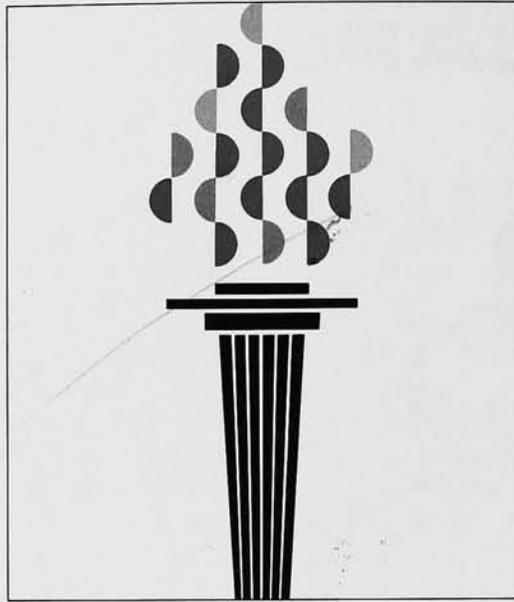
Each semester the Guldin Award Committee, through the Office of Resident Instruction, selects outstanding articles written by communications majors for the *Cornell Countryman*.

These writers have been recommended for awards for the fall semester from funds donated by Mrs. Guldin:

- 1st — Dorothy Krotje '72 for "New York Deer Face Population Dilemma," December 1970 issue — \$75 Award.
- 2nd — William Overstreet '71 for "Cornell Senate: Born in Crisis," December 1970 issue — \$50 Award.
- 3rd — Michael Barrett '71 and Doug Meyer '71 for "Water Pollution: An Irreversible Process?" November 1970 issue — \$25 Award.

The committee chose to recognize the general excellence of the following articles through the honorable mention category:

- 1st — James Poggi '71 for "Chemistry, Pollution and Pills," January 1971 issue.
- 2nd — Helen Blohm '72 for "From College Bowl to Cornell," December 1970 issue.
- 3rd — Loy Van Crowder, Jr. '73 for "Hortorium Started in Shoebox," January 1971 issue.



Agricultural Leaders' Forum

March 25, 1971

EDUCATION in the 1970's and '80's

Alice Statler Auditorium

Chairman Morning Session

Charles E. Palm, Dean
New York State College of Agriculture

9:45 a.m.

Welcome — The Overview, Dean Palm

10:00 a.m.

What's Happening in Higher Education
John Toll, President of the State University
of New York at Stony Brook

10:40 a.m.

Education's Future Dimensions
Hushang Bahar, President
Tompkins-Cortland Community College

11:20 a.m.

Education and Relevancy
David H. Huntington, President
Alfred Agricultural and
Technical College

12:00 m.

Lunch — Alumni Association Program
Guest Speaker from
Cornell University Administration

Chairman, Afternoon Session

Herbert L. Everett
Director, Resident Instruction
New York State College of Agriculture

2:00 p.m.

Policy Making and Program Development
Alvin P. Lierheimer, Assistant Commissioner
Higher Education, Department of Education
Albany, New York

2:40 p.m.

Student Panel
Audience Participation Program
Wayne A. Potter, 1971
Kenneth M. Green, 1971
Eileen Specyal, 1971
Gary L. Swan, Grad.

3:30 p.m.

Conclusion of Program

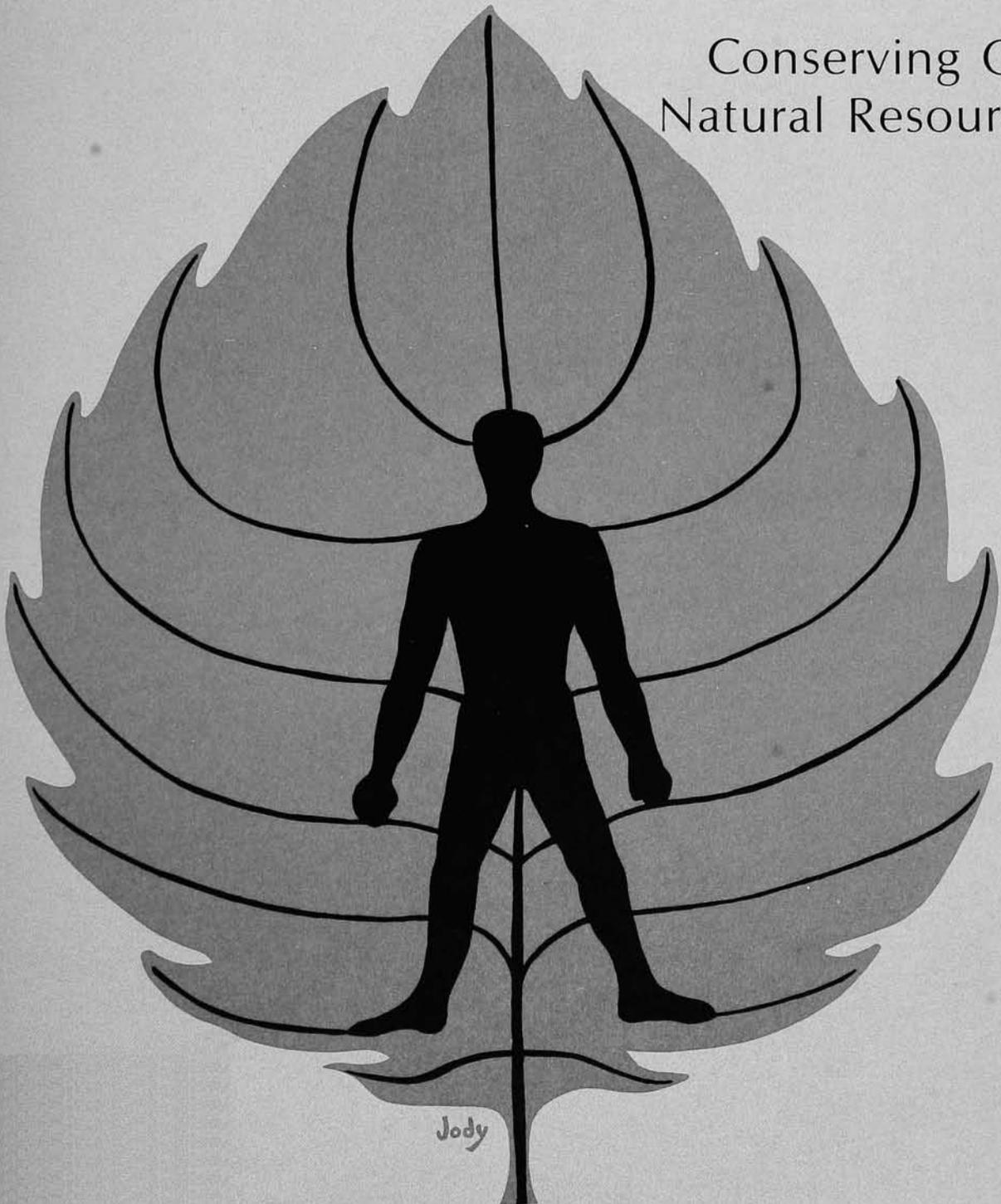
CORNELL COUNTRYMAN

VOL. LXVIII

APRIL, 1971

NO. 7

Conserving Our
Natural Resources



ON THE COVER: *Although man is in a constant quest to control the environment, he is actually inextricably bound to nature's resources.*

CORNELL COUNTRYMAN

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CREDITS

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A Resourceful Change

in the Conservation Department

by DOROTHY KROTJE '72



The Department of Conservation, one of Cornell's most historic departments, has adopted a new image and a new name. Shedding the name "Conservation" with its restrictive implications, the department has been renamed the Department of Natural Resources.

Dean Charles E. Palm of the College of Agriculture supports the name change because, "the term conservation has the connotation of restrictive use, of hunting and fishing licenses, of regulation, which in the minds of our professors, is not conducive to future developments in their areas of interest and contributions to the college and university."

Professor Dwight A. Webster, head of the Department of Natural Resources, said a name change was necessary because "conservation is an ethic rather than a subject. Too often it is identified with preservation of resources rather than with wise use and management." Conservation is an ethic because it implies a sense of right and wrong. Often it denotes a zealous devotion to preservation rather than logical and wise use of resources. The new name gives the department a new public image and more clearly defines its subject.

Reflecting a change in public attitude from conserving renewable resources in an unchanging state, the new name connotes the wise and effective utilization of these resources. According to Professor Nyle C. Brady, associate dean of the College of Agriculture, "a new and dynamic approach to conservation has replaced the static one."

"The mission of the Department of Natural Resources is to optimize the use of resources to achieve an improved human environment," Brady said. The department is pursuing this goal through research and the application of ecological knowledge to the management of renewable resources.

The Department of Natural Resources, centered in Fernow Hall, deals only with renewable resources and closely related areas: fishery and wildlife science, forest science, outdoor recreation, and general natural resources management.

The department offers extensive research opportunities for undergraduate and graduate students. A fishery laboratory, located adjacent to campus on Cascadilla Creek, offers extensive facilities for instruction and research in aquatic ecology. Several ponds on the laboratory grounds are used for research on warm water fishes

Fernow Hall, the center of conservation study at Cornell since 1914 will soon change its sign to "natural resources."

“The historical roots of the new Department of Natural Resources go back to before the College itself was established.”

while a section of Cascadilla Creek is used for experimental studies in trout management. Also a wildlife resource laboratory is located at the Ithaca Game Farm, one mile from campus. It houses a thermal environment simulation tunnel. The Department of Natural Resources operates the Cornell University Biological Field Station at Shackleton Point on Oneida Lake. It consists of one and a half miles of shoreline and four hundred acres of land.

Several forested or partially wooded areas are available for research, demonstration and management purposes. Small parcels of plantations, natural woodland and open lands near campus are available for practice in silviculture and wildlife science. The largest terrestrial research area is Arnot Forest, a few miles south of Ithaca near Van Etten. The forest consists of 4,024 acres of second-growth beech, birch, maple and associated native forest trees used for studies in forest management.

Cooperative research units exist in fishery and wildlife science. These units are jointly supported by Cornell University, the N. Y. State Department of Environmental Conservation, and the U. S. Department of the Interior. The primary goal of the units is to train graduate students in wildlife management and conduct basic and applied research in this field.

The historical roots of the new Department of Natural Resources go back to before the College of Agriculture itself was established. In 1898 Cornell University was the first school of collegiate rank on the continent of North America to give technical instruction in forestry and to train men for practice of forestry as a profession. The Cornell University College of Forestry is the oldest ancestor of the Department of Natural Resources.

Dr. Bernhard Eduard Fernow, who later became known as the “Father of American Forestry,” was the director and dean of the college. Courses in timber physics, forest mensuration, exploitation (logging), surveying, wood technology, dendrology, and silviculture were offered, as well as courses in forest history and forest politics.

The College of Forestry was closed by the State in 1904 when their experimental forest in the Adirondacks was attacked politically by an influential group of private camp owners from Saranac Lake. The camp owners disliked the procedure of clear-cutting and reforestation practiced on the 30,000 acre experimental forest site in Franklin County. Before the College closed, however, seventeen men received “F.E.” (Forest Engineer) degrees.

The spirit and need for instruction in forestry did not end with the closing of the College of Forestry. Liberty

Students conferring during laboratory period in Fernow Hall.





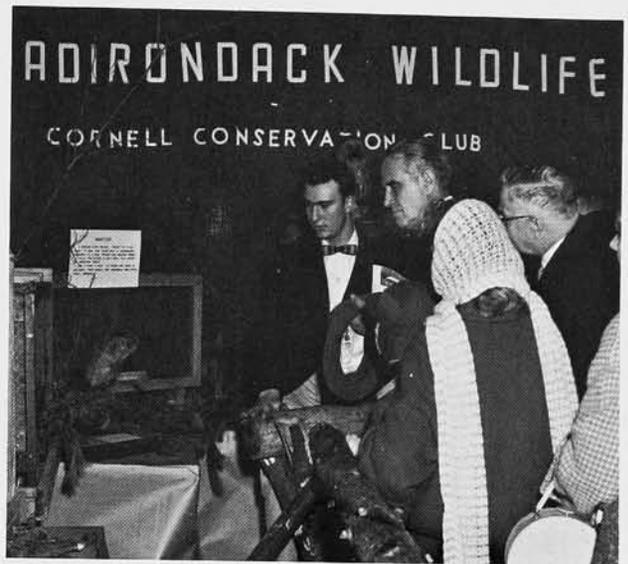
Graduate students in conservation collect samples of aquatic life during a three-week summer workshop for teachers at Shackleton Point. This program was held annually for five years during the mid 1960's.

Hyde Bailey, the first dean of the College of Agriculture claimed, "Forestry is an integral unit of a properly organized college of agriculture." In 1911, the Department of Forestry was added to the College of Agriculture.

The Department of Forestry had the dual responsibility of developing a curriculum which trained men for practice of forestry as a profession and at the same time offered students instruction of a non-professional character, especially in farm forestry. In 1916 a course in natural resources was added to the curriculum. The Forestry Building was erected in 1914, and in 1922 was renamed Fernow Hall in honor of the dean of the "old college" of Forestry.

Three months of practical experience in forestry work or in a lumber camp was required of each student specializing in forestry. The senior class put the teaching of forestry "in the woods, where it belonged." Seniors spent the summer at the Forestry Summer Camp near Newcomb in Essex County. Professor Bristow Adams, the first instructor in natural resources in the Department of Forestry, said, "The Forestry Camps were both a joy and a despair to the students; the joy came from intimate playful associations with the 'profs' in camp life; the despair from the continuous hard work."

In 1948 the Department of Conservation was formed by merging the forestry faculty with the wildlife conservation section.



Gov. Averill Harriman, second from left, inspects the Conservation Club's exhibit with other citizens during Farm and Home Week, an annual event for fifty years at the College.

In 1927 a reorganization of State departments placed the College of Agriculture under the jurisdiction of the Board of Regents. Under their direction a survey of the Department of Forestry was conducted by Dr. Harlan Hoyt Horner. The Horner Report led to the suspension of teaching in the Department of Forestry in 1936. This suspension rested "wholly on the fact that duplication of effort should be avoided and on the opinion that it is more feasible to continue the larger forestry unit now definitely established at Syracuse University," Horner said.

In 1948 what remained of the Forestry faculty merged with the sections of wildlife conservation in the Department of Biological Sciences to form the Department of Conservation.

The program of instruction in natural resources began in 1916 but was greatly expanded in the mid-1950's. Post World War II trends of population increase, economic growth, higher personal possession of wealth and leisure and rapid application of technology led to new and higher demands upon natural resources. The Department of Conservation responded to these new demands by instituting an integrated program in natural resource management.

Pesticides by Permit

by JAMES WELLS '72



Obtaining pesticides to protect the home garden may be more difficult this year. For a new state law restricts the variety of chemical pesticides available to the consumer.

This summer homeowners may find themselves stomping on household ants and picking beetles out of their lawns by hand. They will no longer be able to purchase some of the highly effective, but environmentally hazardous, pesticides and weedkillers once abundant on supermarket and drugstore shelves.

Under a state law effective January 1, 1971, the newly-formed Department of Environmental Conservation restricts consumer use of hazardous pesticides. New York is among the first states to take such an aggressive step toward the control and recording of pesticide use.

The law categorizes 72 pesticides into three groups: Class A, those which are highly toxic to humans; Class B, which persist and accumulate in the environment; and Class C, which groups chemicals hazardous to the environment.

The first classification of highly toxic chemicals includes 55 pesticides, such as cyanides and methyl bromides. These may be fatal to humans, even when exposure is in relatively small quantities.

The Class B pesticides which are persistent and accumulative, include products such as lindane, aldrin, and arsenic compounds. The hazard of persistent pesticides is that they maintain their chemical composition in the environment through long periods of time. The danger of accumulative pesticides is that they can be picked up and stored in increasing quantities in the tissues of living organisms. Because no effective substitutes for Class B pesticides have been found yet, these pesticides are used only for specific pest control jobs.

The third category contains pesticides such as DDT, mercury compounds and Bandane. Like Class B pesticides, these are extremely persistent and accumulative in the environment. But unlike Class B, there are effective alternatives which can control the same pests but do less damage to the environment. Therefore, sale of pesticides in this third group is not permitted unless required by extraordinary events. Emergency decisions are made by the Department of Environmental Conservation.

Thoughtless disposal of unused pesticides not only makes an ugly sight, but also endangers the water with contamination.



The law operates through the use of a permit system. The Department of Environmental Conservation issues permits only to those people whose livelihood depends, at least in part, on the use of the restricted pesticides. Permits for each particular category of pesticide may be obtained by submitting the proper application form to the Department.

Class A permits allow the owner to purchase any pesticide on the high toxicity list. This permit gives the owner access to all Class A pesticides because these products are hazardous to humans only when used incorrectly. They present little danger to the environment since they break down into harmless chemical components within a few weeks.

Obtaining pesticides in the second category requires a special Class B permit for each purchase. The Department regulates each sale by having the potential user complete a comprehensive application form. The applicant is asked such questions as where, when, how, and the amount of the specific pesticide that will be used. He is also questioned about the crop he is protecting, the pest or weed he is controlling, and his own experience in applying pesticides. The Department then issues the special permit allowing him to make the purchase.

Since the use of pesticides in the third category is prohibited, no permits for their use are issued.

Permits will also be required of those who sell the restricted pesticides. These permits will be granted with the stipulation that the retailer submit a monthly statement of all pesticides sales. It is hoped that this added record keeping will cut down on sales in supermarkets, hardware and drugstores, where pesticide experts are not usually employed.

The intent of the law is to protect the consumer and the environment by limiting the use of these restricted pesticides. The information gained through record keeping will be valuable for research designed to understand the effect of these pesticides in the en-

vironment. Limiting distribution of these products to the qualified dealers will also provide an effective mechanism for disseminating new ideas and techniques to the commercial user.

Where does this leave the homeowner? Actually, he still has access to many of the pesticides he used prior to the passing of this legislation. Products such as malathion and Sevin may be used, since they are considered safe and do not appear on the restricted list. Furthermore, many of the restricted pesticides have highly effective alternatives. Sevin, for example, is an extremely good substitute for lindane to control leaf miners in gardens and on ornamental trees.

Yet the homeowner will not easily be able to control such pests as ants and Japanese beetles, which chlordane formerly took care of. For these pests, the homeowner must rely on state licensed pest control agencies.

Unfortunately, no legislation can control the misuse of pesticides once a person has them. A substantial part of environmental pollution by pesticides is caused by careless application techniques and thoughtless disposal of unused pesticides and their containers. Too often commercial users carelessly spray their crops in the wrong direction, harming many non-target organisms. The homeowner is also at fault when he dumps leftover pesticides down the drain or gives a pest a double dose, ignoring the label's instructions which are prescribed for maximum effectiveness.

By helping man to more precisely control his environment, pesticides have greatly increased agricultural efficiency and crop quality. However, misuse and over-use of these chemicals are a constant threat to the environment. The new legislation thus tries to restrict the use of the most harmful pesticides by controlling their distribution. Of course, no law can guarantee a better environment. Ultimately, each user is responsible for proper application. Yet, at least, N. Y. State has taken action in controlling a potential poison.

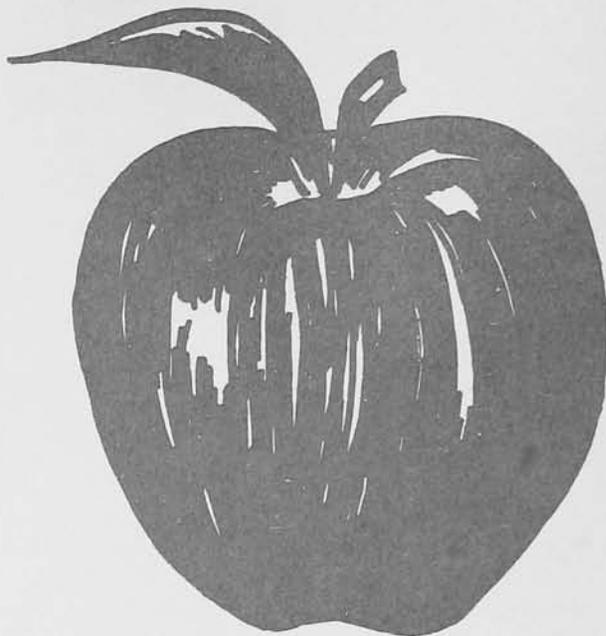
EGGS: Secret of Spoilage

A clue to how egg-spoiling microbes penetrate an egg's protective shell and tough membranes has been uncovered by a food science graduate student, Mrs. Elaine R. Wedral. The microorganisms were found to neither "eat" their way into, nor drill "holes" through the membranes with enzymes, as previously assumed. Rather, the bacteria seem to "squeeze" through minute membrane pores, she found.

Specifically, the penetration involves a phenomenon of "ionic reactions" between the microbes and the egg's two membranes. Acting independently of their own enzymes, the bacteria utilize chemical compounds called "chelating agents" which are excreted as waste products. This substance attracts positively-charged metal ions from the membranes, making them more permeable for the bacteria's entrance.

This research, which led to her Ph.D. thesis, was initiated eight years ago by Prof. Robert C. Baker, director of the Institute of Food Science and Marketing, who continued to supervise Mrs. Wedral's study.

Commenting on her work, Prof. D. V. Vadehra of the Dept. of Poultry Science said, "It appears we have opened new avenues to understanding of the mechanism of the bacterial penetration of eggs." Yet, work still must be done to learn more about bacterial penetration and egg spoilage in the quest to prevent contamination of eggs.



RESEARCH

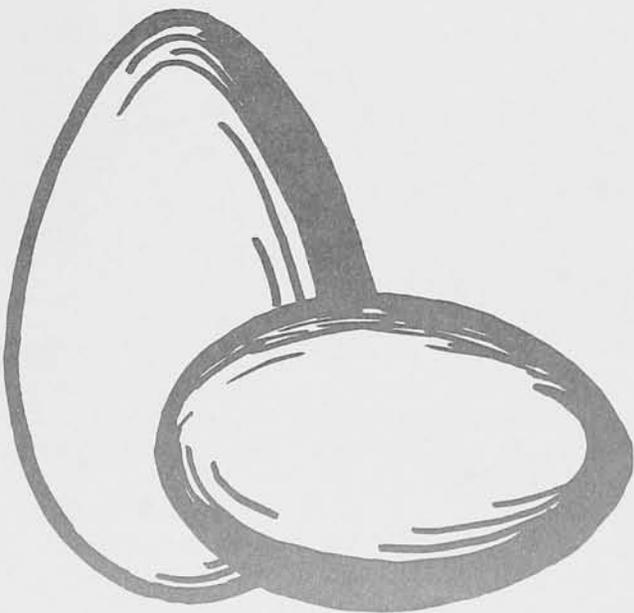
APPLES: Regulating the Harvest

A new chemical called "Alar" can extend harvest time for apples by keeping them on the tree for an extra two weeks. Prof. Louis J. Edgerton, chairman of the Dept. of Pomology, termed this substance an "important chemical tool" to help apple growers produce bigger and better quality crops.

In addition to delaying fruit maturity and preventing costly fruit drop, Alar also is reported to increase red color, promote firmness and delay the development of water core when used properly.

Even more precise control over harvest time can be achieved by the use of a new chemical called "Ethrel" in conjunction with Alar. Ethrel, a compound not yet cleared by the government, breaks down in the plant to form ethylene, a natural fruit ripening agent. Thus, while Alar delays fruit drop, Ethrel makes fruits detach more easily from the trees.

Edgerton reports research showing that spraying Ethrel two weeks before harvest on Alar-treated trees gives more exact control over fruit maturity, firmness, or picking time.



CHICKEN: Freeze-Drying Device

A poultry science graduate student has developed an inexpensive technique to freeze-dry chicken meat so that it maintains its taste and flavor for as long as six months under tropical conditions without refrigeration.

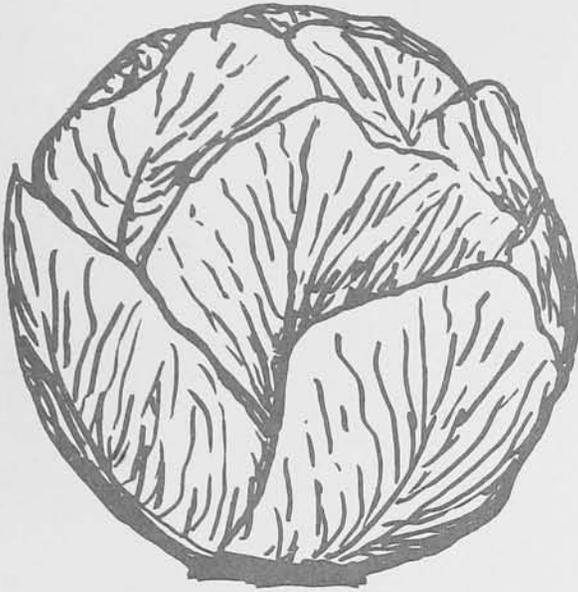
The method, developed by Arthur J. Maurer, involves the use of a moisture adsorbant called "molecular sieves" instead of expensive refrigerated condensers. "A complete freeze-drying unit for laboratory research in the United States costs up to \$2,000, but the molecular sieve setup costs only about \$300," Maurer pointed out.

The device could be a real boon to developing countries in the tropics where refrigeration equipment might not be available. Aside from this, the device might also be used in any research laboratory that tests freeze-dried agricultural products.

Maurer developed the technique over the past two years while working on his Ph.D. thesis at Los Banos under the University of the Philippines - Cornell Graduate Education Program.

Freeze-dried foods maintain a long shelf life without refrigeration and reconstitute readily with a fresh taste. Supermarkets are selling an increasing number of freeze-dried foods, such as diced meat in dehydrated chicken soup and a variety of freeze-dried fruits and vegetables.

Using bite-size meat samples in his research, Maurer hoped his findings might help lead to improved quality of poultry meat and other products stored by freeze-drying methods.



N FOODS

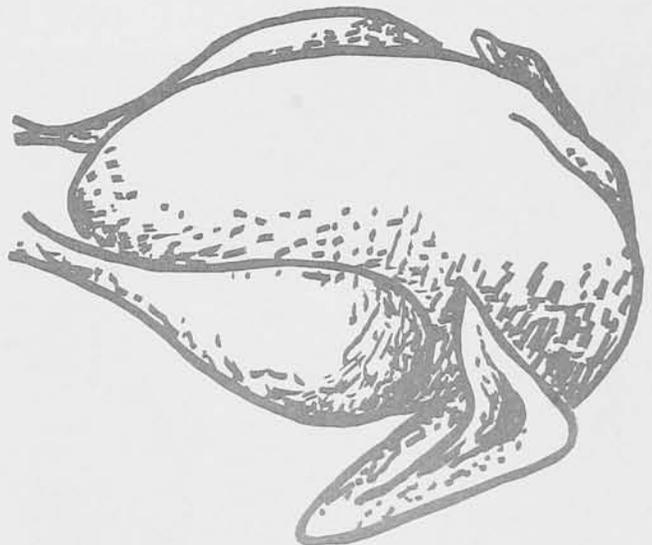
LETTUCE: 'Ithaca' Variety

A new high luster, bright green variety of lettuce called "Ithaca" is expected to be sold in supermarkets in New York and New Jersey this summer. Developed by Prof. Peter Minotti and Prof. Emeritus George J. Raleigh, both of the Dept. of Vegetable Crops, this new lettuce has shown outstanding field performance.

Bred for spring planting, Ithaca lettuce matures early and uniformly to a highly attractive plant with a firm head. As a cross between Calmar, a California variety and Fulton, a leading New York variety, it resists major lettuce disorders, such as tipburn, brown rib and premature seed stalks.

If direct seeded or transplanted in early spring for early summer harvest, the new variety has great potential for muck land soil where much of New York's lettuce is grown. In New Jersey, however, Minotti reports growers will use the lettuce as a fall crop. Further testing must determine its potential for fall harvest here.

Ithaca lettuce is supposed to make an excellent addition for home gardens. And Minotti said plenty of seed is available for trial by growers and home gardeners.



Peace Corps Trainees On Their Own In Rural New York

by KAREN STONE '71

Arriving in Ovid, N.Y., for a two-day "field experience," the first thing Joe Kwaitkowski, '71, did was notify the sheriff. "I didn't want to alarm anybody," he said. Joe is one of 25 students taking part in the Peace Corps Intern Program at Cornell during intersession, which prepares Agriculture and Human Ecology students to work in Colombia, South America.

After talking to the Ovid sheriff and showing his Peace Corps trainee credentials, Joe set out to talk to people in Ovid. He spoke to them "about everything under the sun," explaining that he was a Peace Corps trainee and that he had no money, no place to sleep and nothing to eat. With only a few "tentative offers" for lodging, Joe got a little discouraged because people did not seem too receptive. Then Joe walked into a shop and talked to a Polish barber. "We got along really fine," said Joe, and after meeting the whole family, he spent his first night on their couch.

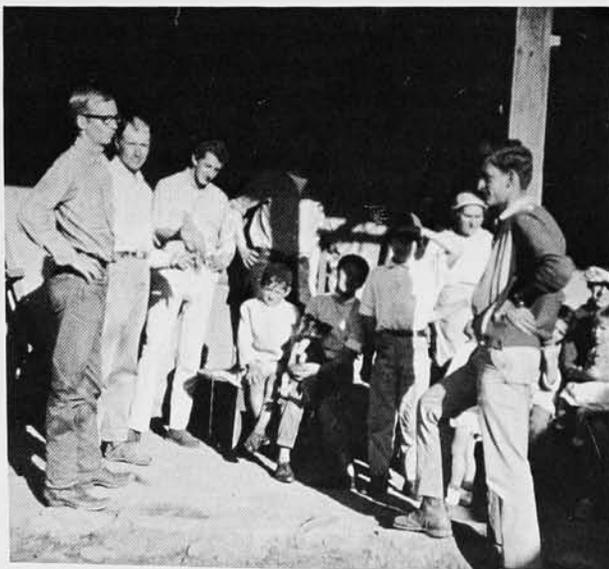
Attempting to find out more about Ovid's people, Joe wanted to meet some students. The next day the barber introduced him to the editor of the high school newspaper. Joe also talked to a minister, a priest, and a lawyer who received his degree from Cornell and was a member of Delta Chi, Joe's fraternity.

"By talking to the townspeople," Joe started, "I learned about their problems. The two things they are most concerned about right now are the merging of their school system with Interlaken's, and their lack of a sewage system. I learned about their family structures and where they worked. Some people lived in Ovid all their lives. Others didn't like city life and enjoy living in Ovid.

"I also learned other tidbits of information — that Ovid was first settled by General Sullivan's army during Revolutionary War times, and that there are a vast number of Greek and Roman town names in this area (like Ovid, Homer, Virgil, Ithaca) because the Secretary of New York State at the time just took a dictionary of Greek and Roman names and started randomly assigning village names."

Meredith Hill, '71, and her partner had similar experiences in Interlaken, N. Y. She stayed with a minister and his family after identifying herself as a Peace Corps trainee. In exchange for her food and lodging, she did housework.

Although the volunteers were restricted to working within their own culture, Meredith found her field experience valuable in "getting along with people and showing that you're really interested in them." Meredith



Walter Price, far left, during his Peace Corps work in Colombia, plans a demonstration trial of a new variety of corn seed. He is conferring with a Colombia extension agent, far right, while a local family looks on.

In Colombia, Walter Price, left, and another Peace Corp volunteer, right, explain the application of fungicide on the tomato crop to a native farmer, center.



found that the townspeople were “a little suspicious at first, but as they got to know us better, they became more friendly.”

The intersession program included 12-hour sessions each of the first five days. A typical day started at 8 o'clock in the morning with conversational Spanish classes and, after a brief break, lecture and student discussions.

After lunch, students took part in “empathy exercises.” For example, one afternoon the trainees were given three hours to break a social norm by offering their services free to a stranger in the city of Ithaca. “This,” explained Walter Price, a leader in the training program and a two-year veteran with the Peace Corps in Colombia, “gave students experience in breaking a norm. Just the fact that you’re there in Colombia or here offering your services is breaking a norm. People just don’t usually volunteer themselves.” At the end of the three

hours, students met to share their experiences.

In the last two days of the intersession week, the students, like Joe and Meredith, were left in the small villages around the Ithaca area. The purpose of the field experience, Walter Price explained, was to challenge students in unfamiliar surroundings to “systematically find out about the village and its people.”

The present Peace Corps Intern Program provides training for seniors who complete ten hours credit of Peace Corps training courses in addition to courses in their majors.

Once students complete their Cornell Peace Corps Training and are accepted by the Peace Corps Headquarters in Washington, D.C., they are flown to Bogota to live with a Colombian family for six weeks. This six weeks is important for increasing language skills and learning about Colombian family structure and customs. For the rest of the 27 months, volunteers will work in villages as employees in one of three Colombian agencies: The Colombian Agricultural Research Agency, the Colombian Coffee Federation, or the Land Reform Institute.

Specific technical skills along with agricultural and nutritional research are greatly needed in Colombia now. For this reason, other programs for Cornell graduate students and juniors will hopefully be finalized soon.

In addition to specialized training, the Cornell Peace Corps Program gives students experience in coping with an unfamiliar situation. Hopefully, their field experience in rural N. Y. provides them with the background for rewarding work in Colombia.



Planting trial potatoes are Price, left, another volunteer, center, and the Colombian farm owner, right forefront. This demonstration produced more than six times the normal yield.



Cemeteries, like this one outside Rochester, are consuming hundreds of acres of land each year. A plan by three land-

scape architecture students proposes an alternative to the traditional cemetery.

Landscape Architecture:

Dead-End for Cemeteries?

by CHRIS AGER '71

Land conservation is a primary goal of the recent ecological movement. Yet with expanding populations, an increasing amount of land is being converted to cemeteries for burial of the dead. In 1968, nearly 150 acres were used in New York State alone for this purpose. Considering this, Cornell landscape architecture Professor Robert J. Scannell, of the Department of Floriculture and Ornamental Horticulture, gave three of his senior students an unusual assignment last fall. Their task was to design a cemetery that would conserve, rather than consume, land.

The landscape architects, Wood Sabold, Bob Good, and Gordon Carruth, sketched, planned, and plotted their project, which incorporated three major features alien to American funeral practices, two of which are common practices in other parts of the world.

The first feature of this project is a practice not commonly found anywhere in the world. To conserve land surface, the students' cemetery would require that caskets be placed in a vertical position. The coffin would be made of a decomposable, opaque plastic in the form of a cylinder, usually not more than 36 inches in diameter. The grave could readily be dug by an auger, and would occupy only about one-third the area of a conventional grave. Also, no projecting grave markers would be seen in this burial park. Instead, bronze or other plaques would mark grave sites. This is a common practice today in about 1300 memorial parks in this country.

The students carried this concept of the memorial park cemetery, with its wide expanses of grass, only interrupted by trees and the flush-set markers, one step

further, making the area available to the public as a recreational area. Their design is a park of about 100 acres, including 40 acres occupied by the cemetery. This size would, by their calculations, serve a city of 500,000. The total acreage would be open for passive recreational forms, such as walking and strolling, reading, birdwatching, or simply enjoying the peaceful scenery. Another possibility might be open-air theatre or concerts under the stars. This concept has already been accepted in other parts of the world, such as Japan, where a cemetery is considered perfectly appropriate for visiting, picnicking and family outings. Yet, it may take some time for Americans to modify their traditional attitudes, and move away from the primarily British idea that interment areas are sacred, austere places.

The park would be open for passive recreation, such as walking and strolling, reading, birdwatching or simply enjoying the peaceful scenery.

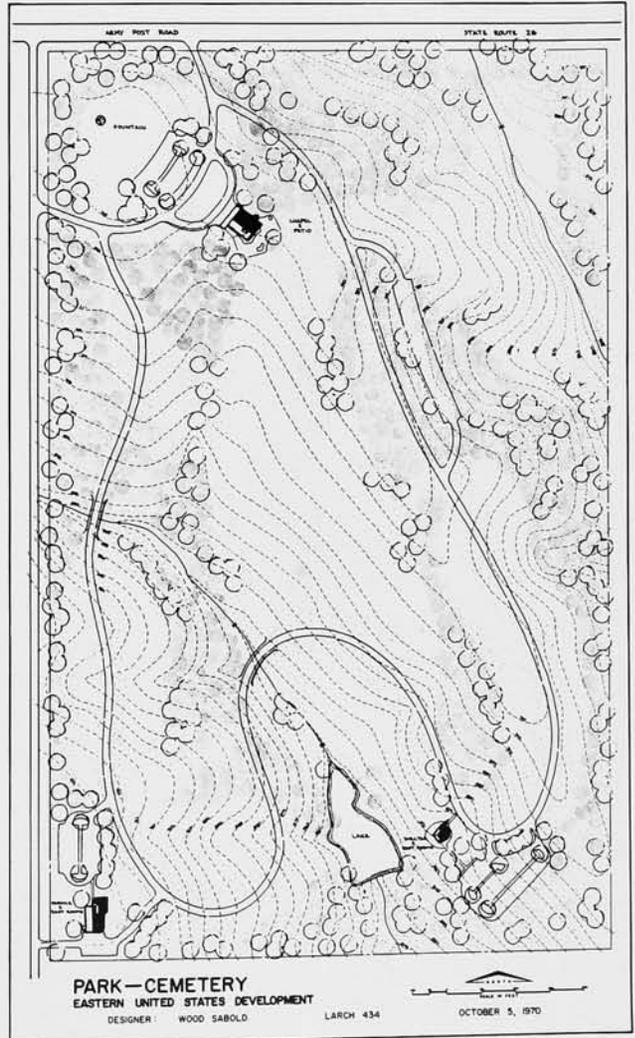
The third aspect of the new cemetery that is unfamiliar to many Americans is the reuse of graves after a certain period of time. However, in the burial park drawn up by Carruth, Good, and Sabold, each grave would be reused after approximately 20 years. In this way the same 40 acre cemetery would be sufficient for the city, providing the population remained at one half million. Because of our British heritage, the idea of reusing graves is unknown in most parts of the U.S., except in such areas as Louisiana, where, due to French and Spanish influences, crypts are often reused for several centuries. In most other countries, particularly France, Spain, and Italy, it is uncommon to find a cemetery that will accept interment in perpetuity, as do most American cemeteries. Usually a grave is leased for a specific time period, after which the remains are moved to a less spacious resting place than a full cemetery plot.

Realizing the sociological and cultural barriers against changing our traditions of burial, Professor Scannell and his three students feel their plans may remain on the drawing board for a long time to come. But as populations increase and available land decreases, Americans may reform their ideas of proper, respectful funeral procedures. The proposed burial park combines a cemetery with a recreation area in a reasonable plan for multiple land use.

The Plan: The proposed design for the students' memorial park includes abundant use of trees on 100 acres of sloping terrain. The green circles represent trees; the dotted contour lines signify land elevation.



Students Gordon Carruth, left, and Bob Good, right, discuss a design problem in the landscape architecture studio.



Searching for Clues of Martian Life

by JODY SIEGLE '71

Life on Mars? The question has tantalized men for centuries. Now, with the same incredible reality of human men walking on the moon, we will soon learn about what sort of life may exist on Mars. Several Cornell scientists, working under a grant from the National Aeronautics and Space Administration, are developing a life detection system to be used on a Viking mission to Mars. Involved in the project are Agronomy professors John M. Duxbury and Martin Alexander, and research associates A. J. Francis and Jeffrey Adamson. They are developing a system which will examine samples of the soil atmosphere by looking for volatile organic substances, possible by-products of living organisms. In theory it can reveal the presence of any life form adapted to the sparse Martian environment.

The idea, explained Prof. Duxbury, is not exactly new. In 1966 Prof. Alexander proposed that one could detect and identify the presence of a microorganism by its volatile by-products. These are potentially evaporative compounds. Our atmosphere is full of free floating volatile substances. They are analogous to the fragrance of a flower or a pine forest.

To apply this same idea to a life detection system in outer space requires learning much more about the nature of organic by-products. Most of the existing knowledge on the subject comes from the fermented beverage industry. Here at Cornell Prof. Duxbury and his associates are studying soil samples to learn about microorganic emissions.

In a laboratory of the ninth floor of Bradfield Hall, they work over a misleadingly simple apparatus of glass sample bottles and Teflon piping. The bottles contain soil samples. A constant stream of argon gas carries the volatile substances from the atmosphere above the soil into a trap where they remain as the inert gas passes on. Periodically the traps are analyzed in a mas-

sive complex called a gas chromatograph-mass spectrometer. The gas chromatograph incorporates molecular weight and ionic properties to separate and identify organic compounds, while the mass spectrometer breaks the compounds into charged fragments which provide a unique spectrum for each compound.

This same system can be opened so instead of limiting input to an enclosed area, volatile organic substances present in the whole Martian environment could be captured, concentrated and examined. Air currents carry these volatile substances so that on Earth, even in sterile arctic areas, one would find some evidence of life. Thus, if a Mars probe landed in a desert area, life from other areas could be detected. There is a possible problem of naturally occurring organic substances confused with biological by-products. In a closed system repeated testing would make clear whether the results were caused by microbial activity. If organic by-products kept recurring, then growth is indicated. For an open system, such a distinction is more difficult. An open system also accommodates for possible contamination and sterilization of microorganisms in the immediate area of the probe during the landing procedure.

Utilizing a gas chromatograph and a mass spectrometer, the mechanism will be sensitive enough to identify compounds in quantities as little as one-millionth of a gram. The Martian atmosphere is less than one-hundredth the density of Earth's, and is ninety per cent carbon dioxide. While there is some water, no free oxygen has yet been discovered. The temperature ranges from minus 70 degrees Centigrade to plus 30 degrees Centigrade. Naturally a life detection system must be fully automatic and able to function in this sparse Martian environment. But those problems will be solved later by NASA engineers. As planned now this part of the research will continue through August 1972.

This type of life detection system is particularly appropriate for another planet. As we do not know anything about the properties of Martian soil, it has the advantage of utilizing native environmental conditions. All the system will do is identify the minute amounts of organic compounds found in the close Martian atmosphere. The present research is to learn the nature of simple metabolic products released into Earth's atmosphere by soil microorganisms. So far most of the research has been on soil from upstate New York. Later they hope to use more exotic varieties, for instance soil from Antarctica. At this point, though, the goal is to establish a feel for the soil and microorganic cycling. Regional differentiation will come in time. If all goes well, just such a designed-at-Cornell experiment may land on Mars in 1976.

COUNTRYMAN CAPSULES

Cornell and the Cohn Farm

The College of Agriculture has taken steps to mechanize the harvest operations for processing varieties of fruits grown on its Cohn Farm at Sodus, New York, and will no longer maintain a migrant labor camp on the property. There have been no migrant workers employed by the farm since the end of the 1970 harvest season and the College will not plan to use migrant labor in the operation of the farm in the future. This change has been under consideration for more than a year and the final decision was arrived at and communicated to the University Administration on February 8, 1971.

Cherries, prunes, apples and pears are produced on the Cohn Farm. During recent years the trend of the fruit industry has been toward mechanization. The College has been working in this area at the Cohn Farm during recent years. Commercial fruit growers are harvesting red tart cherries mechanically, and are moving toward successful mechanical harvesting of processing varieties of apples. Grapes have moved rapidly to mechanical harvesting in New York State. These trends are a part of a

national effort in various production areas of modern agriculture.

The College feels it appropriate on the Cohn Farm, which under terms of the gift to the University is to be operated as a commercial farm, to move with these state and national trends. A staff that provides year-around service for the farm operations will continue.

Dr. Hafs Honored

Harold Hafs, a dairy science professor at Michigan State Univ. who holds his M.S. and Ph.D. degrees from the College of Agriculture, has been awarded one of M.S.U.'s highest scientific honors, the Junior Sigma Xi Award for Meritorious Research.

As a reproductive physiologist, Dr. Haf's findings have had a big impact on cattle improvement. His work on sperm production and research of deep-freezing cattle sperm has led to this country's first successful use of frozen sperm for artificial insemination.

Grant for Waste Management

A \$600,000 Rockefeller Foundation grant has been awarded to the College of Agriculture to step up research on agricultural waste management. The research is aimed at developing systems to minimize agricultural pollution, while maintaining production efficiency.

Graduate education and training will be one of the program's main features. Ten to 12 graduate assistants and five postdoctoral students will provide the manpower for the advanced research.

Correction

The January 1971 *Cornell Countryman* incorrectly reported on this page that the Poultry Science Department Memorial Fund establishes an undergraduate scholarship in food distribution, marketing and business management. Please note that this fund, part of the College of Agriculture Fund, actually provides a graduate award in poultry science in memory of Prof. J. H. Bruckner.

College of Agriculture Fund Highlights

A program has been developed by Special Gifts Chairman, Myron M. Fuerst, Rhinebeck, New York, to recognize major contributors to the FUND. These individuals and organizations will become members of the FRIENDS OF THE NEW YORK STATE COLLEGE OF AGRICULTURE.

Gifts of \$5,000 or above over a three year period qualify the contributor as a FOUNDER MEMBER, whereas gifts of \$3,000-\$5,000 over this same period will be recognized as CHARTER MEMBERS.

Contributions to date in this area have totaled very nearly \$100,000 with gifts ranging from \$3,000 to

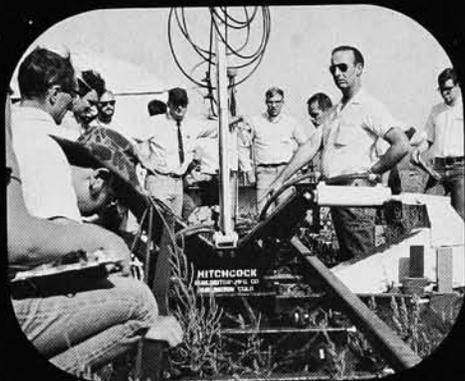
\$75,000. We are pleased to list the first members of the "FRIENDS."

Founder Members

H. M. Cohn Foundation, Rochester, N. Y.
John S. Dyson, '65, Millbrook, N. Y.
Myron M. Fuerst, '29, Rhinebeck, N. Y.
William T. Smith, '38, Elmira, N. Y.

Charter Member

Roscoe C. Edlund, Kansas City, Mo.
(See story in March *Countryman*.)



A NEW BREED

**at New York State College
of Agriculture, a Statutory
College of the State Univer-
sity, at Cornell University**

This is a success story involving a new breed of students. Chances are one out of every three students you meet on the College of Agriculture campus belongs to the new breed. He is the transfer student.

It all happened seven years ago. Until then the college accepted no more than 25 transfer students a year. Then in 1963 the college decided to make a concerted effort to admit more students from New York State's two-year colleges. Since then they have made a dynamic impact in and out of the classroom in the college. Most of them are outstanding students; their percentage on the dean's list is extremely high.

Typically, the transfer student adjusts smoothly to the college. He participates in various activities fully and energetically. He is an eager and serious scholar. His success—and the college's success—is attested in simple statistics: Whereas 60 per cent of students admitted as freshmen get their diplomas from the college, 90 per cent of transfer students do.

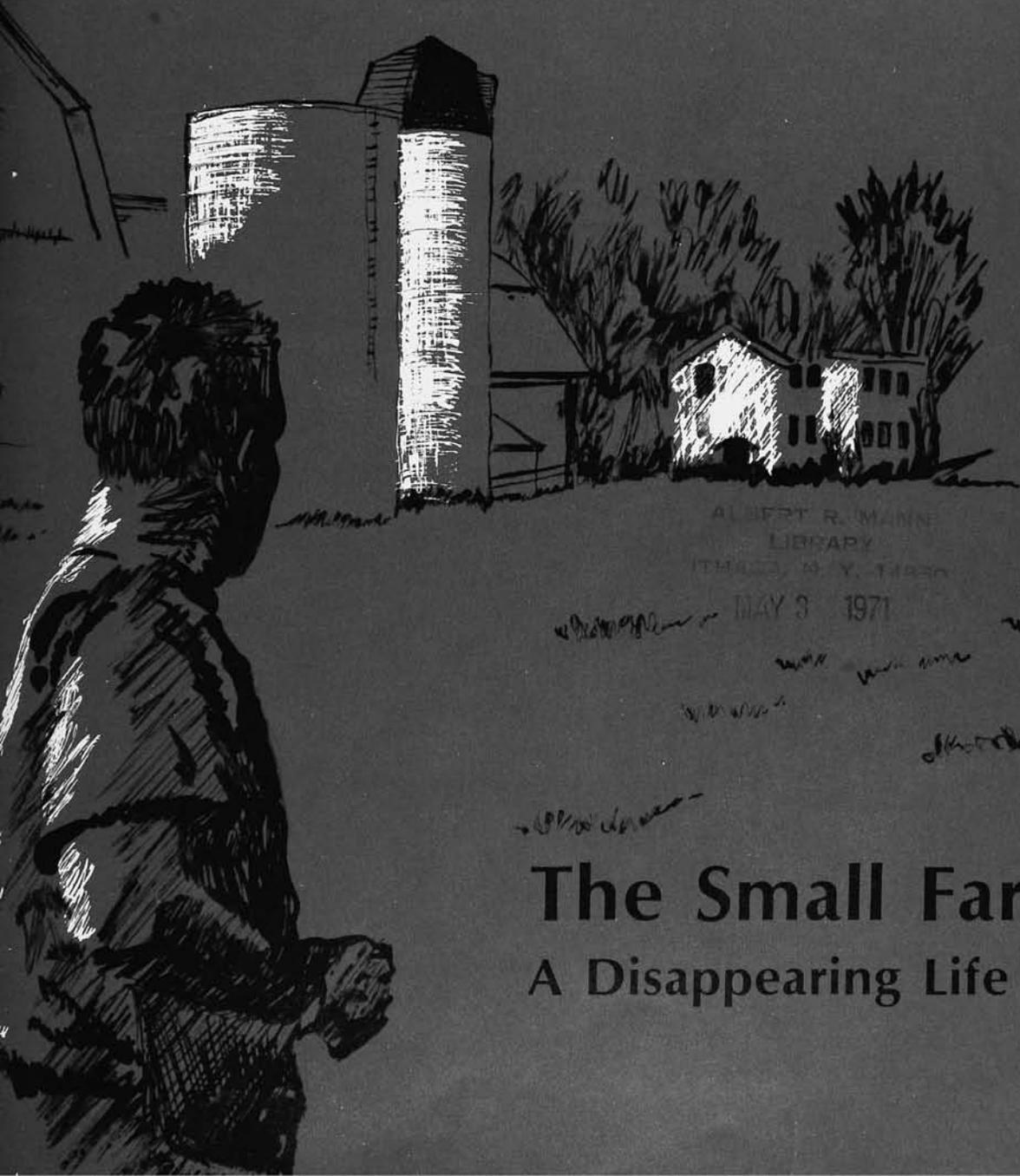
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CORNELL COUNTRYMAN

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MAY, 1971

NO. 8



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The Small Farm A Disappearing Life Style?

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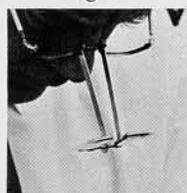
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ON THE COVER: *Small farm operator wonders whether or not it is time to leave.*

CORNELL COUNTRYMAN

May 1971/Vol. LXVIII — Number 8

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Abandoned farms such as this one in upstate New York are becoming a common sight in rural America.

Small Farm Dilemma Today

by JAMES WELLS '72

Abandoned farmhouses and weed infested plots of farmland are now a common sight in rural America. In 1910 there were 10,174,000 families involved in farming; in 1969, census data showed only 3,415,400 families. To answer the questions of why the small farm operators are leaving, and what the future holds for those remaining, the society as a whole must be considered. The increasing advancements in technology have a tremendous effect on the small farmer. As more efficient farm processes are introduced, the cost of production per unit of crop is decreased. This may seem advantageous at first, but to many small farm operations, it is disastrous. They may not have the capital to implement new procedures, or the process may not be practical for small farms. Large farms, however, are able to implement modern technology and market their crops at lower prices, with which the small farmer cannot compete.

Technological change is not the only reason for the decreasing number of small farm operations. Some that could make a living are finding better opportunities in

non-farm occupations. Others are being offered good prices for their land by housing contractors. Still others are becoming too old to farm, and the young are unwilling to continue farming. The reasons for leaving may well be as varied as the number of farmers that have left. However, one certainty to the majority is that their discontent with farming stems from the increasing difficulty of attaining the standard of living they desire.

Unfortunately, many of the people leaving the farms cannot find other occupations, either because they are unskilled, or there are few opportunities in occupations where the farmer has training. They are the people in the poverty pockets in the rural areas, or the migrants to the already crowded urban areas. Prof. J. Stockdale, of the Department of Rural Sociology, states, "These are people who, through no fault of their own, find themselves in a position of utter poverty." He feels that it will take a societal awareness of the problems and an investment of time, money and research to eliminate the situation.

The future does not look bright for those still engaged in small farm occupations. The pressures of technological change are continually increasing. The capital investments they must make to stay in farming are spiraling. What then can they do?

There seem to be four alternatives open to those remaining in farming. First they may subsidize their farm income with money earned in off-farm operations. In 1968, "more than one half of the total income of all farms with gross sales of less than \$10,000 came from sources other than farm operations." The trend is toward more dependency on the non-farm income.

Second, the farmer may produce specialty crops. These demand a high price on the open market and do not face as much competition from larger operations. He may also sign a production contract with a processing industry, which assures him of a market.

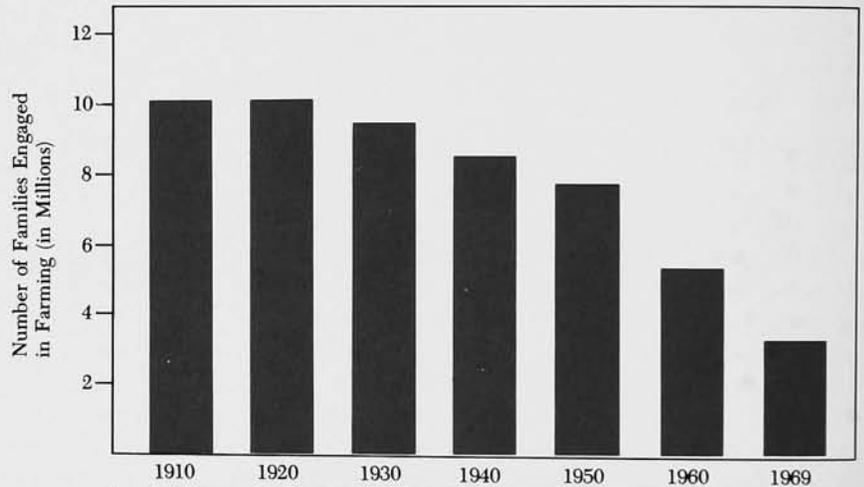
Third, a group of farmers may try a cooperative venture. Through this method, they can use their combined resources in purchasing machinery and supplies,

or in marketing their product. Another cooperative approach is to agree to hold their product off the market, forcing the buyers to negotiate at an adequate price.

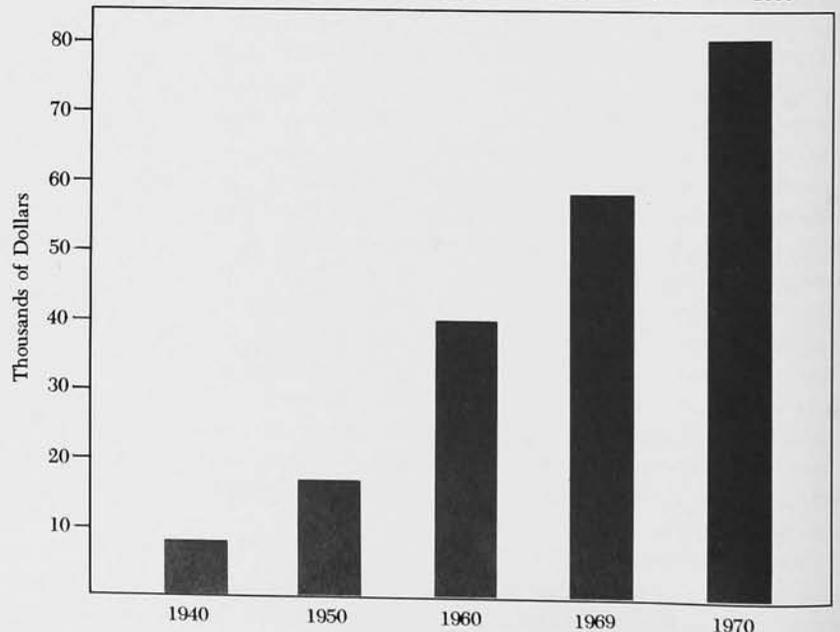
The fourth alternative is to push for better government controls on prices and field income. To date, price control programs have not succeeded in alleviating the pressures on small farm operations. Many economists feel that direct income payments, rather than price controls, would benefit the small farmers and reduce the tremendous subsidies of current programs.

None of the alternatives have proven sufficient to stop the trend away from small farming. The hope of the future seems to be an understanding of which alternative will serve the individual farmer best, and a restructuring of government farm programs. The ethical questions that future generations may be forced to answer is whether or not the small farmer has a place in the economy, or is the highly efficient, industrialized farm operation more desirable?

Chart shows the decreasing numbers of families in farming. This downward trend has persisted since 1910.



Total assets needed to continue farming have rapidly increased. Today it requires total assets above \$70,000 to remain in farming.



Social Development in Chenango

by ERICH JOSENHANS '71

Chenango County has felt the effect of rapid technological change of our increasingly industrialized society. The College of Agriculture has utilized its resources through its academic departments and Cooperative Extension to assist this community in solving problems associated with this change. Consequently, the Chenango Development Project was formed to uniquely unite the teaching functions of the college with its research and action components.

The project had its beginning at a meeting between Charles E. Palm, dean of the College of Agriculture, and Governor Nelson A. Rockefeller. In that meeting it was decided that the college should get more involved with problems of rural development and especially problems having to do with the poor or low income people in rural areas according to Prof. Jerry Stockdale, Department of Rural Sociology, one of 12 staff advisors to the project.

On returning to Cornell, the dean asked that a proposal for such a project be worked out. Consequently, an ambitious program costing \$500,000 was proposed. This was pared down to about \$350,000 through successive cutbacks. The emphasis was on action; it included two rural counties as a sort of demonstration project to show what could be done, and how it could be implemented in other counties. After submission, however, only \$75,000 was allocated to the project. The money then came back to the agricultural college administration, through the Agricultural Experiment Station and Cooperative Extension. The funds were distributed between the Rural Sociology Department, the Department of Agricultural Economics, and to Cooperative Extension.

The project had to be scaled down from the original plan because of the lack of funds. It was again decided there would be an action emphasis, though some money would be spent in research. This would make it different from many projects of a similar nature which often leave out the research aspect.

What was desired was a program geared to the specific problems of the chosen county, yet which could

be generalized to other areas of the state as well. First, they set about choosing a county, and decided upon Chenango County. It was chosen not because it has extreme poverty as compared with other counties, but because it is very representative of upstate rural counties. The distribution of the population is typical, and it also has a population center (Norwich) in the county which could serve as the focal point of action. The county is also easily accessible from Cornell, another factor contributing to the choice.

Action that is based on the needs of the people is the keynote of the project, so research to find out these needs was carried out. This research, which was largely carried out by George Hecht, a research associate of the Rural Sociology Department, consisted of some 360 hour-long interviews with families chosen through a random selection process. It tried to get the feel for what the situation is like in the county, as well as pulling together information on existing programs and organizations. It also tried to get more precise information on the needs of the poor people specifically, and of the population as a whole. The survey is working under

Located in Central New York, Chenango County is the target of the Development Project.



the assumption that these are problems of housing, health care, jobs, isolation of the rural people, and access to schools and training, and that these are not just problems of the poor people. However, the poor people have these problems more than others, especially in the realm of unemployment, which is extremely high in Chenango County, affecting some 8.4 per cent of the working force.

As Professor Stockdale puts it, the question then becomes, what can Cornell do to assist the county and ultimately, what will be most helpful to the people? To answer, the data of the survey will be checked over and will suggest possible programs. Specifically, they will look for information which will help to understand how to get things done. They have to know who to work with; that is, those involved in existing programs, and what the previous patterns of action taken by these organizations have been.

There will also be a secondary survey taken which will show characteristics of the social well-being of the county. Such characteristics can show changes, like growth and development or decline, in the social structure.

The program got underway even before the results of the survey came in. There are already field workers trying to get their end of the project moving. The aim of the field work is to help improve the quality and quantity of resources available to the people and to the existing programs in the county. It also is trying to increase the public awareness of the programs of which they can take advantage.

The actual operation of the field work is under the supervision of two extension specialists, Rodney Morris, Community Resource Development, and Judi Schubmehl, Human Resource Development. Mr. Morris has the task of working with the agencies at the top level or as he puts it, "My job is to sensitize persons and organizations to the need of the poor." He has been going to the local agencies such as the Rotary and the churches, trying to get to know them and to get local funding if

possible. His concern is to supplement what exists; to build linkages with organizations already operating. His is an advisory role, a mediator between the agencies and the people, in bringing the information together.

Where Mr. Morris works mainly with the "office" people, Miss Schubmehl works with the people of the community. So far, she has been mainly concerned with the health services which are lacking in Chenango County. She points out that the western area of the county is the largest area in New York State where there is no hospital within fifteen miles. Eventually, she hopes to be able to improve the communications between all persons in the county, and those who provide public and private services to those who are the recipients of these services.

One of the innovative programs which have been suggested is the creation of a mobile health service, similar to the Tompkins County "Blue Bus." It will hopefully bring such services to the people and perhaps will be equipped to show educational films. Persons manning the bus would also help to inform the populace as to what services are available in the county. Such services are of no value if no one knows about them.

The most pressing needs of the community, which can be realistically attained, will form a priority basis for the programs which will be implemented. The goals of the project are:

- To help improve the total economic and social climate of the community.
- To help individuals obtain services which they need and for which they qualify.
- To help individuals and families use the county's existing services and programs.
- To help managers of the county's existing programs reach the people.
- And the eventual improvement and modification of existing programs in the county.

Will the program help? As Professor Stockdale put it, "If the program can make an improvement in the lives of some of the people, then it's worthwhile."

Professor Stockdale (right) discusses a proposal for Chenango Development Project with Countryman staff member Jim Wells.



A New Perspective in Nutrition

by HELEN BLOHM '72

Searching for a more effective means of improving the nutritional level of the nation's poor is the challenge facing Assistant Prof. Diva Sanjur of the Human Nutrition and Food department in the College of Human Ecology.

Professor Sanjur is one of the leading advocates of "social nutrition." Social nutrition goes beyond the traditional method of providing recipes which conform to the daily minimum requirements. It tries to promote good nutritional practices by working within a framework of accepted food patterns, ideologies, and life styles of the people involved.

Food patterns and preferences are among the most psychologically engrained habits of man. For example, clothing and speech patterns of immigrants change long before their dietary patterns do. It has been theorized that the immigrant changes his outward mannerisms to conform with those of his co-workers. In the privacy of his home, however, he may retain the cultural patterns of his homeland. This tends to manifest itself in the eating habits of the family.

Nutrition workers are now realizing that the dietary pattern is a key component of life in an ethnic community. Food habits are shaped by the person's present environment and his cultural background. Current living situations dictate which foods will be available. Socio-cultural factors will influence his decision in choosing among these foods.

A recognized need to study the dietary patterns of low-income urban groups has existed for 25 years. However, it was not until recently that something was finally done to rectify the situation. Professor Sanjur, using the social nutritionist's approach to the problem, headed up a research project to study the food patterns, preferences, and ideologies of 149 black families. These families had preschool children enrolled in social intervention programs such as Head Start. Four black women, residents of the community, interviewed this sample population taken from a large city in upstate New York. It was hoped that this would mitigate any cultural gap.

The major objective of the study was to "assess the eating patterns of a group of low-income preschoolers in relation to their mothers' social characteristics." It was found, on the basis of food consumption data taken

at 24-hour periods, that the children had a more diversified diet than the mothers. This is thought to be due to the fact that the children were attending inner-city facilities "where the goal is to improve food habits in a very socially stimulating setting."

Under food preferences, a great variation was shown between mother and child with regard to dairy and fruit-vegetable groups. High overall agreement was revealed for the meat and cereal groups. These findings point out the importance of tailoring the teaching of food groups for each individual, since preference differences showed up not only among items within a food group, but also among family members. The indiscriminate emphasis (which would have been stressed with more traditional research) on increased consumption of all four food groups was disregarded in light of the findings. Educational efforts would concentrate only on the dairy and fruit-vegetable groups.

Cultural background has a significant effect on what foods the family selects. However, the black families rejected a number of folk beliefs relating to food, once they were given information about more nutritional diets. This was an important finding, since it indicates a possibility that nutritional education alone may break down many of the social and cultural myths supporting poor diets.

Nutritionists are faced with more than just the practical problem of improving the nutritional status of America's poor. They face an ethical problem. Just what right does the nutrition educator have to change a people's food attitudes and behavior?

Food and culture are intimately bound together. Behind every idea about food or food preference, there is a reason. Therefore, any plans to change a dietary pattern will have to consider other essential elements in the life styles of the families to be influenced. A meaningful and positive approach to this problem lies in the discovery of the good elements present in the ethnic dietary patterns. Social nutritionists can then work within that framework to effect healthy changes.

Nutritionist Diva Sanjur explains Spanish recipe.





Professor Jensen gets close-up of his work.

“Before I hang up my tweezers I am confident that I will see fields yielding hundred-bushel per acre wheat in New York State,” declared Neal F. Jensen, Professor of Plant Breeding and Biometry at the College of Agriculture at Cornell University. What makes Jensen’s claim all the more amazing is that, until a very few years ago, he had never seen a field producing even seventy bushels of soft white winter wheat per acre. What, then, lies behind Professor Jensen’s optimism?

Over thirteen years of his research as part of the Cereal Improvement Project of the college has just resulted in a new variety of short-stawed, lodging-resistant wheat called Arrow, suitable for Michigan, Ontario and New York. Arrow follows by two years the release of Jensen’s high-yield Yorkstar variety.

His most recent creation has its origins in three parent wheats crossed a decade and a half ago. The first cross between Heine’s VII, a German wheat, and a wheat-rye cross developed earlier at Cornell was made in 1956. The next year that hybrid was crossed with the Avon variety, also developed at Cornell. The resulting hybrid eventually produced Arrow.

For six years the researchers worked to make the hybrid homozygous, or true breeding. Then in 1963, the plant breeding process went into full swing. Tests were run to determine yield, insect and lodging resistance,

On the Road to

by ERIC FREEDMAN '71

straw strength, reaction to disease and response to fertilizer. (Usually, ten million individual plants must be examined before a new variety can be released.) The tweezers of the plant breeder were kept busy.

In December 1970, the announcement was made at the annual Cornell Seed Conference—Arrow was ready. Those years of research, peer group comparisons, meticulous recordkeeping, and frustrations had produced a short and stiff-stawed soft white winter wheat which would reduce lodging and minimize crop loss caused by wind and rain. Arrow’s height is about 35 inches while Yorkstar, now grown on 75 per cent of New York’s wheat acreage, averages 37 inches in height. Genesee and Avon, varieties popular before the advent of Yorkstar, average 43 inches.

How does Arrow fit into the wheat-growing picture?

Developed to supplement Yorkstar, Arrow gives farmers a choice in selecting a specialty wheat appropriate for fine pastries. Though it is not quite as high-yielding as Yorkstar, Arrow’s test weight advantage is about two pounds per bushel.

The farmer can be assured of Arrow’s high quality. In six years of evaluation by the Federal Soft Wheat Quality Laboratory, Arrow has never received an unfavorable report.

Jensen has been working hard to change the face of wheat production in the Northeastern United States and Canada. In 1956 he began twelve years of research that led to the 1968 release of Yorkstar. In the two growing seasons since Yorkstar was made available for commercial use, the average yield of wheat in New York, jumped from 40 bushels per acre in 1967 to 43 bushels in 1970, an all-time high, according to the New York State Crop Reporting Service. Now the farmer can fight the wind and storms with Arrow’s superior standing ability.

Producing 70 bushels of soft white winter wheat per acre, impossible before 1968, has now become a reality with Yorkstar. Furthermore, the best farmers can occasionally reach over 80 bushels, nearly double the New York average. Five years of testing at Ithaca showed an average yield of 67.6 bushels of Yorkstar per acre;

red-Bushel Wheat

Arrow, in comparison, averaged 65.8 bushels.

Arrow and Yorkstar are two more stepping-stones in Professor Jensen's continuing progress in small grain research. Wheat has been one of his life-long interests. Raised on his father's ranch, he recalled, "I used to have my own nursery of wild plants picked up on the prairie." As an undergraduate at North Dakota State University, he was employed by a wheat breeder, an experience he described as "very much equivalent to graduate training." Going on to receive his Ph.D. degree from Cornell, he has taught courses and continued his research since 1946. As a result, he has become one of America's leading producers of new varieties of small grain cereals.

The twin discoveries of Yorkstar and Arrow are crucial to the farmer. His costs using Arrow will be no higher than at present. Total expenses to prepare, seed, grow, and harvest an acre of wheat will remain between \$65-\$75, except, of course, for the cost of handling the extra yield. But high-yield Yorkstar and lodging-resistant Arrow mean that the farmer can grow the same amount of wheat on less land, freeing his remaining acreage for other crops.

"If the farmer can grow even five more bushels of wheat per acre," Jensen explained, "it can mean about \$7-\$10 of extra income from each acre." Applied research of this kind gives the farmer new advances without appreciable increase in cost," he emphasized. "It will enable those who stay in farming to survive economically."

For the next two years growers will accumulate adequate seed supplies for Arrow's scheduled release for general use in 1973. Meanwhile, though, the plant breeder's tweezers won't be idle. Professor Jensen's project is still producing about 400 new hybrids each year.

Somewhere in those hundreds of hybrids may lie the key to producing hundred-bushel soft white winter wheat for New York conditions, a dream Professor Jensen hopes to realize within the next ten years. But he shows the caution of a man who has made many discoveries in thirty years of research when he asserts, "It gets harder each time."



The lowly tweezers are an important part of the plant breeder's work.

Professor Jensen at work in the lab. Years of careful testing must take place before a new wheat variety can be released for the farmer's use.



Incubate to Educate

by KAREN STONE '71

“Certainly it’s biology, but it is also much more. The way in which we use incubation and embryology, it is not only the ‘how’, ‘where’, ‘why’ and ‘when’ of life’s beginning, but it is also art, math, and English grammar and composition.” With these words Professor Edward A. Schano, Associate Professor of Poultry Science and 4-H Specialist, explains the basic concept in the Incubation and Embryology Program he has developed for use with young people. In the program youth and their leaders are actively involved in hatching chicks in home-made incubators.

To give an example, one incubates ten eggs in which nine are fertile, seven hatch, five live, three are males and two are females. From this, the teacher draws many number ratios for use in math problems.

A student writes about what he sees and hears, thus

Boy enjoys playing with chick.



developing grammar and composition skills. The child is writing about something really exciting and interesting to him. For any special questions the child may have, the teacher guides him in the use of the school library, thus increasing his skills in finding information on his own.

Professor Schano believes in using poultry as an educational tool. In the excitement of hearing a first peep or holding a baby chick, a child gains insight into life processes. Through observing living, growing embryos, children see where life begins and relate this to their pets having babies or to the new arrival in their own families.

The benefits and uses of the project are many. In addition to using the chicks as a topic in school work, students learn to use the scientific method of making observations, placing observations in orderly categories, drawing reasonable conclusions and then reacting or doing something, such as drawing a picture or writing a story.

Why use poultry? “One can’t observe the living embryos of other animals easily,” Professor Schano stated. By candling fertile eggs, holding them up to a light, the developing embryo can be seen in the different stages of growth and development without interfering with the normal growth process.

The Incubation and Embryology Program began about ten years ago, when Professor Schano saw an opportunity to use poultry science in two slightly different ways. One was to use poultry science as an educational tool to help children develop the skill involved in the scientific method. In this approach, as students make observations of the chicken’s life process, they also come to realize that chickens and eggs provide essential nutrients which humans need for physical growth and development.

The second innovation was to use a different avenue in reaching people. Traditionally, youth had been met through the 4-H clubs, but with bimonthly meetings children could not watch the day-to-day development of the embryos. It was decided to introduce the program to grade school teachers through County Cooperative Extension agents, 4-H, to provide students with a continuous sequence of study and teachers with an effective educational aid.

Professor Schano organized unit lessons and wrote instructions for building an incubator from a plastic ice chest. With the aid of the Communication Arts Department, he produced charts, slides, tapes, film and kodacolor prints as visual aids. Using these educational aids, the teacher has a readily available three to thirty week lesson plan.

Formerly working directly with children, Professor Schano now meets with teachers of all grades from nursery schools to high schools, the majority being the fifth and sixth grade teachers. He estimates the program is being used by about 2,000 New York State teachers



Hatching egg provides education and entertainment for children.

every year and annually reaches 50 to 70,000 students.

Teachers enjoy the program too. Because of student enthusiasm in the project, teachers often find discipline less of a problem. Some students have a short attention span, and teachers of special classes remark that this is one activity which holds the attention of the youngsters long enough for the teacher to put across the point that they are trying to emphasize.

In high schools the Incubation and Embryology Project becomes an independent study program for students who are interested in special projects.

Professor Schano expresses his teaching philosophy in these words. "The primary function of the university is to promote the growth and development of the individual. Research programs, for example, should be con-

sidered as *one* of the educational tools used by the teacher in helping to develop the talents of the students. The findings resulting from the use of research are really fringe benefits, having great value, but are truly secondary to the benefits that accrue to all of humanity as one individual begins to fulfill his potential."

In 1970, Professor Schano received the Epsilon Sigma Phi Award of Merit for his Incubation and Embryology Program. He is a man who radiates a concern and interest in people, especially children. He feels that when we begin to develop our children's potentials "we begin in part to fulfill our own."

The value of the program may be reflected in the letters some children wrote to their County Extension Agent, Mr. Lounsbury of Saratoga County:

Dear Mr. Lounsbury,

*Thank you for the eggs.
So far we have 19 chick's. I
Brought in a lamp for a brooder.
The chick's hatched on May 21 they
hatched right on time.*

*Yours truly,
Eric Walker*

Dear Mr. Lounsbury,

*Our little eggs have
hatched.
But one is crippled we
think.
They peep a lot.
We put two robins eggs but they
did not hatch. I thank you again.*

*Yours truly,
Kathy Russo*

Dear Mr. Lounsbury,

*19 of the eggs hatched,
only one of them was cripple.
18 of the chicks are flufy.*

*Yours truly,
Will Marks*

Teaching by Telephone

by CHARLES HUNT '72

The telephone has been a useful instrument ever since Alexander Graham Bell summoned Watson. Business calls, social calls, and telegrams are all transmitted via this instrument. Recently another use was found. Now lectures can be shared over telephone lines. In this way, the message of an authority is simultaneously directed to interested audiences in remotely located classrooms.

Prof. Harlan Brumsted, of the Department of Natural Resources at the New York State College of Agriculture at Cornell, is among the faculty members who have brought this method of educational programming to the university. He experimented with this method after attending lectures in the new Biology in Society course, which deals with the implications of modern biology to leading social problems, such as food supply in respect to population growth, pollution and public health.

As extension program leader in his department, Professor Brumsted spends much time with extension teaching. He is constantly trying to find ways to keep extension agents well-versed in current research and discoveries, without having to bring the agents back to the university. "We have to scramble to find subject matter we can plug in," Professor Brumsted says, "We just haven't caught up with the research because we don't generate it all here on campus. There's a real gap between what we need to know to solve major problems of environmental quality and the present state of knowledge."

In June of 1970, Professor Brumsted received a tentative schedule for the fall Biology in Society lectures. The first nine lectures were on the theme, "Man's Finite World," which Professor Brumsted thought would be valuable information for extension agents to hear and pass on to community leaders. He studied the possibilities of using radio or telelecture, the medium of telephone, to disseminate this material.

Pressed for time during a hectic summer schedule, staff members suggested that rather than use the method

as an in-service training program, which would take more time to organize, the lectures should instead be broadcast for public use, to be sponsored by different county extension agents.

Ellicottville, New York, the base of Mrs. Frances Stowe, was chosen to become the first trial station, used for both receiving timely subject matter for use of community leaders and experimentation with telelecture techniques. The effects of the program were met with enthusiasm and success. Ninety-one community leaders and professionals attended and were positive about the experience because it offered information they wanted.

The instrument used in this experimentation, known as a conference unit, is located at both stations, to act as a transmitter and a receiver. It is not a desk telephone, although the same telephone lines used for home phones are utilized. The unit, only the size of a small typewriter, contains a handset and dial similar to that found on a regular phone, and two microphones which enable conversation to be carried on without the need of the handset. "The instrument is extremely mobile, since it is hooked into a jack and not permanently installed into a telephone line," Professor Brumsted says.

The cost of the operation is very reasonable. Professor Brumsted estimates the installation to be about \$55, while a monthly rental fee runs about \$14 per month. Charges of calls are on a station-to-station basis. If more than two instruments are used, the system becomes a network, with each additional set adding 25 percent to the toll charges. A network is handled by a conference operator instead of direct dialing.

He credits the university-wide program called Science, Technology and Society with sponsoring the telelecture program. "STS, as it is called, deals with the integration of science and technology to serve human needs, rather than conflict with them. STS hopes to find more ways to share the lectures, courses and studies it sponsors with other colleges and with the interested public," Professor Brumsted explains.

“I anticipate this will become a standard technique that is very widely used, as it has almost limitless possibilities.”

This spring term, pilot efforts to extend Biology and Society lectures focus on sharing them with six colleges and universities in western New York: St. Bonaventure University, Eisenhower College, and community Colleges at Jamestown, Lockport, Batavia, and Corning. An extension agent in the respective counties works with the institution's faculty to arrange for the programs, their publicity, and in organizing local panels to help clarify information.

Professor Brumsted cites only two problems involved in this program, and these appear to be minor ones. The first deals with the problem of visual aids. Many lecturers use these, either to clarify topics, or as self-explanatory background material. Thus, Professor Brumsted must seek out the lecturer several weeks in advance to make copies of the slides intended for use. “Many lecturers are very busy and haven't had time to make advance decisions regarding the slides they will use. Lecturers in Biology and Society have been most cooperative to share their lecture with remote audiences.”

“We haven't missed yet in getting slides and supporting material to the field,” Professor Brumsted says. He credits Miss Katherine Barnes, head of the press section in the communication arts department for the success. “This has become a real team effort and Miss Barnes has emerged as a real heroine in assembling supporting material for field use,” he adds.

The other problem involves the question of interaction between remote audiences and the Biology and Society class assembled in Statler Auditorium at Cornell. The present trial, which is working well, is to give one station each week a turn in directing questions to the speaker. Following the response, the network is closed down and each institution has its own question and discussion period organized around a panel of local authorities on the subject.

Results are just starting to come in from extension agents and Professor Brumsted is pleased when he announces that his primary concerns, sound quality and



Prof. Gene Erickson, left, a Cornell rural sociologist, and Prof. Stephen Eaton of St. Bonaventure University lead a discussion session in Ellicottville, N.Y., after a Biology and Society lecture via telelecture.

technical arrangements, have proved to be “A-1.”

Another result comes in a report from Professor Charles Russell, in the communication arts department, which indicates that one of his seniors is taking the last two credit hours needed for graduation from Cornell at Niagara Community College, where, because of this program, he is still able to receive credit.

As for continuation of the program, Professor Brumsted is very optimistic. “I anticipate this will become a standard technique that is very widely used, as it has almost limitless possibilities,” he says. “I would like to see this spun off and integrated in the programs of other faculty members while I, still cooperating with STS, experiment with different applications of these and other lectures in cooperative extension programs,” Professor Brumsted adds.



Heading up a panel discussion at the Agricultural Leaders' Forum are John Toll, Eileen Specyal, Gary Swan, Wayne Potter, Alvin Lierheimer, Hushang Bahar, and David Huntington.

Agricultural Leaders' Forum

Education in the 1970's and 80's

by CHRIS AGER '71

"The community college is the educational bright star of American institutions." This evaluation by Hushang Bahar, president of Tompkins-Cortland Community College was a ground point for several proposals at the Agricultural Leaders' Forum, March 25, at Cornell University. President Bahar predicted that among characteristics of tomorrow's educational system, will be "an open door policy" and that "education in the year 2000 will be this country's largest industry."

Following this lead, David H. Huntington, president of Alfred Agricultural and Technical College, stated that the goal of an open door policy, or, as he termed it, "universal access," is "to permit any person to find instruction in any study and to become all that he is capable of being." It must also "serve the diversity of individuals seeking and needing opportunity for individual fulfillment." President Huntington also proposed that new and diverse curricula be established, particularly in community colleges and their extensions. This expansion would provide advanced education to those students not motivated or unable to meet the strict entrance requirements of current higher education. He predicted that, in the future, most students will receive advanced education on a community college level, while the traditional university system will continue to provide liberal arts education to those desiring it.

In order to accomplish this goal and to meet the challenge of modern society's problems, John Toll, president of SUNY Stony Brook, lead-off speaker at the Forum, recommended that education follow the example set by the land grant colleges in agriculture. These colleges have, according to President Toll, provided education at virtually every level of agriculture, constantly exposing the industry to new innovations.

The day's final speaker was Alvin P. Lierheimer, Assistant New York State Commissioner of Education. He stressed the importance of identifying educational goals, and suggested methods of improving educational services. These methods included revision of teacher certification procedures and redirection of funds to increase their efficient use.

Following the four speakers, a panel of three College of Agriculture students, Wayne Potter '71, Eileen Specyal '71, and Gary Swan, graduate student, offered their opinions of modern education, and questioned the speakers on specific points of their speeches. The floor was also opened to the audience for questions.

The Agricultural Leaders' Forum is an annual event, sponsored by the Cornell College of Agriculture. Chairman of the forum committee this year is Herbert Everett, Director of Resident Instruction.

COUNTRYMAN CAPSULES



Norman J. Smith

Retiring Executive Committee member of the Alumni Association, **Norman J. Smith**, of Vineland, New Jersey, made brief remarks at the Alumni Association luncheon held between the morning and afternoon sessions of the Agricultural Leaders' Forum March 25, at Statler Hall on the Cornell campus.

To the Editor:

I have just received my copy of the March issue of the *Cornell Countryman* with the article by Jody Siegle on our experiment in HD & FS 115. As you may know, in recent years I have had a good deal of experience with interviewers and the stories they write, and I just wanted to say that Miss Siegle's is one of the best. Unlike so many others, she did communicate what I said to her, and did so in a crisply prose which does credit to the profession. Of the dozen or so stories that have come out about the 115 research project, this one stands out. Cordially yours,

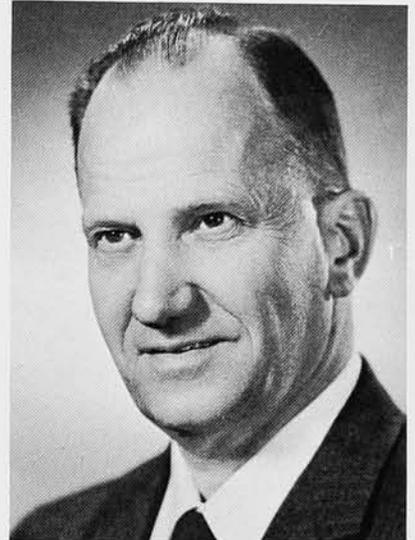
Urie Bronfenbrenner
Professor of Human Development
and Family Studies

Prof. Warren Receives Award

Springfield—**Stanley W. Warren**, a professor of farm management and a member of the staff of the Department of Agricultural Economics since 1933, has received one of the Farm Credit Banks of Springfield's two 1970 Agricultural Counselor Awards.

Warren, an alumnus of Cornell University, has taught an undergraduate course in farm management since 1933. Moreover, he initiated and has taught a course in farm appraising since 1944. He has been virtually a "permanent fixture" of the Cornell staff engaged each year to teach courses of a Farm Credit Banks of Springfield-sponsored farm credit school on the Cornell campus.

The popular educator is a native of Ithaca, New York. He received



his BS degree in 1927 and his doctorate in 1931.



Alumni Association Officers

Former president and new Executive Committee member of the Cornell College of Agriculture Alumni Association, **Ralph E. Winsor**, '57, left, chats with newly elected Association secretary, **Richard A. Church**, '64, right, while **Floyd E. Morter Jr.**, '52, Association president,

peruses college literature. Mr. Winsor lives in Harpursville, N.Y., Mr. Morter at Canton, N.Y., and Mr. Church in Dryden, N.Y. Warren W. Wigsten, '50, of Pleasant Valley, N.Y., newly elected third vice president of the Association, was unable to be present.



The Graduate

If it was possible to speak of a typical graduate of the College of Agriculture at Cornell University years ago, it is not today. Just as agriculture in the United States has grown complex and diversified, so has the makeup of the student body in the college. Where do our students come from? Where do our graduates go? A survey of our graduates last June showed the following:

Of the 356 male graduates, almost a quarter had been reared on farms. About a third had had no farm experience when they entered the college. The remainder had had some farm experience.

Most of those entering agriculture-related fields upon graduation were farm-reared. More than half of those with little or no farm experience went on to graduate or professional schools.

Almost half of the students who specialized in animal science entered farming or advanced study, including veterinary medicine. About half in biological sciences went on to further study in advanced biology or medicine. Many students in agricultural economics continued their studies, especially in business and public administration. Many others went into business and industry.

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New Name Marks New Era

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ON THE COVER: *Bradfield Hall is symbolic of the new directions agriculture is taking.*

CORNELL COUNTRYMAN

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Palm to Step Down as Dean

by ILENE M. KAPLAN '73

Charles E. Palm, who has served the College of Agriculture and Life Sciences during 34 of its most innovative years, will retire as dean at the end of the current academic year. Under his capable leadership for the past 13 years, the college has rapidly expanded the breadth and scope of its curricula and research programs. One of his tangible and most recent accomplishments is the new name for the college (see page 5).



Charles E. Palm

Cornell University President Dale R. Corson has cited Dean Palm's academic accomplishments as being extremely valuable to Cornell. President Corson particularly called attention to Dean Palm's aid in establishing closer ties between the college and the agricultural industry of New York State, the nation, and the world.

Dean Palm explained that he will resign at the end of this academic year in order to explore many areas he could not devote time to as dean. He remarked, "I have a deep interest concerning environmental quality, especially the area involving pesticides. A big field expanding now is the social dimensions of agricultural problems. It must continue to expand in order to help solve people's problems."

Dean Palm also is planning a seminar for international students in the administration of agricultural colleges and their programs. Palm has a deep interest in inter-

national agricultural development. A program of this nature was added to the college in 1963, with his help. Dean Palm has studied and observed research laboratories in Europe and Central America. He has been to Scandinavia, England, France, Italy and Germany, in order to study work conducted on pesticidal chemicals and residues. He has also visited Mexico and the Middle and Far East for similar reasons.

The Ford Foundation has relied on Dean Palm's talents as an advisor for the Mexican Agricultural program. Special assistance was given for the enlargement of the National School of Agriculture at Chapingo, Mexico. A strong agricultural program was built up at the Monterrey Institute of Technology in Mexico. "Out of this program," Dean Palm states, "Cornell developed its student exchange program with Monterrey at the undergraduate level for the junior year."

Dean Palm has shown particular interest in the University of the Philippines—Cornell University Graduate Education Program at Los Banos. In his words, "This has been one of the most intensive programs with which I've been involved. Opportunity has been provided for our faculty members to live in an international environment and return and have also been arranged between Cornell and the Philippines."

In the course of Palm's deanship, the college has enjoyed many gains. It is the second largest of all the colleges at Cornell, with approximately 3,400 undergraduate and graduate students. It employs 2,000 men and women at Ithaca and Geneva, and receives a combined budget from federal, state, and other sources of 39 million dollars. Thanks to Palm's work with Commissioner Don J. Wickham, a close relationship has been maintained between the college and the Department of Agriculture and Markets.

During Dean Palm's administration, the college has become increasingly involved in Cooperative Extension programs. The Cornell University Agricultural Experiment Station at Ithaca, along with the New York State Agricultural Experiment Station at Geneva, has also increased the problem-solving research being conducted.

Prior to his deanship, Palm was the director of the Cornell University Agricultural Experiment Station and the director of research for the New York State Colleges of Agriculture and Home Economics from 1957-1959. Palm also held the position of head of the department of Entomology and Limnology at Cornell from 1938-1957. At the end of the academic year, Dean Palm will resume his title of professor of entomology.

Dean Palm grew up on a farm in northwest Arkansas.

Past Deans

He attended the University of Arkansas and graduated with honors in 1931. The University of Arkansas awarded him the Distinguished Alumnus Award in 1955 and an Honorary Doctor of Law Degree in 1964.

In 1931, Palm began as a graduate student in entomology and plant pathology at Cornell University. He became an instructor and earned his Ph.D. at Cornell in 1935. Palm advanced steadily and in 1937 became an assistant professor in entomology. The next year he became a full professor of entomology as well as head of the department. Palm was an industrious worker within his department. Programs were begun to control the spread of harmful insects and research physiology and insect biochemistry.

Dean Palm's work has extended from Cornell associations to the National Academy of Sciences - National Research Council. He was the chairman of the Council's Agricultural Board for three of his nine years on the Council. Under Palm's guidance, six publications were developed on pest management practices. His work, however, was not limited to pest control. "We dealt with a large number of major problems. Problems came up dealing with land use, nutrition, rural development, and animal disease. We

served on the Agricultural Board because of our interest in agricultural science and environmental quality."

University President Dale R. Corson commented on the difficulty of replacing Dean Palm. "Dean Charles E. Palm has had a truly distinguished record as an academic administrator at Cornell . . . it will be difficult to replace a man of Dean Palm's capabilities."

Cornell University Provost Robert A. Plane has stated, "A search committee will no doubt need most of the year to find a replacement for an administrator of Dean Palm's qualifications. As a consequence, a search committee will be appointed shortly after the beginning of the fall term. It will be charged with screening appropriate candidates both inside the university and externally." Commenting on the deanship, Palm remarked, his eyes twinkling, "It's a grand job with opportunity as well as responsibility."

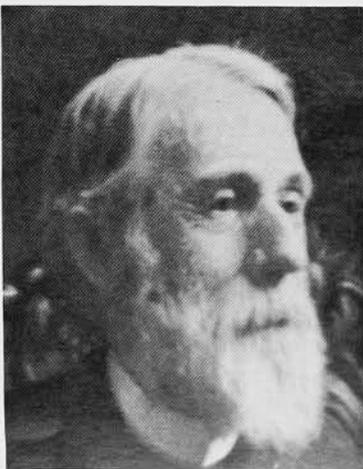
It was under Dean Palm that the College of Agriculture became the College of Agriculture and Life Sciences. Through Dean Palm's dedication, the new name stands as a tribute and fitting culmination to his administrative career. Yet he is the first to say, "Our college has had excellent support from the faculty and student body."



William I. Myers
1943-59



Carl E. Ladd
1932-43



Isaac P. Roberts
1874-1903



Liberty Hyde Bailey
1903-13



Albert R. Mann
1916-31

Life Sciences . . . Expanding Scope In Agriculture

by HELEN BLOHM '72

The College of Agriculture has a new name. After 106 years of innovation and achievement, the college has grown from an exclusively agriculture-oriented curriculum to one which encompasses economics, biological sciences, and communications. The great expansion in both the physical size and the scope of the college's activities necessitates a more appropriate name, the College of Agriculture and Life Sciences.

The historic move was made September 9, 1970, and the college assumed its new identity on July 1, 1970.

"Recently, concern has been widespread about the interaction of agriculture, biological mechanisms, and the environment," said Dean Charles E. Palm. "The college's unique strengths in both agriculture and the life sciences have spurred the environmental dialogue and stimulated a cooperative approach between the disciplines."

It is in this spirit that the new name reflects the desire of the college to meet the demands of the teaching, research, and extension programs.

Broadening the scope of the college's activities has played an integral part in the planned expansion of the college. Established as a land-grant institution, basic agricultural studies are an inherent part of its educational program. However, since 1904, when the state of New York first took over the financing of the college, and more vigorously since 1948 when the college became part of the State University system, it has been progressively modifying its structure to fit the ever-changing concepts of modern agriculture.

Today agriculture has allied itself with industry. The private business sector provides the farmer with the basic inputs such as seed, feed, fertilizer, livestock, machinery, and capital for the commercial farm. In return, the farmer today must also be a successful businessman. He must combine managerial skills with a knowledge of technological advancements to provide the food and fiber for our urban society.

Much of the college's recent research has been in environmental quality. Agriculture shares a direct responsibility for the use and abuse of our nation's resources. The college has helped to lead the way in con-



The New York State College of Agriculture has officially changed its name to include "Life Sciences." Along with its new name, the college now has a new seal, above.

trolling the use of pesticides, managing agricultural waste and retarding the eutrophication of our waterways. Research in the basic biological and physical sciences is now provided by the college in areas such as soils, agricultural engineering, and chemistry.

Besides guarding our natural resources, the College of Agriculture and Life Sciences works toward improving the quality of life for the nation's human resources. Alleviation of rural poverty is studied in rural sociology, and agricultural economics, and animal science. Everyone can benefit from the work done in land use studies, conservation, and recreation areas of the college's research facilities. Not only does the college help the citizens of New York State but it also extends itself to help the people of the world through programs such as International Agricultural Development and a large number of foreign students.

In only 70 years, the student body of the college has grown from 50 to 3,400 students. It now ranks second among Cornell University's 15 schools and colleges in total enrollment.

Nearly one-third of all of its students are transfer students. Many of them come to Cornell under a special program in association with the six two-year SUNY Agricultural and Technical Colleges. Community college graduates, transfers from other colleges at Cornell, and students from other four year institutions are major contributing factors to the college profile.

As demands upon it increase, the College of Agriculture and Life Sciences will continue to expand, through its coordinated efforts in research, resident instruction, and public service, the existing body of knowledge in agriculture and the related life sciences, and to apply its achievements for the benefit of mankind.

Peace Prize for a Revolution

by HELEN BLOHM '72

To Norman Borlaug the laboratory is where revolutions are made. The scientist has already won one battle, for which he was awarded the 1970 Nobel Peace Prize, and he is still going strong.

Dr. Borlaug, who won the prize for developing a "miracle wheat," recently came to Cornell University to attend the doctoral oral examination of his advisee, W. Ronnie Coffman, whom he first met at the International Maize and Wheat Improvement Center in Chapingo, Mexico. Dr. Borlaug is director of the wheat improvement program there and supervised Coffman's graduate research project on the light insensitivity of wheat.

But the story behind Norman Borlaug and his miracle wheat actually begins more than a quarter of a century earlier.

He first arrived in Mexico in 1944 under a Rockefeller Foundation grant to initiate a genetic program of wheat improvement. His immediate goal was to find a surefire method to feed the world's exploding population. He placed two restrictions upon his research: he would deal only with wheat and he would concentrate on the particular problem of wheat rust, a fungus disease which

can destroy an entire crop. Wheat was the ideal food grain to work with because it is second only to rice in the number of people who use it as their main dietary staple.

During his research, Borlaug had to cope with pressures government and big business tried to exert upon him. Referring to this dilemma, he said, "We need to develop a mutant strain of Man who will have the enzyme cellulase in his gut which will thereby permit him to eat, digest, and grow fat on the mountains of paper and red tape that are being produced in ever-increasing abundance by the world's planners, bureaucrats, and press!"

The Nobel Prize winner's first task in developing a new miracle wheat was to find strains resistant to rust. Only two out of the more than 5,000 native Mexican bread wheat varieties qualified. These two Mexican lines were crossbred with imported strains of rust resistant wheat from the United States, Kenya, Australia, and Morocco. By 1957, the first step was completed: the rust fungus had been conquered.

The next hurdle was to develop wheat hybrids that were light insensitive. The flowering and maturation of

Nobel Prize winner Norman Borlaug (left) and his former student, Ronnie Coffman, show Prof. Neal Jensen (right), plant breeding and biometry, the areas of the world where Borlaug's miracle wheat is helping to eliminate starvation.



plants are triggered by the length of a day. Wheats of a light insensitive variety will mature in the same number of days regardless of whether the days are becoming shorter or longer. This is vitally important to over-populated tropical and subtropical countries where the farmers can now plant two crops a year.

The final leap to success came when Borlaug crossed his disease-resistant plants to Japanese wheat strains, noted for their short, stiff, erect stems and high yields. In 1961, he released Pictic 62 and Penjama 62 to the world — the culmination of 20 years of work.

Cornell's International Agricultural Development Program (IAD) plays a key role in projects such as Borlaug's wheat research. For it is from such programs as IAD that men the calibre of Dr. Borlaug and the recently named Dr. W. Ronnie Coffman come forth. Formally established in 1963, IAD's primary purpose is the development of the international aspects of the University's normal research, teaching, and extension functions to solve worldwide agricultural problems. The undergraduate specialization and the graduate minor in IAD is continually expanding and at present 37 courses are offered in the college.

Dr. Borlaug believes that in the future, programs such as IAD will be of paramount importance. "More and more scientists are going to be needed as the world and society become more complex. Geneticists are in a particularly good position to influence change," said Borlaug. "Food is the single-most important ingredient toward building a stable society. A scientist can't be mediocre if he wants to bring about change. It isn't always the most brilliant man that makes the most impact on society, common sense and experience are also necessary."

Students interested in international work should read and learn as much as they can in as many different fields as possible, he advised.

"There is a great need to give students entering college the opportunity to gain a wider view of how things work together and influence each other," said Borlaug.

"The green revolution is bringing about a short period of political stability into some parts of the world, thus giving these countries time to feed the people and gain on population control," he said.

This revolution, contrary to popular belief, is not making the rich richer. For example, in India, an additional \$1.1 billion has been put in the pockets of the small farmers. But many of the changes cannot be described in monetary values nor in the gross national product because they are changes in the attitudes of the people — from those of desolation, despair, and demoralization to ones of new hope for the future. With the help of Dr. Borlaug's research, India has now surpassed both Canada and Australia in wheat production and is third behind the United States and Russia.

With his doctoral studies complete, Dr. Borlaug's

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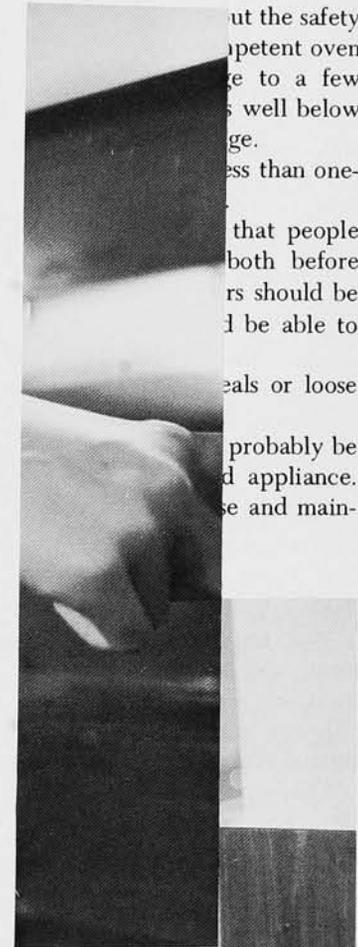
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Coffee, Tea, or Petroleum?

Tomorrow's Foods Will be Exotic by Necessity

by CAROL WORMAN '73

It's dinner time and the menu is soybean patties, seaweed salad, and fermented petroleum with chocolate-covered fish for dessert.

You may turn up your nose now, but increasing population and decreasing conventional food supplies will put these foods on your table in the near future.

Scientists point to today's protein shortage, coupled with high food prices, as an indication of things to come, and so are currently developing these inexpensive, nutritious, and believe it or not, appetizing dishes.

You name it and they've tried to make it edible. However, the "synthetic" foods with the brightest future are made from soybeans, fish, and petroleum.

Soybeans are rich in protein. Scientists feel that since they can be processed and tailored in an unlimited number of ways, soybean and other non-animal protein products have a tremendous future.

In Cedar Rapids, Iowa, General Mills' completely computer-controlled plant is already mass-producing one type of soybean product: textured soy proteins. The process is simple. Liquid soybean protein is spun by machines into fibers which look and feel exactly like hairs from a blond wig. Then the fibers are processed into shapes, colors, and flavors which simulate familiar foods.

Most textured soy proteins look like meat, taste like meat, and are high in protein like meat, but unlike meat are plentiful and cheap. As one advertiser says, "There's nothing wrong with meat that a little textured vegetable protein can't cure."

The average American seems to agree. In a recent taste test, soy protein patties were preferred to all-meat patties by 75 per cent of the participants. More good news: soy patties are about 14 cents a pound cheaper than all-meat patties.

Still in the development stage is soy protein isolate. This product, which is 90-98 per cent protein, will probably be added to existing foods to increase their nutritional value.

Soybean concentrates, flours, and grits are also being produced. Soy flour enhances protein content of bread without affecting its color, grain, texture, flavor, or toasting properties. Soy grits and concentrates supplement meat patties and cereals.

"Eating fish makes more efficient use of protein than

feeding fish to poultry and eating the poultry," comments a director of the Fishery Products Technology Laboratory in Gloucester, Massachusetts. Food scientists are investigating fish as a source of considerable quantities of high protein, good quality, low cost food.

Fish farming is one way of providing people with a lot of fish to eat. "Farmers" would breed fish in ponds, rice paddies, rivers, and streams, much like they raise cattle and chickens.

Popularizing unconventional fish species like squid, red fish, and Antarctic kroll is another way scientists recommend combating food shortages.

Other "fishy" ideas are being followed. Large plants in the United States, Europe, Peru, Chile, and Africa are now producing FPC (Fish Protein Concentrate). Whole fish are ground up and processed into this product. FPC is used mainly to enrich existing foods.

The Nabisco Company is rapidly developing an innovation from Sweden in an attempt to provide protein-enriched foods that are compatible with the eating



Common as these foods look, you may soon find your meals being prepared from products such as soybeans, seaweed, and petroleum.



The "synthetic" foods with the brightest future are made from soybeans, fish, and petroleum . . . The general problem with these foods is to get people to eat them.

These delicacies of the deep, shrimp aspic canapes, are a hint of the types of food man will be eating by the year 2,000.

habits, tastes, and pocketbooks of developing nations.

Nabisco is pursuing EFP (Eviscerated Fish Product). EFP is 20 per cent more expensive than FPC but has several advantages over it.

EFP is made only from the flesh of the fish. The fish are sent through a Japanese deboning machine which separates the flesh from the bones and skin. In the machine an endless belt presses tightly against a perforated drum. Both belt and drum move in the same direction, but at different speeds, creating a shearing action which forces the flesh through the holes in the drum, leaving the waste behind.

EFP is tasteless and odorless. It can thus simulate anything from cheese to spiced meat to candy, as well as being used as an additive.

To produce highest quality EFP and to use raw materials in the area where it is processed, producers have constructed a factory ship. This 25,000-ton vessel receives fresh fish directly from the fishing boats and immediately processes them. It can easily move to new fishing areas from exhausted ones.

Hardest to imagine are the petroleum-based foods, but some scientists are most enthusiastic about these because of: the large petroleum market and the unlimited availability of petroleum derivatives, and the fact that petroleum is a raw material independent of changes in nature, whereas fish and plants depend on weather, evolution, and environment.

Of all synthesized foods, these are in the earliest stages of development. Standard Oil of New Jersey is experimenting with fermentation of pure petroleum derivatives with the aim of producing food for humans. France is already feeding petroleum-based protein to animals and expects the Frenchmen, the masters of culinary art, will be eating the same thing in ten years.

Besides using the petroleum itself for food, scientists have been growing microorganisms on kerosene and refined petroleum fractions. Hopefully, these single-cell proteins and yeasts can either be developed into food for man or fed to animals raised for man to eat.

Like all new products, foods synthesized from soybeans, fish, and petroleum do not solve all our problems. In fact, they may introduce new ones.

The general problem with these foods is to get people to eat them. One reason they were developed in the first place was to supply protein to poor vegetarian countries where the people will not accept animal proteins.

If these foods are introduced as a poor man's food, there is a good chance these countries, for which the foods were intended, will not accept them. Therefore, scientists are emphasizing the fact that rich countries must accept these foods first, leading the way for universal acceptance.

Mass production of the products leads to the possible problem of insufficient supply of ingredients. With this in mind, scientists are probing in every possible direction for new raw materials. They came up with petroleum and are now launching projects to convert grass, green leaves, plankton (a type of sea plant), algae, and fungi into food.

Before these foods replace meat and potatoes, scientists must test their effectiveness and safety. Questions are now being raised as to how these products affect babies and old people, or how this new type of nutrition will affect mental development in the adolescent years.

The developments do not stop with soybeans, fish, and petroleum. Sunflower seeds, cottonseed, coconuts, and seaweed are potential entrees. Experiments with wheat, rice, milk curd, and demineralized whey have also yielded high protein foods.

So we find the existence of our favorite steak, french fries, and apple pie threatened. The food science industry replies, "Sorry, but that's the way the soybean cookie crumbles."

Alumni Win Awards

Prof. Stan Warren '27 was pleased to hear that the top three state winners this past spring in the New York Jaycees Outstanding Young Farmer contest were all former students from his farm management class. This column is also pleased to recognize these men for their outstanding achievements and their contributions to their communities and state.

The competition, with an age limit of 35, is based on the development of the individual's farming enterprises, the extent of soil and water conservation practices, and their involvement in community activities.

Selected for top award in the state was Richard E. Felton '57, Prospect Road, Westfield (Chautauqua County). He began his career in 1960 with an 80 acre farm of which only five acres were vineyards. A 45 acre woodlot was cleared and sold, and the profits from this were used to develop and plant entirely vineyards. Problems faced by Mr. Felton were financing farm growth, increasing crop yields, draining wet lands, and preventing damage from spring frost.

Mr. Felton is currently serving as Secretary of the New York State Grape Growers Cooperative. In his community, he is a Town Justice, deacon of his church, and a director of the United Fund. He was charter president of the Westfield Kiwanis, and is a past president of the Jaycees.

Ralph E. Winsor '57, from Harpursville, New York (Broome County), was named first alternate in the contest. He bought his dairy farm from his parents in 1958, and having insufficient funds at the time, Winsor used the land contract with monthly payments to purchase the farm. He built the first free stall barn in Broome County in 1964 and has increased his herd from 25 cows and 25 heifers to his present herd of 150 cows and 130 heifers.

Mr. Winsor is currently serving his third term as president of the New York Dairy Herd Improvement Cooperative and is a member of the Board of Directors of Agway, Inc. Last year he served as president of the Alumni Association of the College of Agriculture, and is currently on the Executive Committee. In his community Mr. Winsor has served as president of his School Board. He is currently president of the Broome-Tioga Eastern Artificial Breeders Cooperative and is a member of the Advisory Board of the National Bank and Trust Company of Norwich.

Selected as second alternate was Marion F. Shuback '56, Goshen, New York (Orange County).

Mr. Shuback, who started with a 12-acre farm and one cub tractor, now has 250 acres and over \$300,000 worth of equipment. Beginning with virtually nothing in the line of storage on his farm, he now has over 22,000 feet of storage and 6,000 square feet of machine repair shop. Shuback was one of the first to start using semi-automatic packing. He is one of the few farmers to package onions in consumer size packages. Mr. Shuback was awarded a blue ribbon for the past three years in the Consumer Package Contest sponsored by the New York State Vegetable Growers Association. In addition, Mr. Shuback is a member of the Lions Club and active in the New York State Vegetable Growers Association, the A.S.C., Sod Growers Club, and in his church.

Ag 'Fund' Scholarships

This fall six undergraduate students in the College of Agriculture and Life Sciences are the recipients of the first scholarships to be awarded from the College's Fund. Since one of the stated aims of the Fund is to provide financial support for transfer students, the Scholarship Committee selected the following first-year transfer students who have graduated from the State University of New York's two-year agricultural and technical colleges: Dan G. Bailey, majoring in agricultural economics; Russell D. Biss, Wildlife biology; Robert Butcher Jr., food science; Thomas R. Maloney, extension; John J. Pfister, food science; and Raymond Wilson, prevet.

Comm. Arts Wins Awards

The Department of Communication Arts in the College of Agriculture and Life Sciences ranked No. 1 in a recent national competition among land-grant universities.

Awards, received in 23 different categories, included the periodical, *Human Ecology Forum*; a communications training service publication, *Vision*; and two TV features — a film, "Pest Control and the Environment," and a video tape, "Source of Credits," from the *It's Your Money* series.

Eight second-place ribbons and seven third-place ribbons were also won. The CA Department was followed by Pennsylvania State University and the University of Illinois in the competition.

L. L. "Larry" Clough '29 has retired as assistant director of the Division of Milk Control, New York State Department of Agriculture and Markets. He was serving as a consultant to the New York State Senate Committee on Agriculture and Marketing during the past legislative session. He resides at 12 Rose Court, Delmar, New York.

Milo J. "Pete" Peterson '37 has retired as head of the Department of Agricultural Education at the University of Minnesota, but is continuing as a professor in the department. He makes his home at 1311 Keston, St. Paul, Minnesota.

Sumner A. Griffin '49 is dean of the School of Agriculture at Tennessee Technological University in Cookeville, Tenn. The enrollment is 250, with plans for 400 in two years.

Andrew H. Gantt II '57 is now a senior economist with the International Monetary Fund in Washington. He is teaching officials from underdeveloped nations how to manage their economies. Mr. Gantt also keeps busy running his 640-acre family farm near Charlottesville, Virginia, where he maintains a herd of polled Herefords.

W. Stephen Middaugh '62 has been named regional vice president of the Great Western Region for the Jewel Home Shopping Service. Steve was formerly sales manager for that region. His home address is 2228 Clover Avenue, Anaheim, California.

Doug MacBeth '64 has just started a new job as science curriculum coordinator (K-12) for the Lewisburg (Pa.) School District. Doug has just completed work on a Ph.D. in science teaching at Penn State.

Alumni Plan Open House

On Saturday, November 13, the College of Agriculture and Life Sciences together with the College Alumni Association will sponsor the annual Open House for high school students.

The program is to begin at 9:30 a.m. and will include tours of college facilities, demonstrations, and discussions concerning student life,

academic programs, and career opportunities.

Alumni assistance is needed in locating good prospects and transporting them to campus. For further information contact Floyd Morter Jr., Alumni Association president, at Box 429, Canton, New York 13617, (315-386-8931), or Gordon Peck, Roberts Hall (607-256-2057).

Profile of Freshman Class

Not too long ago an admissions officer greeted freshmen at the New York State College of Agriculture and Life Sciences at Cornell, by informing them of the student ratio of six and one-half males for each female.

To the women he advised, "Don't get stuck with the one-half."

This year the sex ratio has shifted to a more comfortable three to one statistic. But it is only one sign of the changing attitudes of the college.

About 40 per cent of the incoming class come from the metropolitan New York City area. Another 45 per cent make their homes in the upstate New York counties, many from the state's central region. The remainder of the 851 new matriculants represent 18 states and 16 foreign countries.

Herbert L. Everett, director of resident instruction at the college, said that the most popular fields of study designated by the incoming students were the biological sciences and pre-veterinary courses.

Other freshman favorites include natural resources (conservation), a college departmental offering that has increased its enrollment three-

fold in recent years, agricultural business, and the college's humanities majors, including communication arts and rural sociology.

Everett also noted that the college's urban and suburban students are inclined to study the basic biological sciences, while students with rural backgrounds, tend to concentrate on the applied aspects of agriculture.

However, Gordon Peck, assistant director of admissions, has noticed a curious trend in the attitude of some of the transfer students, who comprise about one-third of the incoming class, and the freshmen.

"An increasing number of students," he said, "including several with urban backgrounds, have expressed a renewed interest in 'returning to the land' and various facets of farming. Ecology and organic farming are two of their prime interests."

This wide variety of studies offered by the college, from basic theoretical sciences to technical applied work, was a prime reason for the addition of the phrase "Life Sciences" to the college's name last July 1.

Welcome

New Students

Charles E. Palm, Dean



It is my privilege to extend a word of welcome to all of you entering the College of Agriculture and Life Sciences this fall. Nearly a third of you have come through transfer programs from other colleges. We are delighted that you are here and wish you every success at Cornell.

The College of Agriculture and Life Sciences is an important college at Cornell, being second in the number of students among the 15 schools and colleges. It is also a statutory college of the State University at Cornell. This year, the Legislature and the Governor recognized its breadth of offerings by officially changing the name to Agriculture and Life Sciences. Modern agriculture is heavily oriented to advances in science, translated into technology. We are fortunate to have extensive capabilities in the biological, social, and physical sciences which provide support for all phases of agriculture, as well as an interest in the sciences themselves.

As we look to the decade of the '70's, agriculture is becoming increasingly conscious of the social sciences and their role in modern society. Long years ago the land grant universities, of which Cornell is one, undertook the responsibility for an educational background in modernizing agriculture. They still have this important mission. The complexities of a systems oriented agriculture, serving all consumers, will draw increasingly on the social sciences in meeting the

problems of the people. This new dimension of service is in addition to the continuing responsibility for the production and distribution of a wholesome, economical food supply.

Many of the resources concerned with agricultural production — people, land, water, air, and the like — are of direct concern to our society in relation to environmental quality. Land is being freed increasingly from production needs because of higher yields. Much of it is returned to the people for recreation, building, highways, and forests. Yet, the wastes from agricultural production and processing are of growing concern as pollutants and must be dealt with accordingly. We have an extensive program in the broad aspects of environmental quality.

We are confident that you will find many stimulating experiences in your programs here. As students in the College, you are also students in Cornell University and will enjoy the advantages of the broader reach to other colleges and disciplines. You have been selected because of your expressed interest in our programs and your qualifications for success. Faculty members from all departments of the College will serve as your advisors. I would like to urge you to get to know your advisor as soon as convenient and to make good use of him as you develop your schedule. We are proud of our faculty advisors and I'm confident you too will soon appreciate them as friends and counselors.

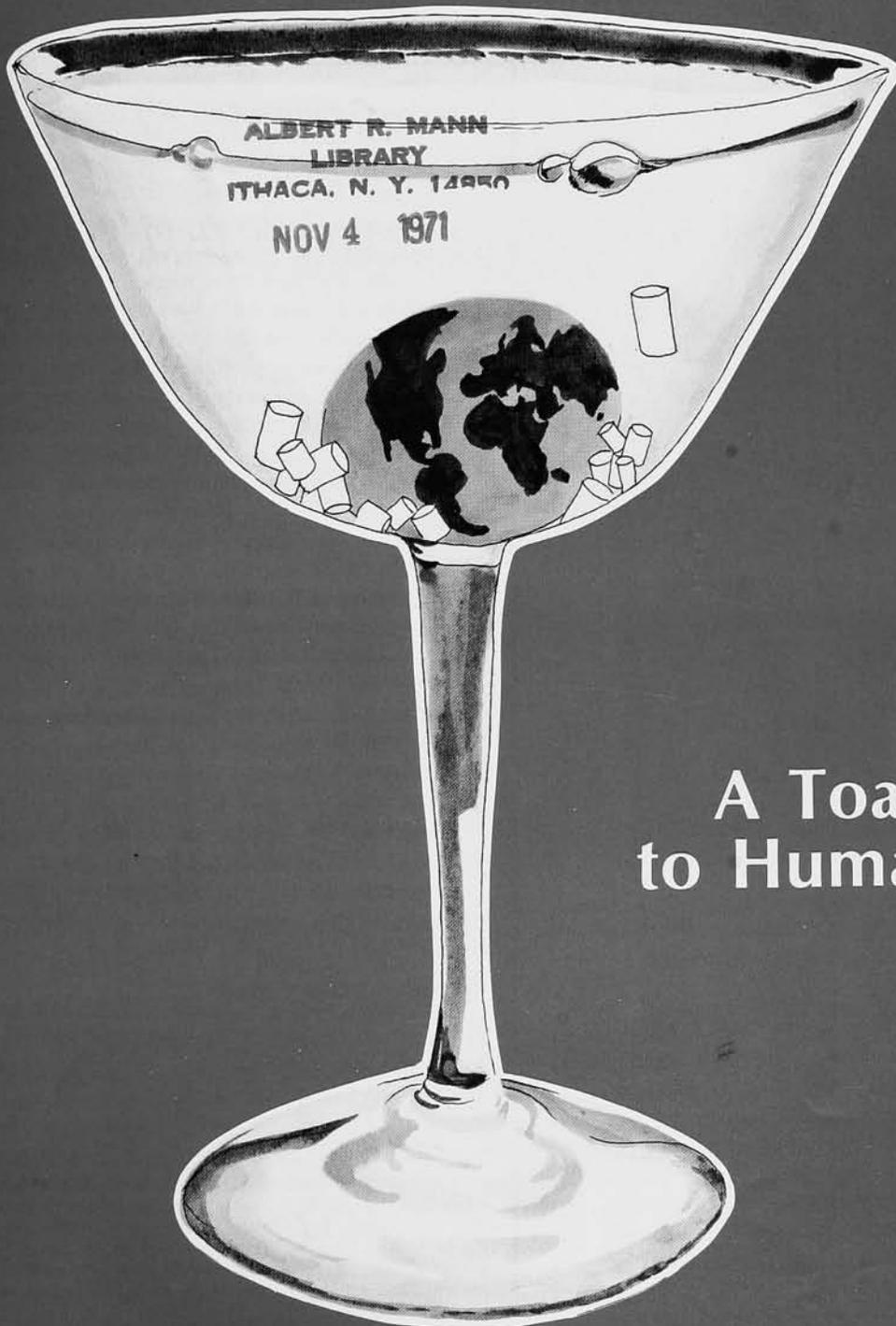
Again, welcome to Cornell!

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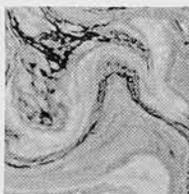


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to Humanity

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A Dilemma for Agriculture

by LIZ BAUMAN '73

Can the needs of an exploding population be met without undue harm to the environment? Modern agriculture must answer this question by examining the costs to nature which increased production from widespread use of technology entails.

Agriculturalists and environmentalists both seek a program which will permit the environment to continue to support human life in the best way possible. The agriculturalists' primary concern is to keep the rate of food production equal to the rate of population growth. There are avid environmentalists, on the other hand, who wish to curb agricultural technology and preserve our natural resources, even if this causes economic upheavals and possible human starvation. Realistically, however, a solution must be found which takes into account both the economic and environmental considerations.

Ironically, technological improvements and population growth were the factors which made agricultural expansion possible, and they are the same factors which are largely responsible for the problems it now faces. Pesticides and synthetic fertilizers, examples of chemical technology used in farming to increase yields, are seriously endangering the capability of the environment to continue supporting production. A growing population presents a problem to agriculture because it requires ever-increasing amounts of land to live on. Often this expansion robs us of some of our highest yielding crop lands. As more people must be fed, more land must be brought into production. All of this creates pressure on the farmer to produce more, regardless of the methods which must be used to bring about this increase.

Assessment of the actual amount of damage caused by specific agricultural practices in relation to damage caused by other segments of society is often misleading and difficult to prove. "Comparing old car bodies with livestock manure is irrelevant," said George L. Casler, professor of agricultural economics. "But," he added, "there are several kinds of situations which the problem of pollution from agriculture is real, measurable, and in need of attention."

There are "trade-offs" in the real world, explained Prof. Martin Alexander, agronomy. If we are going to try to feed great numbers of people at a low cost, we



In the present crisis involving pollution and an expanding population, the use of chemicals is only one form of pollution to which modern agriculture contributes.

will have to accept a certain amount of environmental abuse, he continued. "Agriculture has done a tremendous amount in India and part of it is due to polluting chemicals. However, no one yet has died from fertilizer or DDT. There is no question, though, that they do have unwanted effects on the environment," he said.

Pesticide pollution has been widely discussed in recent years. There are many ways in which pesticides can pollute the environment. They may be carried away in surface run-off from agricultural lands, penetrate down through treated soil to contaminate subsoils and

waters, or drift in the air from the place of application. Pesticides may also be carried by a herbivore consuming treated vegetation and later excreting. If land that was once treated with pesticides is used as pasture land, contamination of meat and milk products may result.

Pesticide contamination of soil and water brings with it many serious consequences. Run-off from a recently treated field can contain enough pesticide to kill all the aquatic life in nearby waters. The pesticides now in use tend to have high chemical stability and are non-biodegradable. These chemicals accumulate in the body tissues of predators higher up in the food web. High concentrations of these substances have been found in lake trout. The residues are passed to the eggs, resulting in the death of the fry.

Another potential harm to environmental quality is the increasing use of synthetic fertilizers in modern agriculture. Fertilizers containing inorganic nitrogen

The public must be willing to pay for improved environmental quality.

deplete the humus content of the soil. The resulting premature aging of the water body is called eutrophication. The high nitrate content of the water causes a tremendous increase in the growth of algae, which in turn, depletes the oxygen content of the water. The aquatic life dies from a lack of breathable oxygen. Professor Casler has stated that there is probably a relationship between increasing nitrogen fertilization levels and increasing nitrate levels in Midwest stream waters.

The disposal of solid animal wastes, plant remains,

and agricultural processing is another problem which must be solved. According to Prof. R. C. Loehr, agricultural engineering, "In some areas, agricultural wastes have undeniably been a major source of water pollution." He explained that in 1967, waste pollution caused 16 per cent of the fish killed in the United States due to pollution. During the handling and treating of waste material, one type of pollution may be traded for another. Drying and incineration of wastes can result in air pollution. Odor problems can result from improperly managed holding tanks.

The solutions to these problems are intricate. The implementation of any program designed to protect the environment at the expense of agricultural technology, will not give us entirely beneficial results. Any curb on technology will necessitate a curb in production rates for a time. Less food will be available for growing numbers of people and higher prices will have to be paid for the food that is produced. Prof. Bernard Stanton, farm management, feels that the consumer will ultimately have to pay for the changes required. He also said that the production of food may have to take a larger percentage on the public's budget, and that a greater proportion of the work force may have to be employed in agricultural pursuits. The public must be willing to pay for improved environmental quality. In the words of Peter F. Brussard, professor of ecology and systematics, "We must weigh the short-term gains against the long-term damage." He feels that more basic research about how ecosystems work is needed before an effective way to prevent agricultural pollution can be created.

Research alone is not sufficient. As explained by Prof. R. T. Oglesby, natural resources, once the research has been done, extension specialists will be needed to bring the information to farmers who can then implement it into their daily routines.

The rake at right is symbolic of an era when farming was simpler and problems fewer. Many of today's problems are consequences of highly successful technology and industry.



A poem as lovely as a tree . . .

by STU MILLHEISER '73

Cornell has given priority to aesthetics in an age geared to convenience and comfort. The University Board of Traffic Control voted last April to impose restricted parking along Tower Road to protect the trees there. Where motorists were once permitted to park perpendicular to the road, leaving their automobiles inches from the trees, they are now, as of the fall semester, required to park parallel to the thoroughfare.

Professor Wayne Sinclair, department of plant pathology, affirmed that the parked cars had been slowly killing the once prosperous white oak trees on the tract of land along Tower Road. The automobiles caused a compaction of the soil which in turn decreased the downward flow of water to the vascular tissue. It has also been shown that this soil condition greatly restricts the amount of oxygen reaching the roots, resulting in inhibited root growth. Not only do these conditions render the trees more susceptible to diseases, but during the dry seasons, the roots cannot sustain the top of the trees, causing them to die from the top down.

Professor Sinclair has actively lobbied for a decision on the management of these oak trees. He has warned that the soil must be properly treated.

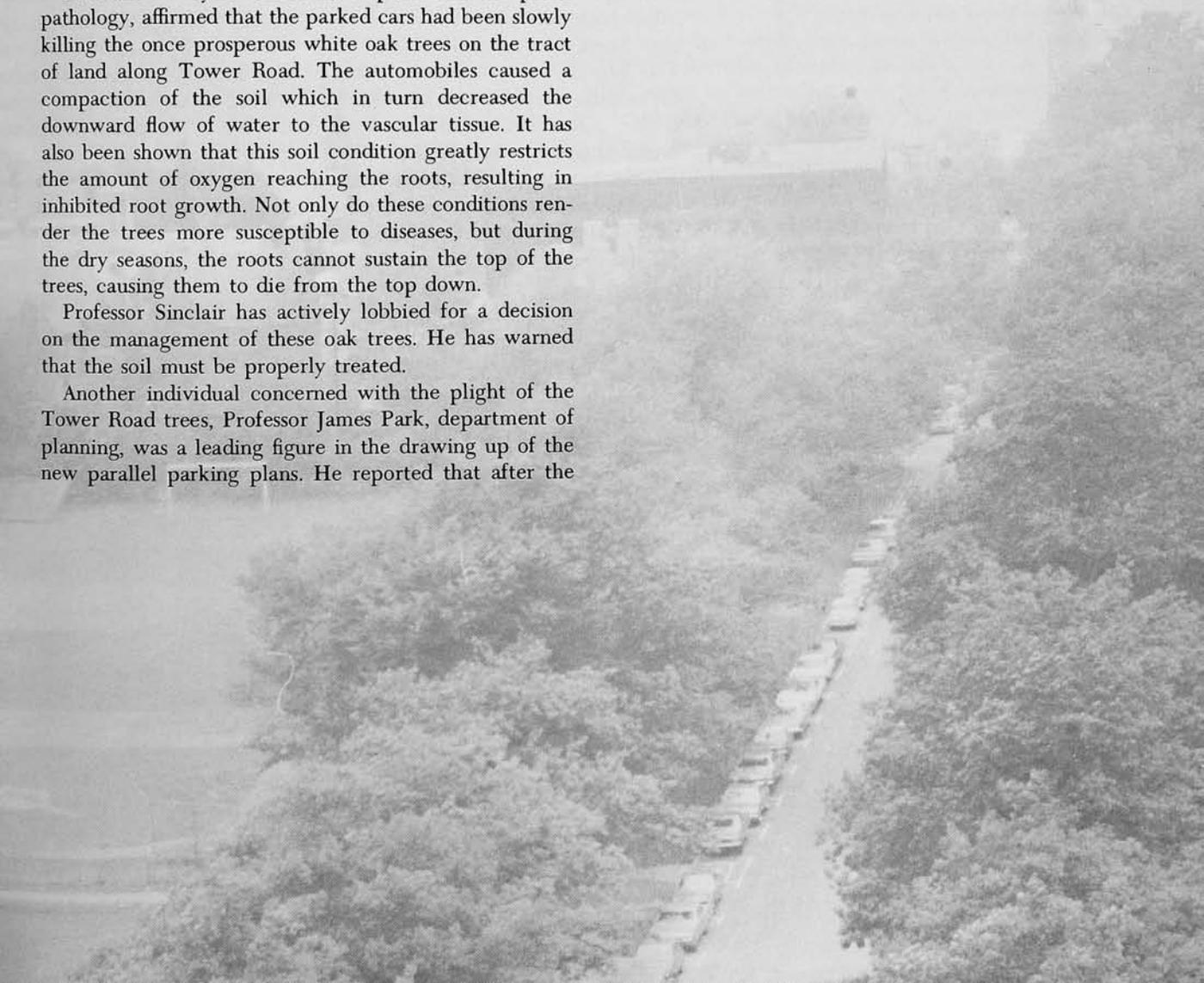
Another individual concerned with the plight of the Tower Road trees, Professor James Park, department of planning, was a leading figure in the drawing up of the new parallel parking plans. He reported that after the

new parking restrictions had been put into effect, many professors voiced their displeasure at suddenly discovering that they would not be able to park directly opposite their offices, since the number of parking spaces had been decreased from 500 to 80. William Richards, manager of traffic control, confirmed this, stating that most of these complaints ironically came from professors of plant science.

Another factor in favor of changing the parking regulations was the concern for pedestrian and driver safety. The parked cars were creating a safety hazard by being backed blindly into the road.

The trees at Cornell have enemies other than motorists. The future of the University's elm trees is threatened by phloem necrosis, a lethal elm disease that attacked New York State for the first time this summer.

With the onslaught of natural and man-made enemies, Cornell's trees will slowly vanish from the campus unless all who are associated with the university voice their concern.



Soapy Problem: How to Keep Rivers Clean

by CANDY CONKLIN '72

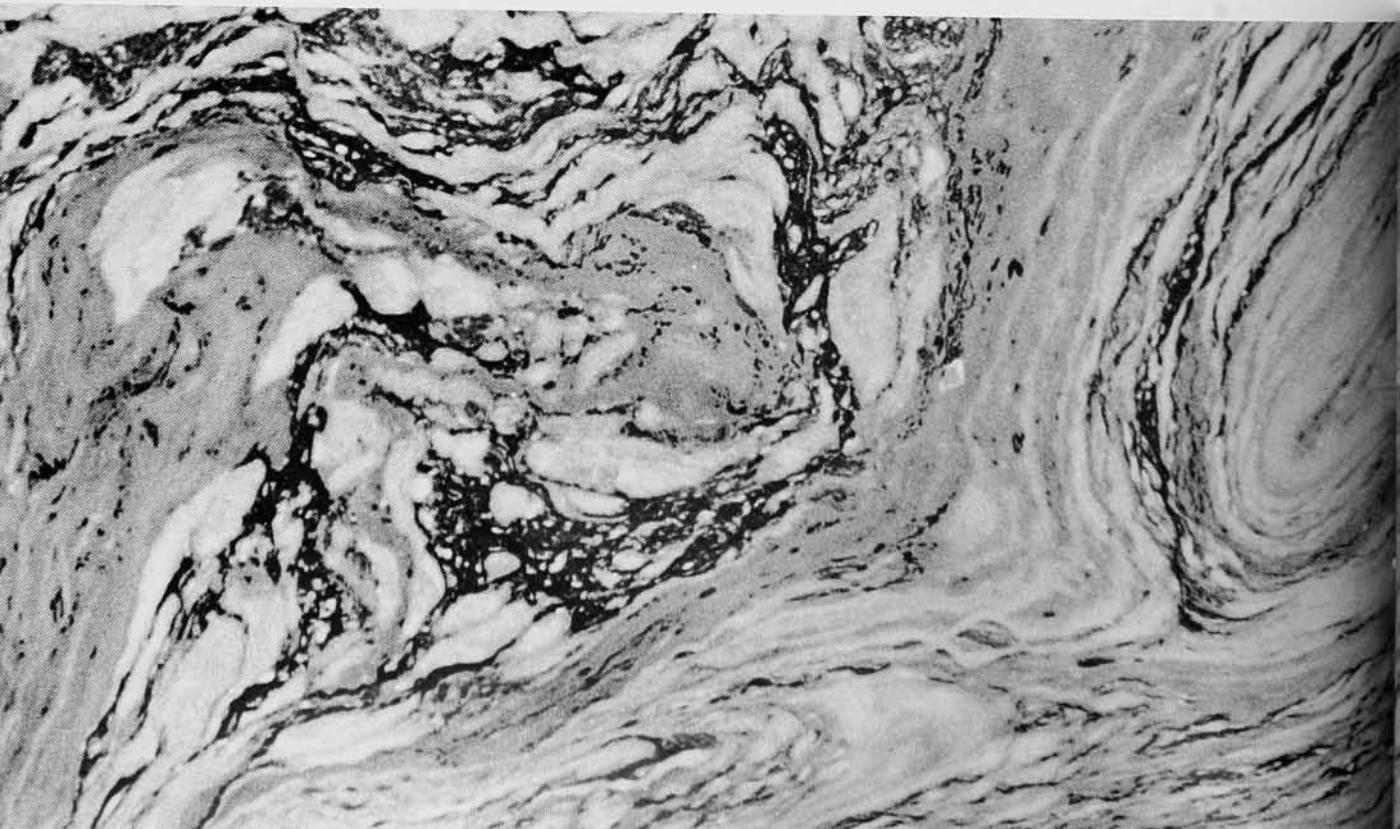
Many Cornellians remember a marvelous view of clear, clean Beebe Lake. The photo below is a view of the lake, polluted with suds, in the spring of 1969.

“Do-it yourself” guides for ecology minded housewives are a common sight in several magazines today. One such guide explains in a single sentence the problem of phosphates polluting natural waterways. It goes on to advise housewives to check the phosphate content of laundry products from lists available at all ecology centers. It then suggests that the use of enzyme pre-soaks be avoided because all of them have a high phosphate content.

The typical consumer concerned about ecology would be expected to accept this advice without question, and store it along with all the other political rhetoric about ecology. Then, on September 16, 1971, *The New York Times* reported that the health and environmental officials of the Federal Government were urging housewives to return to using detergents with phosphates, because they caused less damage than cleaners containing phosphate substitutes.

The theory that first accused phosphates of being the culprit causing eutrophication of our waters, states that phosphates, acting like fertilizer, cause the algae to grow greatly at increased rates. Then, when the algae die and decay, they use up large amounts of oxygen which is needed by other aquatic life. The result is a loss of desirable water for recreation and commercial fishing. As Mary E. Purchase of the College of Human Ecology states, “Eutrophication is good until you have too much, and then we confuse it with pollution.”

Although the most significant percentage of phosphorous in natural waters is from agricultural runoff and human, animal, and industrial wastes, about one-fourth results from the use of phosphate detergents. On many governmental levels, officials are now determined to ban the use of phosphates in detergents, as soon as a suitable substitute can be found.



So far, none has been found that fulfills all necessary requirements of safety and health.

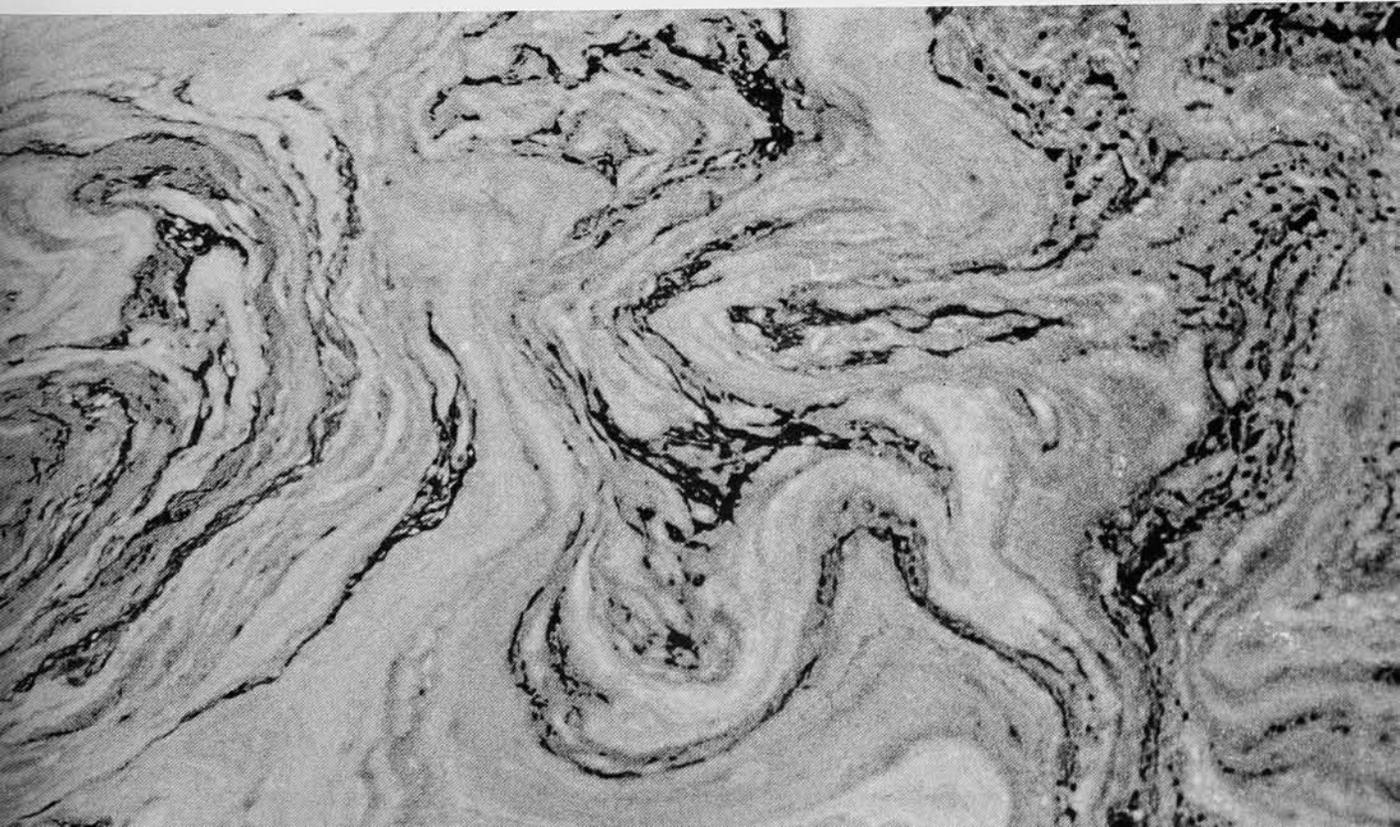
Although the evidence is strong against phosphates, another hypothesis states that eutrophication is caused by the imbalance of the main chemical element of algae, which is carbon, and that the control of the percentage of carbon or carbon dioxide in natural waters is the answer. It is important to remember that phosphorous and carbon are only two of the 15 to 20 nutrients on which algae rely, and complete elimination of any of these would prevent algae growth. Investigators concluded that phosphorous would be the easiest to control, and aimed their research in that direction.

Although New York's new law on detergents, passed in June, 1971, limits the amount of phosphorous in detergents to only trace concentrations by June, 1973, scientists now seem to be proclaiming that the "removal of phosphates from detergents will not alleviate eutrophication." This, they say, is because detergents contribute only 25-30 per cent of the phosphorous for growth (about 0.5 pounds or less per 100 pounds of dry algae). In addition, some scientists say, even if phosphate input could be completely halted, phosphorous in lake bottom mud is still available for algae growth and will be for decades to come.

If these points are accepted as correct, new alterna-

tives to the phosphate problem must be sought. A possibility now being tested is aeration, a process by which the oxygen content of a body of water is increased, keeping the algae suspended instead of floating to the surface and decaying. The increased oxygen in the water along with the greater algae food supply would attract fish. This process is evident on a small scale around boats which have been "bubbled" for the winter. Air is pumped into the water around a boat to prevent the formation of ice, and in these areas the natural balance of aquatic life is maintained. At the present time, though, research has not developed a way to utilize aeration on a scale large enough to solve the "phosphate pollution" problem.

All of these are ideas in the right direction, but what will have to be the ultimate long-range solution to control the input of wastes into lakes and rivers should not be overlooked. We now have the technological tools to develop a sewage treatment system, but public or federal financing of such a system is lacking. For years to come, we will undoubtedly be inundated with more regional and local legislation, more surveys on pollutant levels in waterways, and more tables of phosphate levels in detergents. It may become tedious and frustrating, but we must tolerate all those measures, however inconvenient, that may ultimately save our environment.





Exhibits A, B, C . . .



Key words seem to indicate the mode of the time. A few years back, it was the word relevant. "Was anything relevant or was everything relevant?" After that phase, there began a purposeful aversion to its use. Today, environmental quality seem to be *the* word. Their overuse expresses not a passing fad but the basic issue of conserving our human and natural resources. Care for our environment can never be overemphasized. It should not be "in" to be aware of what is happening all around us; it should be part of our daily lives.

These pictures represent merely a few of the pollutants for which we are responsible. Through our combined efforts, they do not have to exist. (Editor)





The Nose Knows

by DAVE GRIFFIN '71

The newest research tool being used for sensing air pollution is really not so new — it's been around since Adam and Eve. It's the human nose.

This should not come as a surprise because our olfactory organs, or our sense of smell, are really quite remarkable. An average person can detect an odor from a mass so tiny as to be able to fit on the point of a pin, a feat no scientific instrument can duplicate. What's more, we are able to make an instant value judgement on the odor. We can tell whether it is pleasant or foul smelling, which is something else no other instrument can do.

The nose has been used for centuries as a quality control device in the manufacturing of perfume and as an adjunct to the taste buds in the wine industry. Now the nose is being increasingly used for odor control in agriculture and industry.

Although laws passed in states like New York make it illegal for farmers or factories to allow strong offensive odors to be given off by their processes, a problem became apparent when the first cases went to court. Who was to say when an odor was too strong? Or, what device was to be used in measuring the offensiveness of the odor?

Help is on the way in the form of an odor panel, a group of from eight to twelve people with exceptionally keen senses of smell. Basically what they do is sniff a sample of an odor and rate it for strength or presence and again for offensiveness or no offensiveness.

One of the first odor panels in this country was organized at Cornell University's Department of Agricultural Engineering by researcher A. Theodore Sobel, to help determine the best method of testing animal manures.

"The first thing we did was find ten people with good senses of smell," Sobel said. "They had to be allergy-free and non-smokers, and of course anyone with a cold was automatically disqualified." The panelists were laboratory personnel, graduate students, and other em-



ployees of the Departments of Agricultural Engineering and Food Science at Cornell.

"The idea of forming an odor panel here came about while we were investigating various systems for handling animal wastes, and we needed a method of rating them," Sobel said. "Because of the fact that most complaints associated with animal waste are a result of the nose, it seemed desirable to utilize the human nose directly for odor measurement."

Two scales with 0 — 10 ratings were used by the panel to rate the odor for offensiveness of odor and presence, respectively. The panelists were also asked to describe the odor of each sample by giving an appropriate descriptive term. The panel's first rating was conducted in a laboratory where they compared ten different treatments of poultry manure with regard to the odors released during storage.

Eleven 3-liter beakers were painted black and covered with a tight-fitting cardboard top. A two-inch hole was cut in the cardboard top and then covered with a small piece of tightly-meshed wire screen so the panelists could not see what they were sniffing. The jars were placed on a waist-high table and were rearranged prior to each panel's observation.

One jar contained full-strength poultry manure and a few contained manure diluted with water to varying

degrees. Some others contained partially air-dried, fully air-dried manure or manure that had been composted. An empty jar was used as the control.

Twice a week, for 40 days, the panelists would come into the lab and go down the line of beakers, pausing to sniff above each screen. They learned not to sniff for too long a period over any one beaker because of "olfactory fatigue." This is what happens when you get used to a particular smell and adapt to it; soon you don't notice it anymore. "Between sniffs," a researcher said, "we'd have to stand back and breathe some fresh air to clean out our noses and then go on to the next one."

The results showed the empty beaker to be the best, with dried manure, composted manure, and full strength manure being next best in that order. The most offensive treatments were the water diluted manure beakers. With this lab experience under their belt the odor panel was called upon to rate actual handling systems using live chickens and daily manure collections.

Egg laying hens were placed in small chambers. Food and water were piped into them in trays running across the front of the chambers. The floors were slanted so that any eggs laid would roll out into a collection tray. The floor of the chamber was wire mesh so that the manure would pass through it.

The odor panel tested six different methods of handling the manure. The Agricultural Engineering Department constructed six chambers, each housing 15 white Leghorn chickens, at the college's local poultry farm. The chambers were identical to others used in large-scale poultry operations.

One method was to dilute the manure in 3½ inches of water. Another simply was to collect the manure in pits below the chambers. Some pits were covered with ¼ inch mesh screens. The purpose of the screen was to promote drying. Other pits were covered with ½ inch plywood covered with two coats of shellac. The manure dropped onto the plywood which was scraped daily. A fifth method was to cover a pit with plywood and stack 40 sheets of plastic film on it. The manure dropped onto the top sheet of plastic and this sheet was removed each day, having a clean sheet for the next day. A final method was to mechanically scrape the plywood, which was painted with epoxy paint. The scraper was a detachable link chain with wooden slats and was operated hourly for 15 minutes. Once a week the panelists were taken to the poultry farm where each of them opened a door near the bottom of each chamber and sniffed the air just below the egg tray.

"It was interesting to note that we experienced some bias here," Sobel said, "because they could see which treatment they were sniffing." When the panelists opened the door they were right above the manure and what they saw affected their ratings. To prevent these effects, panelists were then blindfolded and lead to each

chamber by an assistant. The "diluted" treatment was the worst smelling, followed by "undiluted," and "plastic," and "screen," in that order. The least offensive treatments were those "scraped daily" and "scraped hourly."

"In Sweden they've really got it down to a science," a Cornell researcher said. There the government constructed, for the panel, a special bus that drives right out to the site in question. There are small booths on the bus that the panelists enter that contain two vents. One vent allows outside or "questionable air" in and the other is connected to tanks of odor-free air carried in the bus.

Each panelist, through an elaborate system of ducts and tubes, opens the vent to a certain numerically marked position. Then they open the "questionable air" vent to a numbered position and sniff. If they don't detect an offensive odor at that dilution they open the questionable air vent more until they do. "All they need," Sobel said, "is 10 people with the same olfactory sensitivity."

The nose panel at Cornell is strictly being used for research in agricultural areas. A similar technique could be established in an advisory capacity to evaluate local agricultural odor problems.



Panelists sniff sample odors and rate them for presence, strength, and offensiveness.

'Every method of pest control has its advantages and disadvantages.' It is not simply a matter of identifying the pest and trying to completely eradicate it.

by JEFF FINCH '73

Pesticides, once the blessing of agriculturists everywhere, have recently come under intensive scrutiny as to their real value to our environment.

The potential danger of pesticides, especially the persistent chlorohydrocarbons, entering the water, soil, and air of regions far from the original site of application, have been noted by many biologists. It has been shown that these persistent materials may accumulate in living tissue, and they have been blamed for reducing the population and survival rates of many species of wildlife.

While it has been shown that pesticides can be detrimental to the environment, in many instances effective substitutes for these chemicals have not yet been developed. Pesticides are generally the most efficient single way to eliminate unwanted insects from a given area. They keep the yield of a farm plot high by reducing insect damage to the produce. Whether or not pesticides should be used is an extremely complex question, one which is made more difficult because so many people are either all for or all against the use of chemicals to reduce the pest problem.

Many ecologists feel that only a total ban of all pesticides can save our environment. A growing number of scientists feel that pesticides can be useful and an

environmentally harmless tool in the war against insect pests, as long as they are used sparingly, and in conjunction with other nonchemical pest control methods.

Maurice J. Tauber, assistant professor of entomology at the New York State College of Agriculture and Life Sciences at Cornell University, can be counted among those pressing for an integrated method of pest control. In the words of Professor Tauber, "Every method of pest control has its advantages and disadvantages. There are no real villains here." The professor is now conducting research in insect behavior and biological control of insects.

Professor Tauber advocates what he calls a holistic approach to the pest problem. Pest control is not simply a matter of identifying the pest and trying to eradicate it. According to Professor Tauber, this approach to pest control has been shown to lead to several undesirable conditions, such as the elimination of a specific pest's natural enemies, and the development of pests which are resistant to chemical pesticides. He stressed the importance of studying not only the physiology of a pest but the way in which the pest fits into the ecosystem. "Only by doing this," he stressed, "can we take advantage of the natural pest controls already in the environment." By strengthening weak points in this

Alternatives to Pesticides

natural system of controls with biological, chemical and other means, an effective integrated control program can be developed which does not adversely affect the atmosphere.

An integrated pest control program can only be achieved through careful planning. It comes to little good if a two-method pest control program turns out to be a case of smashing a pest between two blocks of wood and then spraying it. Research is needed, since biologists have to know what they are doing to the environment and what factors are significant in regulating pest populations.

There are a number of nonchemical methods of pest control. Professor Tauber listed several basic areas where research is now being conducted. One of these is the breeding of plants, where the goal is to develop strains of plants which are resistant to insect pests. There has been some success in this area, and it does look promising. The genetic manipulation of the pest itself is also getting some attention. There has been one outstanding breakthrough in this field, that of the successful battle against the screwworm, a fly which infestates the southwestern United States and which is a cattle parasite. Millions of male flies were irradiated with X-rays, making them sterile. The female flies which mated with the irradiated flies did not produce any offspring, and as a result, the screwworm problem has been greatly reduced.

The study of insect phermones has also yielded some promising information. Phermones are chemicals released by insects which act as signals between members of the same species. Many of these phermones have been isolated and identified, and some of them, such as sex attractants, are used as "bait" in traps. Although no great success has as yet been reported, researchers are

optimistic about the prospects of phermones.

Biological control of pests, that is, the use of a pest's natural enemies as a weapon against it, an area in which Professor Tauber is doing research, has met with success, especially in cases of insects of exotic origin. According to Professor Tauber, there are between 400 and 500 species of insects in the United States that can be classified as pests. About one-third of these originated from foreign lands. Most of these exotic pests have no effective natural enemies here, and so the pest is relatively free from these natural restraints. With biological control, a specific pest's natural enemies are brought into the new environment and serve to reduce the pest population. Biological control methods are now being used against the alfalfa weevil, an extremely destructive pest which came from the Old World. In the northeastern United States farmers have had to spray their alfalfa heavily in order to control the pest. Recently, scientists introduced exotic natural enemies into southern New York State. Authorities are now predicting that, with these new controls, the alfalfa weevil problem will be greatly reduced in New York State.

"All of these methods," said Professor Tauber, "can play an important role in an integrated pest control program." He stressed, however, that ecologically safe pest control cannot be accomplished without proper education. Agriculturists have to realize that eradication of an insect species is rarely possible. With an integrated pest control program, the damage caused by insect pests can be reduced tremendously, but it can seldom be completely eliminated. Therefore, it is desirable that consumers accept fresh and processed farm goods that are not completely unblemished. Only when both consumers and producers come to realize the advantages of an integrated pest control system can it be used to its fullest capacity.

Environmental Challenge

Conservation Leaders' Forum

Forums traditionally generate thought and discussion about timely issues and problems. The Conservation Leaders' Forum held on October 7, 1971, at the Alice Statler Auditorium at Cornell University, was no exception.

The Forum, sponsored by the New York State College of Agriculture and Life Sciences, sought to keep the citizenry informed by bringing the environmental challenges of today into focus.

"Environmental Challenge" was scheduled as an all day affair composed of seven colloquiums. The featured keynote address was changed, however, at the last minute, because scheduled speaker, U.S. senator from New York, James L. Buckley, was delayed until late afternoon. Niles C. Brady, associate dean of the College of Agriculture and Life Sciences, presented the keynote address in place of the delayed Senator Buckley.

Consumer Wants and Needs

Prices today do not indicate society's cost, declared Alfred Kahn, Dean of the College of Arts and Sciences. The price and convenience of disposable bottles versus returnable bottles does not take into account society's cost of garbage collection and storage. Kahn proposed that there be a disposal tax on cans and bottles for inducement to return them. The damage of collective goods is the responsibility of government, Kahn stated. As a consumer we can relax, but as a citizen the problem has just begun.

Producer Response

Morton H. Broffman, president of American Biltrite Rubber, Co., Inc., indicated that, "Many of today's concerns are old issues couched in new terms." He also stated that many environmentalists ignore producers' concern for consumer wants and desires. Requirements to serve the community more effectively is a result of how our economic system has developed. Broffman stated that our present social inadequacies force us to consider priorities, and "What was considered business routine in the past, now seems to many Americans to be negligence."

Role of the Family

Relating environmental responsibilities to the family was the major topic of concern for Mrs. Nancy Ayers, Executive Director of Susquehanna Environmental

Education. She urged us all to get involved with issues of population, pollution, resource allocation and management, and rural and urban planning, all of which begin in the home. Mrs. Ayers urged the audience to develop co-existence on the family and community level to encourage total action and concern.

Community Action

A need for community environmental action was expressed by Wayne M. Harris, chairman of Monroe County's Air and Water Pollution Committee. Harris spoke of the government's failure to take action against environmental pollution, citing specific cases of "dead" bodies of water which may have been saved if action had taken place when the destruction was first recognized. His alternative to this failure by the government, is community involvement and pressure. "If each community improves a little, the country will improve," said Harris.

Modern Agriculture

Morton Adams, president of Curtice-Burns, Inc., represented the agricultural industry. Though he did not absolve agriculture completely from blame, he pointed out that much of the uproar against the farmers was due to overreaction on the part of the public. Adams appealed to the public to strive for "control conservation" rather than "whole conservation." Future improvements in technology should help both the farmer and the environment.

COUNTRYMAN CAPSULES

W. Gifford "Giff" Hoag, '31, is back at work as executive assistant to the governor of the Farm Credit Administration in Washington, after 8 months of recovery from a serious auto accident. His home address is 1695 Beulah Road, Vienna, Vir.

Ernest J. Cole, '36 (M.S. '59) has been named director of a new Resource Management Division of the National Farm Consulting Service, Ithaca, New York. Partners in the Consulting Service are Rodmann M. Fellows, '35 and Russell R. Lane (grad. '51).

Burton H. Markham, '41, has been named credit manager of the newly formed Northern Division of Agway, Inc., in their re-organization program. He will be working in New Hartford, with his new home address at 11 Bedford Road, Whitesboro, N.Y.

Professor Robert L. Plaisted, '50, has recently been elected president of the Potato Association of America at its annual meeting in Fargo, North Dakota. Professor Plaisted received

his M.S. and Ph.D. degrees from Iowa State University and became a member of the Cornell faculty in 1956 in the Department of Plant Breeding. He served as assistant to the Director of Research from 1956 to 1959. In 1964 he was named head of the Department of Plant Breeding and Biometry, a position he still holds.

Plaisted's primary research has been aimed at developing new varieties of potatoes. He and his colleagues developed the first nematode resistant variety in the nation, known as Peconic.

More recently, they have introduced another new variety named Bake-King, which has excellent baking qualities. Commercial production in New York started last year.

David B. Diver, '54 (M.S. '55), has recently been promoted to produce merchandiser for the Kroger Co. in the Cleveland division. His home address is 19016 Lost Trail, Chagrin Falls, O.

Eugene J. Myszkowski, '61, (M.S. '62) has recently moved from teaching

into labor relations with the Public Employment Relations Board. He is senior economist in the research department working on teacher contracts and negotiations. His address is Box 431, Stuyvesant Falls, New York 12174.

Daniel F. O'Connell, '63, has recently accepted a position with the First National Bank of Moravia. He previously had owned and operated a dairy farm in Locke, and most recently has been selling insurance for Farm Family Insurance Company.

Arthur S. "Arch" Oblas, '64, is serving as counselor and chairman of the Department of Student Personnel at Onondaga Community College. He is also teaching psychology in the Division of Continuing Education.

Charles H. Roland, '66, is technical sales representative of Rohm-Haas Co. in Costa Rica, where he is supervising agricultural chemical sales for all of Central America and Panama.

Ag Fund Tops \$350,000

Current pledges to all phases of the College of Agriculture and Life Sciences Fund now total over \$350,000, from over 1,500 contributors.

This total falls into the following categories:

General Alumni Gifts	\$103,000
Major Gifts — "FRIENDS" program	124,500
Memorial and Scholarship Funds	36,200
Special Projects	80,000
New Scholarships Direct Grants	11,500

Total \$355,200

General Chairman Joseph P. King, '36, Rochester, reports that a major effort is planned during the next eight months to reach many alumni and friends of the College who have not yet been contacted about the Fund. Persons wishing to contribute should mail their contribution to:

A. & L. S. Fund Office
122 Roberts Halls
Ithaca, New York 14850

Cooperative Extension

Works With People



In the Empire State, Cooperative Extension is an informal educational program that extends knowledge from the New York State College of Agriculture and Life Sciences and the New York State College of Human Ecology to people in both rural and urban areas. Its programs are carried out in cooperation with County Extension Associations.

The way this organization meets people's needs varies in order to fit a rapidly changing world. Here are a few examples:

- **Expanded Nutrition Education** programs enhance the nutritional and health status of low-income families.
- **Human Resources** programs are keyed to improving the way society looks at children and families and the climate in which children develop.
- **4-H** programs teach young people to develop self-esteem and needed practical and personal skills.
- **Commercial Agricultural** programs help farmers interpret and apply the available knowledge of technology, business management and environment to their own situations.
- **Consumer** programs help people manage personal and family finances and educate them to be discerning buyers in a confusing and complex marketplace.
- **Community Resource Development** educates leaders to participate effectively in community decisions.



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A Debate: Is Technology a Sickness?

The poses above of two Cornell University faculty members symbolize the clash of opinions regarding science, technology and mankind. Professor L. Pearce Williams (left) and Professor Raymond Bowers (right) have differing views about technology and its place in mankind's future.

by ILENE KAPLAN '73

Before eating another slice of bread at the breakfast table, ask why you are doing it. And no fair cheating; be honest! This seemingly small matter is partly behind the disagreement between two prominent Cornell professors. Modern technology is the key. L. Pearce Williams, chairman of Cornell's history department, and Raymond Bowers, deputy director of Cornell's Science, Technology, and Society program, both raise important questions and forceful answers concerning people's behavior.

"We are in a serious situation," states Professor Williams. "We can't keep on going the way we are now.

We are not going to start looking for things to heal the world until we all admit the world is sick. Something has to be changed."

Professor Williams calls this sickness technology. His view is felt by Professor Bowers to be "extreme and unrealistic." Their clashing views were brought into the limelight during a recent panel discussion of the Biology and Society lecture series. Both men are in agreement that technology presents a problem for mankind. Professor Bowers says it has been a dilemma since the discovery of fire, when man realized that he could either use it as a comfort or a weapon. Williams feels that in

the middle of the nineteenth century "science began to be spawned, not by human nature, but by science."

Problems brought on by technology, Williams maintains, are dismal. "The world population grows at a rate of 70 million per year. We all have (the size of) one football field to maintain us. Every five years, we lose five yards. You don't have to be much of a mathematician to see a touchback coming up fairly soon." Automobiles present problems too. According to Williams, 56,000 traffic deaths were reported in the United States in 1969. He reports that the Soviet Union has announced plans to motorize the country. "The Russians are obviously jealous of the fact that they are not killing 56,000 Russians a year. I would like to suggest," he goes on, "that this is not the best way to approach the population problem."

'We can't keep on going the way we are now. We are not going to start looking for things to heal the world until we all admit the world is sick. Something has to be changed.'

According to Bowers, "Science and technology represent a potent force for change in our society . . . Technology can be associated with, but is not the *cause* of some of the most urgent of our contemporary problems. There are, of course, some who wish to make modern technology the scapegoat of all our ills. A more reasonable view is that both benefit and injury accrue from technology." Bowers feels that Williams has not considered the positive aspects of technology.

Professor Williams advocates a public withdrawal of support of scientific research. "This would slow down scientific research and give us time to catch our breath. Right now we have the technology to deal with our present problems. We must take what we've got and put it to work." As an example, Williams cites the public transport system already worked out in Europe.

In Bower's eyes, this almost exhausting limit on scientific research is not the answer. "I find this proposal a non-proposal. Will he (Williams) cut off research on reproduction relevant to population control, and medical research? Methods of birth control are neither cheap enough yet, nor socially acceptable for much of the world." Bowers feels that Williams is too simplistic in his approach to the technological problem. "If technology was all good or all bad, we would surely know what to do with it. We have to understand the influence of our values, and the effect of our economic, political,

'Technology can be associated with but is not the cause of some of the most urgent of our contemporary problems. There are, of course, some who wish to make modern technology the scapegoat of all our ills.'

industrial, and legal structures, all of which effect the way technology evolves." Bowers asks how we can modify these structures so as to produce technological change with greater benefit and less harm. He feels that government legislation can help.

Williams takes a completely opposite view. "This (technological) crisis is not an ideological crisis that can be identified with any government or philosophy. The institutions have proven themselves rather well. The technology is killing us." Bowers, he feels, is all too "delighted to control industry, but not science. I don't want the scientist to control science."

But Bowers maintains that he does not want to put the control of science exclusively in scientists' hands. "This is a national question." The government and regulatory agencies should exert more management technological development. "Millions live in extremely and effective control of dehumanizing conditions. I want to use every instrument of society, including technology, to improve their conditions." Williams points out, however, that in Ceylon, after people were treated for malaria, the same mortality rate was back within ten years, "only now it's due to most of the people dying from starvation, and these people have no social institutions to handle starvation as they did with malaria. The result has been a real social trauma in Ceylon."

"What will a cure for cancer," Williams goes on to ask, "cost those people who are cured — ten years spent in a nursing home? Will that be any less agony than being killed by cancer? It is a question for which I have no answer, but it seems to me it's a question which is very well worth asking."

Williams' accusation that "technology increasingly determines the quality of life itself" also sparks disagreement between the two men. "The quality of life," he goes on, "is being lowered by the quality of technology. Instead of man producing what he wants, he must keep up with the machine." The loaves of white bread in grocery stores are less nutritious, yet they are produced and therefore consumed. At Cornell, many radiators stay on all year, including summer, because no one knows how to turn off certain pipes from the power plants. Technology "creates wants for which there

were no wants before. I had never realized the discomfort of living in undershorts with tattle-tale grey. We are now a detergent-minded generation." Another example Williams cites criticizes the automobile industry. "Cars fall apart in three years so people will have to buy new ones. You obviously cannot keep producing automobiles if people are happy with the automobile they bought ten years ago. There's only one sure-fire way to make sure they're not happy with it, and that's to have it not run. At the end of three years, you are, by definition, not happy with that 'piece of junk' and you now buy a new automobile."

Williams, however, concludes that "the industrialization of the world has led to the mechanization of man." Bowers feels that Williams has neglected personal desire in his schemata of societal wants. This is especially

true in the case of white bread, which was once looked upon as the bread of nobility and was therefore sought.

A short-term solution offered by Williams for this problem is the "freeing of individuals from their dependence upon modern technology. Every person can do this once he is convinced that this is a critical situation. He can give up detergent and wear grey shirts!" Bowers feels that rather than cutting off basic research, "some areas of research should be given more priority than others."

In order to achieve social improvement, it seems safe to conclude with a statement of Raymond Bowers, which is also indicative of L. Pearce Williams' feelings. "We may have a price to pay for achieving that goal, but we are less than civilized if we say that the price is too high."

Biology and Society Notes

Biology and Society consists of a series of public lectures dealing with a variety of topics concerning man as an individual, man as a member of society, and man as a member of the community of life on earth. Topics covered this semester included the hazards modern agriculture presents to the environment, aspects of the world population and food crisis, and the effects of modern science and technology on human society.

President Nixon recently awarded Bruce Wallace, a co-founder of the Biology and Society series, and Prof. of Genetics, a Presidential Citation for his contributions to the lectures. The President recognized Wallace "as a major force in bringing information about environmental pollution, ecology, population problems, and human genetics to students faculty, and the public."

Two hours of credit are offered students who attend the Monday evening lectures, and also participate in one of the weekly discussion groups. The Biology and Society lectures have been part of Cornell's academic program since September, 1969, and has been carried

by radio and telephone to selected colleges and communities throughout New York State.

Topics for lectures in the second term are:
VISION AND PERCEPTION

Jan. 24 The mechanics of vision

Jan. 31 Another world of vision

Feb. 7 Perception

Feb. 14 Learning to see

Feb. 21 Imagery and hallucination

WHERE AND HOW MAN LIVES

Feb. 28 Transportation systems and housing patterns

March 6 Innovations in housing

March 13 Land policy and urban settlement

March 27 Housing and human ecology

COMPUTERS AND COMPUTERIZATION OF SOCIETY

April 3 Introducing the computer

April 10 Title and speaker to be announced

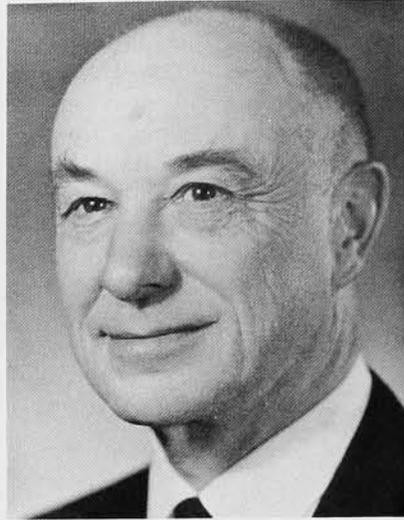
April 17 Computers in medicine

April 24 Computers in education

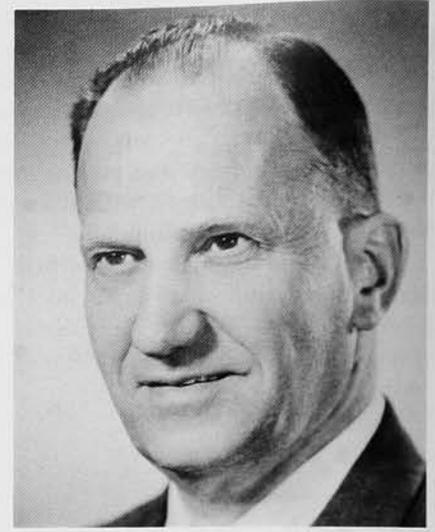
May 1 The role of data banks in society

3 Professors Retire; 2 Resign

Three professors and two department heads will be leaving their posts this year, either to retire or to return to teaching and research. Professors John Parker Hertel and Howard S. Tyler will retire as of January 1972. Professor Stanley W. Warren will retire in June 1972. Professor William B. Ward is stepping down as head of the Department of Communication Arts, and John K. Loosli has resigned from his post as head of the Department of Animal Science.



Professor Hertel



Professor Warren

John Parker Hertel

John Parker Hertel is ending his 33 year career as a professor in personnel administration in the College of Agriculture and Life Sciences. He is relinquishing his position as secretary of the college.

Since arriving here at Cornell in 1938, Professor Hertel has been instrumental in developing and maintaining the student guidance and advisory systems. Up until 1969, when the program was discontinued, he participated in the teaching of the Orientation 101 course in which all incoming students were automatically enrolled.

He can be proud of his accomplishments in the area of advising and orientation. He states, "Of all the outstanding facets of this college, I think that our system for advising students is the best. It is a real strength of our college."

Professor Hertel is impressed with the changes he has seen in his years here but admits, "I miss the work (practice) requirement that was eliminated in recent years. It gave the student a chance to really try out his career ideas."

John Hertel met his wife in 1934 when he was working as the editor of the *Cornell Countryman*. They now have seven children, five of whom have already attended Cornell. In the near future, he intends to work on his small farm and visit his son, Thomas, who is studying in Germany.

Stanley W. Warren

Prof. Stanley W. Warren, farm management, will retire after a 38 year career at Cornell.

He received his B.S. degree from Cornell University

in 1927, and his Ph.D. from Cornell in 1931. Returning to Cornell after two years at the University of Nanking in China, he accepted a position as associate professor in farm management and by 1942 was a full professor.

In addition to his teaching duties he serves as an advisor to between 20 and 54 undergraduates each year. This year Warren finds himself in the unusual position of having advised the fathers of six of his present advisees when they were undergraduates.

During his distinguished career, Prof. Warren has been awarded many honors. He received the first annual "Professor of Merit" award from the undergraduates of the College in 1948. In 1967 he was honored by the American Farm Economic Association with the "Distinguished Undergraduate Teacher Award." In recognition of his 37 consecutive years dedicated to young people and the improvement of agriculture in New York State, the New York State Agricultural Society awarded Dr. Warren the "Distinguished Service Citation" in 1970.

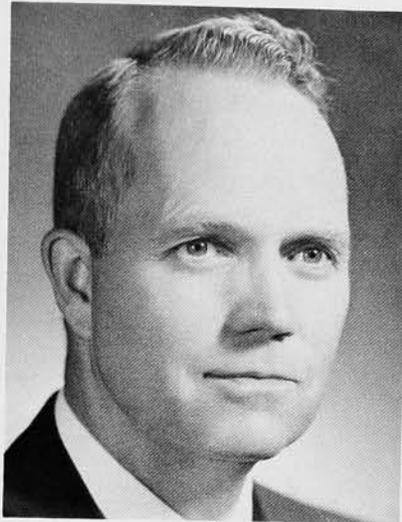
Howard S. Tyler

Howard S. Tyler, professor in personnel administration is retiring. He has been in charge of guidance and placement. In this role he has emphasized the idea of helping the student to develop a self-concept and set his occupational goals accordingly. He has spent thousands of one hour sessions with students doing just this sort of work. Professor Tyler feels that "the character of his office has been personal contact." He says that this atmosphere has been increasingly difficult to maintain as the College of Agriculture and Life Sciences has grown in size.

After receiving his B.S. degree at the University of



Professor Tyler



Professor Loosli



Professor Ward

Connecticut in 1932, Professor Tyler worked as a farm manager and in advanced registry testing of dairy cattle in Connecticut. He took a position as farm manager and agricultural instructor at Litchfield, Connecticut. He then came to Cornell and did graduate work in agricultural economics, receiving his Ph.D. in 1938.

Many students also remember him as a professor of Orientation 101. "Since that time," Tyler commented, "there has been a great shift from production areas to biological sciences."

John K. Loosli

John K. Loosli, head of the Department of Animal Science has chosen to give up his post and return to full-time teaching and research responsibilities. After serving eight years in the position, he will be succeeded by Professor J. Thomas Reid, one of Cornell's foremost specialists in the Animal nutrition field.

Professor Loosli, who came east from Utah to Cornell in 1938 has contributed to the animal nutrition field in assignments throughout the United States and the world. Besides spending two separate terms as a visiting professor at the University of the Philippines and a year as a nutritional consultant at the University of Florida in 1958, Loosli had the honor of being the Fulbright lecturer at the University of Queensland in Australia in 1960.

The animal nutritionist was the recipient of the Morrison Award in 1958, the Borden Award for Dairy Production in 1951 and was president of the American Society of Animal Science in 1960. He is presently serving as president of the American Dairy Science Association.

Professor Loosli's return to teaching and research

will enable many more students to benefit from his knowledge and experience.

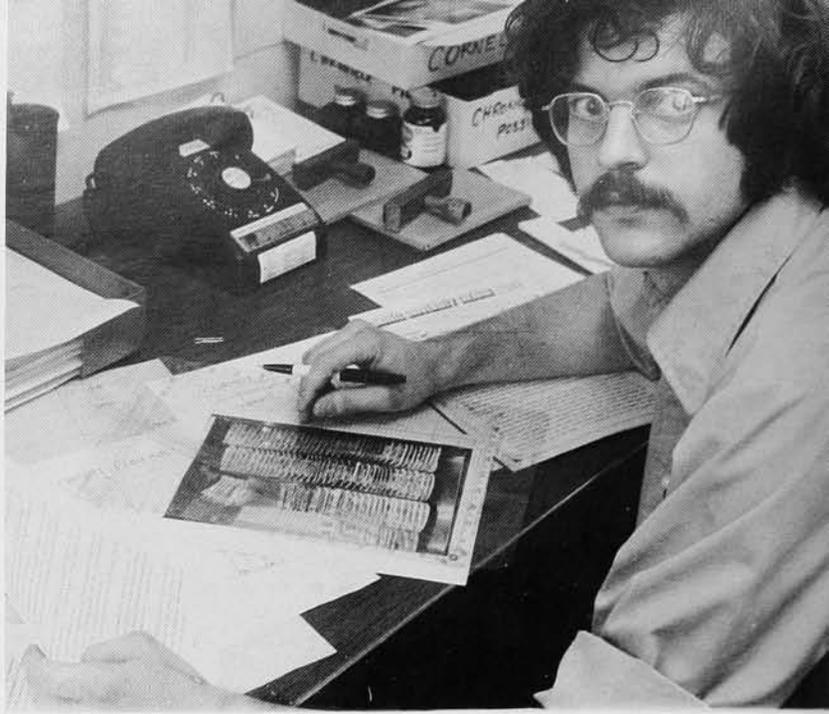
William B. Ward

William B. Ward, professor and head of the Department of Communication Arts for 26 years will be stepping down from his post of department head, January 1. He will then begin an 18 month leave of absence from the College of Agriculture and Life Sciences to continue his work in India involving the establishment of communication centers at several agricultural universities.

Before coming to Cornell in 1945, Professor Ward served as chief of the information section of the Agricultural Marketing Administration in the U.S. Department of Agriculture. The professor was elected president of the American Association of Agricultural College Editors in 1954. He has acted as a communication advisor for both the Agricultural Research and Extension Agency of Argentina and the University of the Philippines' College of Agriculture.

In more recent years, Ward has consulted for the Ford Foundation in India and has been asked to review the information programs of the Joint Commission on Rural Reconstruction in Taiwan.

When Professor Ward returns from India, he plans to become more active in graduate teaching programs of Communication Arts and continue to advise undergraduates in the department. On taking his leave of absence he comments, "Cornell and the two colleges, Agriculture and Life Sciences and Human Ecology, have been wonderful to me for more than a quarter of a century. I have appreciated this and loved my work."



Cropping and sizing photographs for the Cornell Chronicle is Steve Kears (right). Larry Baum (below) checks transmitter readings at WHCU Radio Station. Printing photographs for the Visual Communication Center is Connie Malach (bottom right).



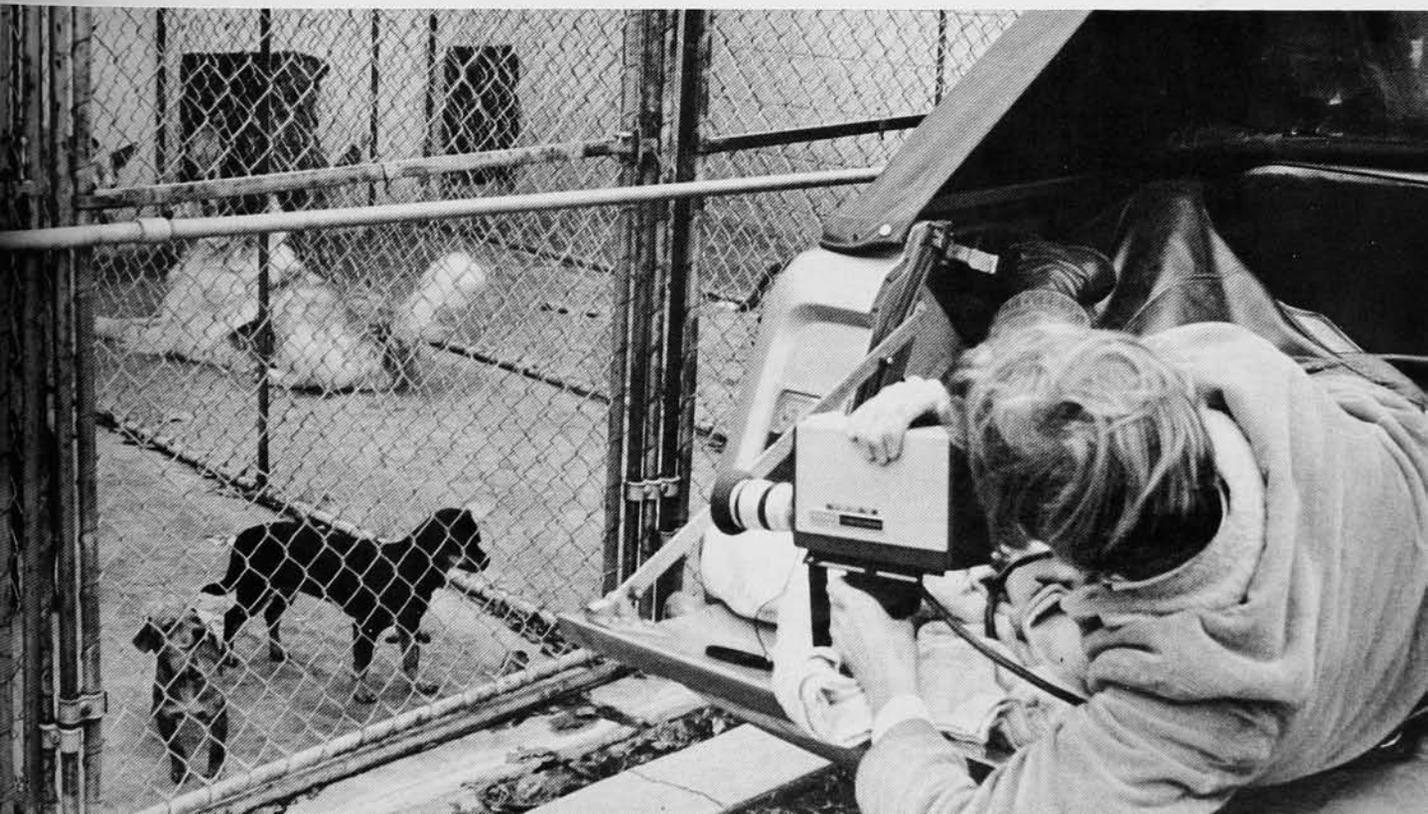


A Practical Experience

Beginning this year, majors in the Department of Communication Arts are required to participate in a media practice program. Working 3 hours a week enables students to apply classroom knowledge to practical situations.

At the time of preregistration majors indicate their choice of field work. The opportunities available include print media, radio and television, visual, public relations, and research. Each program is supervised by a professor specializing in the medium.

Fred Clark (above left) undertakes the technical direction of a video tape. Mike Gittinger (above right) re-designs an audio tutorial (A.V.T.) cartel. Below, a student cameraman video tapes a portion of his C.A. 319 television program.



The Brain

by **DIANE BENEWAY '73**
AND
IAN MONTGOMERY '73



Anne Marie Lundberg

Two Cornell students are spending a year abroad in Sweden in varied foreign exchange programs. Robert Zimmerman is currently enrolled in the Swedish Exchange Student Program with Anne Marie Lundberg as the Swedish counterpart here at Cornell.

Charles Huff, another Cornellian, is participating in a year-long "Scandinavian Seminar."

Below are impressions from the three globetrotting students which offer interesting insights about the experiences of foreigners here and abroad, insights rarely shared with others. (Editor)

Anne Marie Lundberg

Anne Marie Lundberg, nicknamed "Mia," is a tall, redheaded Swede who is taking such courses as animal science and agronomy, along with agricultural economics and statistics. She finds her studies fairly easy, with the language difference now of little consequence. The prelim system here is much easier to follow, she noted,

because in Swedish schools there is only one final test at the end of each course with as many chances as necessary to pass it. Mia prefers being tested "from only one third of the book at a time."

Mia lives at D. G., a sorority on Triphammer Road. Shr remarks, "I'm not used to living with forty girls in one house, and to having two roommates. In Sweden there is no sorority system, and I can't think of any student housing in Sweden where two or three roommates live in the same room." The housing at Ultuna consists of eight-room suites with a common kitchen, where the students cook their own food.

Mia, now 23, feels that the age for young people to go to college should be older. She feels that "these are the best years of my life," and that if she were any older, she couldn't appreciate it. "If I had graduated from college at 22," she said, "I would be too young to find a job, of know what I wanted to do; I shouldn't be able to decide anything for myself!" When she graduates in two years, Mia will know that she is well qualified to find a good job and to start a life on her own.

At the Ultuna Agricultural College in Uppsala, Sweden, Mia is an animal science major. Her first year there was spent working on a research farm, which is a requirement for all students. The next four years are spent in study of theory and methods, with summer work on the farms. Mia wants to do research in the area of livestock improvement when she graduates. The Swedish government subsidizes many jobs of this type, offering students and graduates research opportunities. "I would rather live and work in the country," Mia claims. Having grown up in Malmö, a large city in southern Sweden, Mia now goes back to visit only for Christmas vacations.

In order for Mia to transfer credit from Cornell, she must prepare for testing and show evidence of her achievement to officials of the college in Sweden. She must indicate that she has completed the equivalent of the same courses at the college there.

Part of Mia's expenses were provided by the American-Scandinavian Association, and part by the College of Agriculture and Life Sciences here at Cornell. Contributions from foundations and interested persons are always helpful. The exchange program involves students from countries such as Sweden, Mexico, Australia, and Scotland.

Bob Zimmerman

Uppsala, Sweden

Dear Professor Hertel,

Hej! Thank you for your letter.

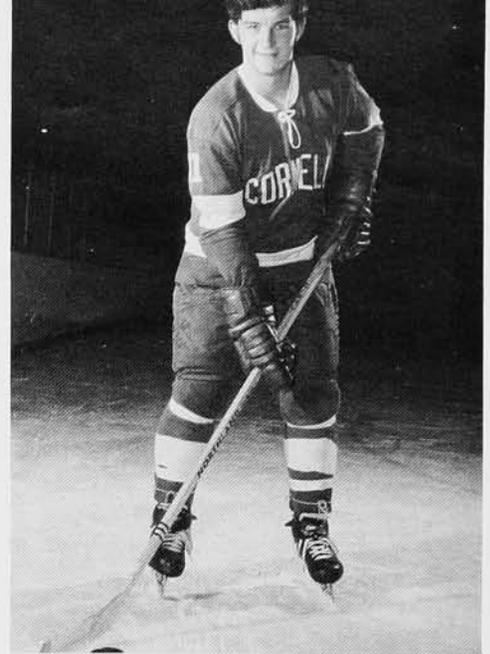
A great deal has happened to me since flying from Montreal to Copenhagen last June. I was met at the airport by Connie Axelsson, who you remember was the exchange student at Cornell a couple of years ago. He took me to the farm.

I imagine you know most of the details of the farm, but I will describe it briefly for others who may be interested. The farm lies 10 km. south of Kristianstad, about 1½ hours by boat and car from Copenhagen. It is rented by Per and Karin Eriksson, a young couple who are graduates of Ultuna. I lived with them and their 3 year old daughter, Kajsa, in a big old house or "castle" built in 1709. The farm is over 300 acres in size, supporting rye, barley, sugar beets, hay and potatoes. There were also about 220 pigs, 50 cows, 10 bulls, a few sheep and even three goats.

I used a bicycle to go swimming in a small lake nearby, and to tour some of the nearby countryside, one day pedalling some 100 km. to and from Kivik where a big (100,000 people) one day market-carnival is held. I also hitchhiked to Copenhagen for a couple of days before leaving by train north to the language course at Forsa, near Hudiksvall. There were about 40 other American students there from the Scandinavian Seminar program. Charlie Huff and I shared a room. It was a "little America," really, with students from every corner of the country.

My room here is simply great. Where I am, eight students share a kitchen. Each student has a single room with its own bathroom and shower. It's really more like a motel room. The rent is only 275 kronor a month—about \$55. I get the room free, plus a monthly stipend of 450 kronor a month, for food and other expenses. I think that will just cover the food however, as most groceries here are more expensive.

Yesterday I began language courses given in Uppsala, which last 4½ hours a day. Any foreign student or person having employment is eligible to take these courses, with books and instruction free. The courses run all year round, in five week levels. I got the first level books from an Australian here, and have worked on those so



Bob Zimmerman

as to be placed in the second level. As much as I enjoyed Forsa, I must recommend that the next exchange student come here in August and begin then.

I cannot overemphasize how wonderful everyone has been to me. Before going to Sweden I had read how the Swedes were a supposedly more reserved or cold people. To me however, everyone has been just the opposite and always most anxious to help. Just as an example, over half of the people who have given me rides have offered me food or drink, and one even bought me dinner.

Hjarthga halsingar fran, Robert Zimmerman

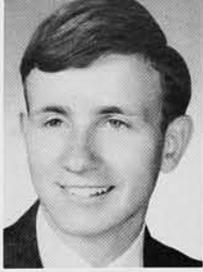
Charlie Huff

Dear Professor Hertel,

As I gather my thoughts to write this letter, I find it difficult to find words that will most accurately describe the events of the past nine weeks. Therefore, I will resort to outlining these events, for only if you've actually experienced them can you possibly comprehend them. It has been a wonderful experience learning about the Swedish culture and its people by being one of them and not just a tourist. Now I know the difficulty past exchange students had in trying to describe the experiences one would encounter.

After arriving in a warm and muggy Copenhagen, we 180 Scandinavian Seminar students spent three days in orientation in a small town 40 miles north of Copenhagen, called Hillerod. During this time, we were told what to expect generally from our folkhogskolas and of the forthcoming year. As a group, we toured parts of Copenhagen such as Parliament and met with the Lord Major.

Following this brief orientation, forty of us travelled



Charlie Huff

by train to Forsa, located in central Sweden, where we spent two weeks learning the basic grammar and pronunciation of the Swedish language. At Forsa, Bob Zimmerman, who is from Cornell, joined us for the course. Afterwards, he will study at Ultuna for the year. We had classes that lasted 4-5 hours per day, five days a week, mixed with excursions into the rural countryside to become better acquainted with Sweden. All of us had one common goal: to learn Swedish as quickly as possible so that when we left the school, we would be able to function somewhat in the Swedish society. This was a task based upon individual endeavor where you would receive no grade but most importantly, the immense satisfaction of being able to communicate with people in a language other than English.

Following a ten hour train journey southward, I arrived at my Swedish family's home in the county of Skane. So as not to feel like a burdensome guest, I gladly helped out in doing some of the various chores on this moderate sized dairy and hog farm.

I could speak Swedish on simple matters, but to answer more difficult "discussion" type questions, I had to resort to English. One fact was quite evident. My language level was that of a five year old, for I could hardly talk continuously with my Swedish seven year old sister. After ten days, I left my Swedish family with the hope of visiting them later in the year.

Presently, I am studying at the Folkhogskola where there are 180 students with the average age being 22. This will be my home for the year and it really feels good to be settled down and not living out of a suitcase. Unlike Cornell, the school has small classes that are structured like seminars and a very informal relationship exists between the teachers and students. For the fall, I will be taking Swedish, English, Swedish history, and drawing. After a little mastery of the language, I will take courses such as sociology and government, and start some work (preliminary) on my independent study project about Christmas time. However, first things first, and that means learning the language, which is the key for learning about and participating in the Swedish culture. After all, our main purpose here is to learn about people.

I am very happy here at Onnestad and must compliment the Scandinavian Seminar for its program design. It allows a student to have much flexibility as to what he shall gain from his year's submersion in the Swedish culture.

Respectfully,
Charlie Huff

Sticks and Bricks

BY JOHN PETERSON '72



A student in Farm Carpentry chooses the appropriate tool to complete his laboratory exercise (above). Professor Lechner checks a student's work for proper alignment (below).



Walk around the back of Riley Robb Hall some afternoon and head towards the noise. Proceed through the open garage door and you have arrived at Agricultural Engineering 204 laboratory. The course has been nicknamed in jest, "Sticks and Bricks." But seeing the class in action and talking to the students makes it evident that Farm Carpentry is no joke.

"The course includes instruction and skill practice in basic farm carpentry topics, including concrete work, woodworking, building construction, wood preserving and painting, and tool fitting." That's the description the catalogue gives, and if one could hear over the din of hammering, power tools and bubbling enthusiasm, Professor Fred Lechner might say something similar.

Surprisingly, a few members of the class are agricultural engineers. In fact, few are from rural homes. The students come from arts and sciences, rural

sociology, human ecology, ILR, and almost any course of study offered at Cornell. Of the fifty students, six are women. Each student seems to have his own unique reason for studying Farm Carpentry, and they all seemed thrilled at learning something really different and practical.

"My goal is to be totally self-sufficient. I want to go back to a commune and be able to build whatever we need. I want to be able to teach others how to do it." Mark Marcus has majored in pre-vet, biology, child psychology, conservation, general agriculture and rural sociology. He's been around. A liberal dose of sweat and sawdust substantiates his avowed interest in the course.

Besides spending an afternoon a week in the shop, which in true collegiate style is called a lab, Agricultural Engineering 204 meets weekly for a lecture. The use of various building materials, all types of hand and power tools, and carpentry and masonry techniques are discussed. As in any course, the lecture prepares the students for the lab, and the knowledge they gather is to be used by them to make projects of their own choice.

Mark Marcus is making a waterbed. John Riffnacht, one of about 150 transfers from SUNY branches throughout the state and one of the few "true agsies" in the class, is making a picnic table with benches. Rural sociology major, Howard Pack is designing and building a rack for his garbage cans at home so racoons won't knock them over. Other projects include a luggage rack, a sewing screen, and a loom.

Who would build a loom? Peggy Haine, rural sociology major and budding handywoman-extraordinaire, is endeavoring to build just such a tool.

She took a moment off from her work to explain, "They wouldn't let girls take shop in high school! All we could take was sewing." Bending over to pick up her drill and peering over her spectacles, which serve the dual purpose of stopping flying wood chips, Peggy lamented, "They didn't want to give me a locker to put my stuff in because they thought I'd drop this course, but I like it. Things are changing," Peggy insists, "but there still isn't much opportunity for a girl to take good courses like this one."

Certainly there are few courses in the College of Agriculture and Life Sciences, or in any college at Cornell, that draw students from such a diversity of backgrounds and interests as Agricultural Engineering 204.

Professor-at-Large

Today when *ecology* has become a household word and revolutions are usually glamorized, Cornell University has appointed as Professor-at-Large a man who is well noted for both. The man is J. George Harrar and the revolution took place in Mexico.

Dealing with agrarian reform, the leaders of this revolution wanted to produce more food as quickly and economically as possible to combat malnutrition and starvation. It was under the first operating Agricultural Science Program of the Rockefeller Foundation that Harrar began work in Mexico in 1943.

The Foundation made the wise choice of giving him the freedom essential to the success of a creative man in a creative task. Working closely with Mexican leaders, scientists, and agricultural producers a cooperative campaign quickly got under way. Norman E. Borlaug, who won the 1970 Nobel Peace Prize for his work in wheat improvement and production throughout the world, began his efforts under this Mexican program

with Harrar. Today the crop deficit of Mexico has been corrected. The Foundation is now applying the lessons learned and techniques which evolved, to other areas of the world with comparable problems.

When the actual work began, Harrar was head of the Department of Plant Pathology at Washington State College. He is now the president of the Rockefeller Foundation. He has received nearly 50 honorary degrees.

Harrar is to be Cornell's first professor-at-large in agriculture. Harrar will retire from the Rockefeller Foundation June 30, 1972, and is planning a three-week visit to Cornell in the fall of 1972, when he will present to the community an evening lecture and two or three afternoon seminars. In addition to these engagements, Harrar has expressed a desire to hold small informal discussion groups. He is especially interested in conversing with the undergraduate students at Cornell.



Dairy Judges Win

The Cornell University dairy cattle judging team has topped the 29 other teams entered in the National Intercollegiate Dairy Cattle Judging Contest held Oct. 11 in Columbus, Ohio.

Coached by Prof. George W. Trimberger of the animal sciences department of the College of Agriculture and Life Sciences, the three team members placed first in September contests at the Eastern States Exposition at Springfield, Mass., and second at the All-American Dairy Show at Harrisburg, Pa., before entering this final fall contest.

Team members were Alan R. Deming, Guiford, N.Y.; Miss Sheila M. McGuirk, Belair, Md.; William J. Thompson, Ogdensburg, N.Y.; and alternate William R. Head, Waterville, N.Y.

Seven of the 21 teams coached by Trimberger have taken first place in national judging competition, the last one in 1969. This latest achievement adds to Cornell's record of the best cumulative average of all college teams in the nation.

SPAM Predicts

A computer scheme that can imitate a plant community and help man design crops for a desired outcome, be it food production or nature conservation, has been developed by the U.S. Department of Agriculture scientists at Cornell University.

This simulation system known as SPAM (soil-plant-atmosphere model), is expected to benefit many diverse fields, including water resource and city planning, agriculture, forestry, and meteorology.

The goal of the model, according to developers Edgar Lemon, Douglas W. Stewart, and R. Wayne Shawcroft, is to avoid environmental degradation and to make the wisest possible use of available natural resources.

The crop simulation system works via a vast digestion of information on leaf, soil, climate, and crop characteristics. The computer uses this information to describe the response of individual leaves to defined environmental conditions and then adds up the responses to predict the behavior of the entire plant community.

CAPSULES

Edward L. Bernays, '12, a pioneer in the development of public relations, has, for more than half a century, advised a wide range of institutions, including government, corporations, trade associations, and many private organizations. He recently published an account of his principles and recollections in the Harvard University Business History Review.

David A. Nagel, '49, is New Jersey chairman for the College of Agriculture Fund, and has 35 area and town captains responsible for contacting the 900 alumni in the state. Mr. Nagel is president of the Eastern Mutual Life Insurance Company in Passaic, N.J.

Alfred Lasky, '49, Erie County 4-H agent, has recently been elected

president of the New York State Association of Extension Agents. Mr. Lasky completed work on his Doctor of Education degree at Cornell in June.

Elizabeth Pomada, '62, is a freelance writer for McCall's and other women's magazines, and for California Living, the Sunday magazine section in San Francisco. She is also in the midst of writing two books, and has plans to begin one on California artists.

Nathan E. Smith, '67, a former dairy farmer of Avon, has been appointed an assistant professor at the College of Agriculture and Life Sciences. He received a Ph.D. from the University of California at Davis, and has authored or co-authored several

papers dealing with his research work and management in the dairy cattle field. In the Department of Animal Science at Cornell, Smith will divide his time between research and extension activities.

John Wilcox, associate secretary of the American Association of School Administrators, has been named professor of education and director of the new Cornell University Institute for Research and Development in Career Education. The Institute, one of two in the state, will serve the research and development needs of upstate New York's programs in occupational education. It will become a unit of the Department of Education in the College of Agriculture and Life Sciences.

A Plaque For 'Friends'

Reviewing new "Friends" plaque, which recognizes major contributions to the College of Agriculture and Life Sciences Fund, are (left to right) Richard A. Church, '64, Fund coordinator; Charles E. Palm, college dean; H. L. Everett, director of resident instruction; Myron M. Fuerst, '29, special gifts chairman for the Fund; and Robert A. Boehlecke, '34, University Development Office. The plaque will be mounted on the wall near the Dean's Office in Roberts Hall. Current "Friends" are:



Founder Members

M. P. Catherwood, '30
Mrs. Hollis Cornell, '39
H. M. Cohn Foundation
John S. Dyson, '65
Myron M. Fuerst, '29
William T. Smith, '38.

Charter Members

Morton Adams, '33
Roscoe C. Edlund, '09
William F. Fuerst, '39
Harold J. Humphrey, '17

Countryman Salutes



Prof. Allee



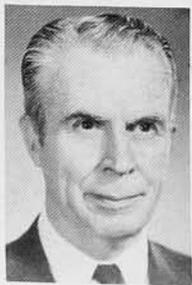
Prof. Darrah



Prof. Dimock



Prof. Eaton



Prof. Henderson

Each year the outstanding researchers, scientists, and teachers on the faculty of the College of Agriculture and Life Sciences bring recognition and fame to the college. Realizing that a comprehensive list of them is too long and difficult to obtain, the Countryman this month wishes to salute a handful of faculty members below who received national and international recognition during the last academic year.

Professor David J. Allee of the Department of Agricultural Economics was awarded a Presidential Citation for his "scientific study which formed the basis of an ecological report on Lake Cayuga."

Professor Lawrence B. Darrah of the Department of Agricultural Economics received a Distinguished Undergraduate Teacher Award for over ten years of service and teaching from the American Agricultural Economics Association.

Professor Arthur W. Dimock of the Department of Plant Pathology received the Foundation for Floriculture Research-Education Award from the Society of American Florists.

Associate Professor Edward O. Eaton of the Agricultural Engineering Department received the 1971 Educational Aids Blue Ribbon Award from the American Society of Agricultural Engineers. He developed a "talking" bicycle equipped with safety devices, sound equipment, and control boxes.

Professor Charles R. Hender-

son of the Department of Animal Science received the \$2,000 Morrison Award from the American Society of Animal Science for his outstanding research in livestock production.

Professor Richard O'Brien, director of the Division of Biological Sciences, received the 1971 International Award from the American Chemical Society for his contributions and research in pesticide chemistry.

Assistant Professor Peter L. Steponkus of the Department of Floriculture and Ornamental Horticulture received the 1971 Kenneth Post Award from the American Society for Horticultural Science for outstanding research in floriculture, ornamental and landscape horticulture.

Associate Professor James R. Stouffer of the Department of Animal Science received a Citation by the National Bureau of Standards for "his dedication and contribution to the development of ultrasound standards and measurement techniques for biological tissue studies."

Professor Bruce Wallace of the Microbiology Section of the Division of Biological Sciences received a Presidential Citation for "exceptional service to others, in the finest American tradition."

Associate Professor Donald H. Wallace of the Departments of Vegetable Crops and Plant Breeding and Biometry received the 1971 Campbell Award from the American Institute of Biological Scientists for his outstanding publications.



Prof. O'Brien



Prof. Steponkus



Prof. Stouffer



Prof. B. Wallace



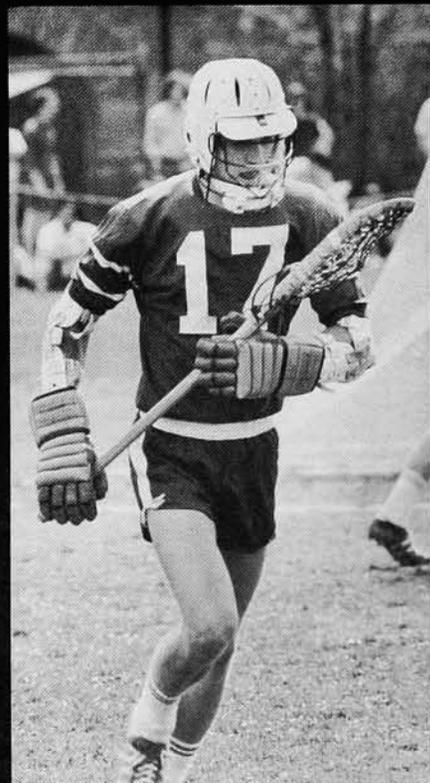
Prof. D. Wallace

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About the Cover: The Countryman in this issue goes back to the "good old days" at Cornell, when silent-movie stars frequented the scenes near the campus and when all freshmen were expected to take a mud bath as initiation. It also looks at the successful sports year of 1971. The football player on the cover is E. L. Kaw, an All-America back of 1923. Two unidentified actresses are shown in a scene in one of many movies made in Ithaca. The lacrosse player is Al Rimmer, captain of the NCAA championship team of 1971.

CORNELL COUNTRYMAN

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Cover—Cornell Archives, Sol Goldberg; Page 7—Mike Gittinger; Page 8, 9—Cornell Archives; Page 10, 11—Mike Gittinger; Page 12, 13—photos by Sol Goldberg, layout by Steve Kearl; Page 14, 15—Teagle Hall; Page 17—Mike Gittinger; Page 19—Mike Gittinger; Page 20—photos from the Cornell Archives, layout by Ilene Kaplan.

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Cornell Enters the War on Poverty



by NATALIE CONKLIN '72

In recent years, the American university has come under attack for its isolation from the "real" world and the problems that world presents.

Ironically, these are the same problems which our educational system is attempting to teach students how to solve.

The Chenango Development Project is a challenge to this criticism. It is attempting to effect change in a rural area plagued by social, political, and economic decline.

The program began in October, 1970, when concerned individuals from the New York State College of Agriculture and Life Sciences and Chenango County cooperative extension proposed interweaving research and action into a multiprogram approach to rural development. This plan is aimed at improving the condition of poverty and assisting in opening up options to residents, especially the needy, in a sample rural community in the upstate New York area.

Those in the project immediately realized the difficulties involved in helping communities adapt to change. This mood is captured in the original project proposal: "In human terms, a lack of options means that an individual lacks control over his own life. A man who lacks an education or skill is lucky to get any job, much less choose a career he would like. A child whose clothes are hand-downs or ragged may be embarrassed to participate in extracurricular activities which enrich the school experience and which teach organizational and

group skills. A woman who does not know about a food stamp program, adult basic education classes, family planning literature, or job training programs may never take the first step out of poverty for her family."

The Cornell Advisory Committee for the project includes faculty and administrative people from agricultural economics, communication arts, rural sociology, and Community Service Education, as well as representatives from cooperative extension and from organizations and agencies already established within the pilot communities of Chenango County.

This area of 45,000 people, located in central New York, was chosen as typical of many upstate rural counties. More than four-fifths of the population live in rural areas and small communities. Approximately one-fifth of the population is poor. Presently, there are over 30 organizations working on specific problems in Chenango County. It is hoped that the results from this project may be generalized and made into "educational packages to take to other counties," said Prof. Eugene Erickson, rural sociology and member of the Advisory Committee.

In order to improve the quality of life in Chenango, research studies had to be carried out first to determine what the needs of the public were and what knowledge people had of services available in the community. A survey of 360 families in the county provided information on family structure, community participation, specific family needs, and perception of public problems.

Closely allied to the research end of the project, is the action phase. A basic goal of the action phase is to work with individuals and families to improve their them. The project then helps to coordinate public and private agencies in fulfilling the needs of the community. Finally, it seeks to improve the quality and quantity of resources available to the community.

There are two full-time workers in the field program of the Chenango Development Project. Rodney S. Mor-

ris, specialist in community resource development, and Judith Schubmehl, specialist in human resource development, in conjunction with the Advisory Committee, are concerned with informing the public of available social services, helping low-income families with problem solving, and promoting interagency cooperation.

One of the most exciting programs of the Chenango Project is the Peoplemobile. The Peoplemobile, which made its first tour last summer, is a brightly-colored school bus staffed by seven college students who travel around the county during the summer months, meeting with the rural poor and discussing their problems. Through discussions, pamphlets, posters, and other media, the Peoplemobile brings information concerning social and educational services to the residents. It helps them solve specific problems or refers them to appropriate agencies for help, often taking them there themselves. In addition, it gives the student assistants and educational experience working in a poor rural community.

Each summer assistant is responsible for working with particular agencies in his own specialty. For example, nutrition problems would be dealt with by the Expanded Nutrition Education Program, health problems by public health nurses, and educational problems by the Board of Cooperative Educational Services.

Last summer, the Peoplemobile made 200 contacts with individuals or families and considered a variety of cases and referrals including contacting a Social Services caseworker concerning Workmen's Compensation payments, draft counseling, and referral to Planned Parenthood for an abortion.

The Peoplemobile has made many friends in Chenango County. One person who has been helped by the Peoplemobile said, "I felt as though I was in a desert out here, all alone, until those kids came along."

One staff member summed up his experience on the Peoplemobile, "We definitely found that the need is not simply for information about what's available, but for a new kind of worker, who isn't tied to any single agency or service but can be flexible and can aid families in defining their problems, digesting information about what is available, and in choosing among services or solutions. We were on their side and they knew it."

The Peoplemobile assistants also uncovered other problems pertinent to the Chenango Development Project such as the need for improved legal services, better interagency cooperation, and the need for more understanding between the rural poor and local agencies. These problems are being given serious consideration for proposed future activities.

Future plans call for better communication with the middle income people, and for more work with individuals, families, and groups on one hand, and with agencies and organizations on the other. Some specific aims are to establish new services which are needed, organize "self-help" groups, sensitize the middle class to the problems of the poor, and train volunteer and field workers through cooperative extension.

A primary objective of the project is to influence the decision-makers on the state and national level to allocate resources to the rural poor. The quality of rural life can only be improved through a cooperative effort between local organizations and individuals, and alternate public policy making at high government levels.

"The people we helped were different because of us," remarked one summer assistant. "They were more confident of themselves. Maybe we gave some of them a little more hope and a few more ideas on how they could change their situation."



Problems of Farm Manpower

by PHIL MICHALAK, '72

In January of 1970, Dean Charles E. Palm of the New York State College of Agriculture at Cornell established the Agricultural Manpower Program (AMP). He appointed Professor Robert W. Spalding of the Department of Animal Science as the program leader. He designed the program to help New York State farmers straighten out their personnel problems, and this is the distinctive aspect of this program.

With the rather drastic changes towards mechanization in agriculture, there has been a tendency to minimize concern about farm labor problems. The reasoning behind this concept is that with more machinery on the farm, the farmer has fewer employees, and thus, fewer labor problems. This is theoretically acceptable but, in practice, oversimplified.

Once a farmer obtains required labor, his problems are by no means over. Problems such as management, education, and unionization still confront the employer. Since these are areas which are unfamiliar to most farmers, they are the areas which the AMP emphasizes. This is best evidenced by looking at the goals which formed the basis of the program two years ago:

1. To help employers and employees improve their knowledge and skills in specific jobs.
2. To help agriculture organize and operate its businesses to make most effective use of manpower.
3. To help all manpower understand and adjust to new technical developments in both agriculture and its manpower needs.
4. To help owners, operators, and managers become more competent in training and managing manpower.
5. To help owners and operators provide manpower benefits comparable to other segments of society.
6. To help agricultural leaders participate effectively in public policies, laws, and regulations concerning manpower.
7. To help the diverse segments of agriculture organize, and to bargain effectively.

One of the first realizations by both Dean Palm and Prof. Spalding was that the College of Agriculture would need some help in the implementation of this program. Therefore, they sought and received the assistance of the New York State College of Industrial and Labor Relations at Cornell. Though the program is sponsored

solely by the College of Agriculture, it is actually a cooperative effort with the College of I&LR.

When the AMP began, two channels of action were chosen for its early years. These were educational programs, and research and development.

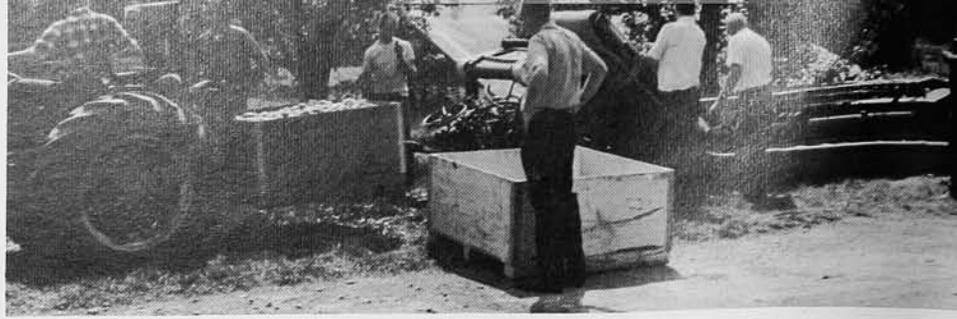
In order to carry out the research function of the program, a Manpower Task Force was organized. This body consists of both faculty members and various county agents. The purpose of this body is to examine current extension and research programs in agricultural manpower at Cornell and other institutions. It then evaluates these efforts, identifies areas where extension and/or research is needed, and assigns priorities to these.

As for the educational aspect of the program, forty-three agents have been trained to conduct human relations workshops. These workshops are designed for presentation to small groups of farmers, and have already been successfully conducted in various counties across New York. The topics of these workshops have

Jobs Like This . . .



... Are Being Replaced by Machines



been: motivation, perception, communication, learning, management problems and practices, and getting things done through people. Though the farmers have received the workshop programs favorably, the AMP is not completely satisfied.

Seeking to improve their overall workshop series, the AMP conducted a survey among New York farmers to find out how they felt about the program. Through this survey, the AMP was able to find out how they could best serve the farmers, while also getting a good background of the farms they were serving.

The AMP has also strived to keep the workshop program up-to-date, as illustrated by the continual training of their agents. In November 1971, a general conference, lasting 1½ days, was held in order to further orient the agents. The conference covered many important topics, such as, "How to conduct effective educational programs in agricultural manpower," and "Educational efforts in seasonal labor problems." The latest research developments were also disclosed, keeping the agents' background updated for the workshops.

The AMP also tries to reach those farms which may not be able to take advantage of the workshop program. Each year, the AMP publishes 3,000 copies of *Farm Labor and Regulation Information*. This publication provides references on many farm problems, including income taxes, social security, workmen's compensation, unemployment, and child labor. Through this service, farmers can obtain much information about farm management that they would otherwise be unaware of.

To best illustrate the effect that the AMP can have on agriculture, one only has to look back to the spring of 1971. This was the time of the notorious Cohn Farm incident in Wayne County. When Cornell decided to mechanize this fruit farm, it also decided to remove the housing on the Cohn Farm which had been used for migrant laborers. This was the development which caused the great uproar. In order to help alleviate the situation, the College of Agriculture helped the AMP initiate a program which assigned two special agents to Wayne County. The efforts of these two agents were to be concentrated in the Cohn Farm area, and included the following list of goals:

1. To assist in developing a training program in the operation and repair of farm and other machinery, along with other feasible vocational training programs.

2. To explore, with land-grant colleges in the south, as to how Cornell might cooperate with them in developing a coordinated effort in job training and placement.

3. To provide technical assistance in housing programs which may develop for farm labor.

4. To offer programs for agricultural workers in tenant information, home management, nutrition, consumer economics, environmental sanitation, and other such areas.

5. To facilitate basic and general education programs for youth and adults which might be offered.

6. To facilitate career or vocational counseling and placement programs, in conjunction with other training programs, and related to the problems of farm workers affected by mechanization.

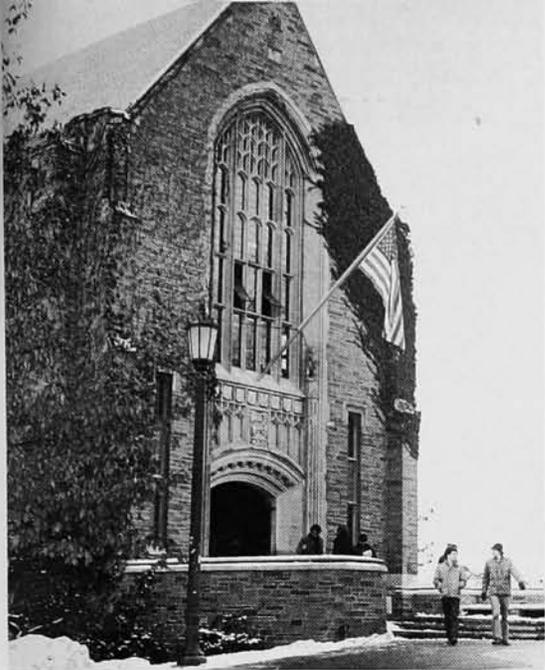
7. To develop an expanded informal out-of-school program for migrant children.

8. To increase the effectiveness of dissemination of information to agricultural workers, particularly migrants, about services available to them, and how they may best use them.

9. To provide an educational effort with growers which would be concerned with understanding the importance of effective labor management practices, and of human relations practices which provide a desirable working and social environment. This would also include an attempt to increase understanding of federal and state requirements.

Since May 1971, these preceding areas have been the primary points being stressed by the two special agents. Though there is currently only one agent in Wayne County, she will remain there at least until June 1972, to continue the outlined programs.

Another project which will have an indirect effect on agricultural manpower is one which was proposed in April 1971. In cooperation with the New York State Colleges of Agriculture, Industrial and Labor Relations, and Human Ecology, a proposal has been approved to develop and conduct a manpower project in concert with the New York State Employment Service. The project would provide comprehensive manpower services to a selected rural county in New York. The objective would be to develop a model suitable to adaptation to other rural communities.



Willard Straight: *the Building . . .*

Like electricity and running water, Willard Straight Hall is just one of those things that we all just take for granted. So closely do its conveniences and services tie in with campus life that few people ever give it a second thought. But the Straight has not always been around.

For the first 59 years after Cornell's founding in 1865, there was nothing at all serving as a student union on campus. Social life of any sort outside the fraternities was said to be nil. Facilities for non-academic activities other than athletics did not exist. Generally, undergraduate life was quite dull.

Willard Dickerman Straight never knew the dull life. As a youth, he wasted no time in getting expelled from the Oswego Normal School for throwing inkpots and other objects at an instructor. Yet, he completed his pre-college education at a military academy, and then came to Cornell in 1897 as an architecture student.

He soon became one of the dominant figures on campus. Besides excelling in academics, he became involved in many teams and clubs. Straight was the student who started the Architecture School's venerable tradition of annual forays across campus with buckets of green paint and the legendary green dragon on St. Patrick's Day. He eventually became editor of both the *Cornell Era* and the *Cornell Widow*. As editor of the *Widow*,

he co-authored a long series of doggerel verses, of which the following is an example:

*"Little Johnny hung his sister.
She was dead before they missed 'er.
Johnny's allus up to tricks –
Ain't he cute? He's only six."*

These poems fully illustrated Straight's wry enthusiasm for life. Even when he died in 1918 at the young age of thirty-eight, Straight's desire for enjoyment of life was kept alive. In his will, he directed his wife to do "such thing or things for Cornell University as she may think most fitting and useful to make the same a more human place." Toward this end, she finally decided on the construction of a major student union building.

Straight Memorial Union, as it was first named, was a great undertaking and an enormous addition to the campus. Built of native stone in a collegiate Gothic style, it was designed to provide all the social and recreational facilities that had been sorely lacking from the campus up to that time. When the building opened in November, 1925, Cornell found itself with vast meeting halls, dance facilities, dining rooms, a library, game rooms, student office space, and the best campus theatre in America at that time. The furnishings and decor were said to have put the best gentlemen's clubs to shame. And the women didn't seem to mind that the second

. . . and the Man



entrance on Central Avenue was designated for women only.

Today, however, vast crowds of students swarm through the main lobby, regardless of sex. Political groups on the sidelines hawk their ideologies to all passers-by. The stately Ivy Room rocks to the music of the Jefferson Airplane and the Stones, playing from the jukebox. Times have changed, but the Straight remains the center of student activity at Cornell. And Cornell is a "more human place" because of it.

Those Early Silent Days



by DAN BROTHERS '69

Ithaca sits quietly now, below Cornell University and Ithaca College, amid New York's Finger Lakes at the foot of Lake Cayuga. Its gorges no longer resound with the rumbling crashes of trolley derailings and crumbling trestles, and villains no longer terrorize heroines on its cliffs. The era of Ithaca's silent movie industry is long past.

Ithaca was "discovered" quite by chance by Theodore Wharton of the Essanay Movie Company in 1912. The region lent itself perfectly to the daredevil serial thriller photoplays for which Wharton and Ithaca became famous during the period. With "Dear Old Girl of Mine," starring the silent screen romancers, Francis X. Bushman and Beverly Bayne, Ithaca made its movie debut in 1913. But it was the perilous antics of Pearl White which heralded Ithaca's birth as the Hollywood of the day. Her escapades along cliffs, gorges, and over waterfalls typified the frenzied excitement of those early movie years.

Already known for her death defying roles in the 1910 "Perils of Pauline," Pearl White came to Ithaca's Wharton Studios for filming "The Exploits of Elaine," along with Lionel Barrymore, Creighton Hale, and Arnold Daly. The longest serial ever produced, "Exploits" ran 37 episodes and, together with another White serial, "The Romances of Elaine," used Cornell and Ithaca as background.

The studios were at Renwick Park, right on Cayuga's bank. And Pearl White soon became dubbed "The Rave of Renwick." Everyone loved her. She shocked her co-workers, the townspeople, and even a couple of peace justices with her complete impartiality. She wore slacks and smoked cigars. She leaped from speeding trains, clung by fingertips from bridges and steeples, and escaped "the jaws of death" on swinging ladders.

"Pearl drove a canary-yellow Stutz Bearcat roadster," remembers Bill Heidt, a white-haired, 81-year-old, retired printer. "That car was the pet peeve of many a farmer with a horse and buggy, and chickens that didn't like to get out of the road. She was once arrested by a Trumansburg policeman and taken before a justice of the peace, who fined her five dollars. Pearle was mad; she handed the justice a ten-dollar bill, and hurried out of the courtroom.

"Just a minute Miss White, your change," said the justice.

"Keep it," she snapped, "for I'm going out of this town a hell of a lot faster than I came in."

Mr. Heidt was laughing. It was a laugh sparkling with the enthusiasm with which those old movie days are remembered.

"Oh, she drove like a bat out of hell," Sam Cloyes recalled, jumping into the conversation with Heidt at the local historical society. Seventy, with white, slightly thinning hair, Mr. Cloyes reminisced, "Pearl wore goggles and a scarf that flapped behind her when she flew past. You could hear her coming way off. And on Saturdays, I'd hop on my bicycle and go wait for her to come by." Seeing a picture of Miss White among the news clippings and photos of the museum, Mr. Cloyes exclaimed, "That's my girl, that's my sweetheart."

Both of them were laughing now, Cloyes and Mr. Heidt, who added, "Irene Castle was here too, you know. She showed up (for the filming of "Patria" in July of 1916) with 2 servants, 3 dogs, 20 trunks, 15 hat boxes, a pet monkey named "Rastus," two automobiles, and two horses, "Minto" and "Lightnin'." She was a sight, riding her horses on winter mornings or sitting by her pool in the summer."

The personalities, the stars, were the glamorous focal

Ithaca's wide variety of natural settings made it possible to film all types of pictures. Cayuga Lake was the scene of this silent film classic.



Silent-film star, Irene Castle, is shown in one of the many Ithaca gorges in the 1916 filming of "Patricia."

point of the silent screen era, but, the Wharton Studio was more characteristically noted for its extremes, both in early experimentation, and, concomitantly, cost. The always hazardous, often foolish, trolley catastrophes, which thrilled audiences, while skyrocketing expenses, were typical. The most classic of Wharton trolley derailings was filmed in "The Kiss of Blood" in 1914. Recalling the filming of that picture, Sam Cloyes, who was thirteen at the time, noted, "Old number 305 was used in the picture. It was feeble and would stop and start in section; first the truck, then the seats, and last the sides and roof, giving the passengers a seasick feeling. For the filming the studio constructed a trestle beside the bridge over Triphammer Gorge (one of the three mini-canyons in Ithaca made famous during the Wharton serials). Cameramen were stationed at the bridge and at the bottom of the ravine. Both were cranking away as 205 started across, crashed the railings, and plummeted into the gorge."

Despite what was considered to be extravagance at the time, but certainly not so by today's standards in motion pictures, the Wharton studio had one lifesaving resource — the townspeople of Ithaca. They were the extras. "Good Lord," laughed Mr. Cloyes, "the whole town worked down there. We played the extras in mob scenes and got one or two dollars, plus meals. I nearly got hit by a galloping horse in one of those scenes."

Indeed, the whole town must have worked down there,

though few from those days are left. John Petrillose, a restaurant owner, was a dancer. "This was way back," he recalls. "We played mob scenes, you know, or dance scenes. They would take a bunch of dancers and try them out. They used to give me 15 dollars to come down, a lot of money in those days. What the hell," he exclaimed, "I've danced with Mae Murray." Pausing, he added, "We used to love to do it. We loved to get around with those actresses."

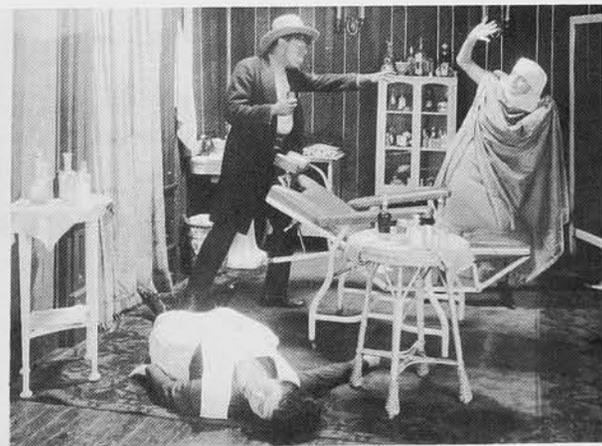
But Ithaca's "Hollywood" period was brief. The last movie made in the city before the Essanay Company moved to the West Coast was "The Eagles's Eye," a propaganda film concerning World War I. Probably the most famous of the Wharton serials, it was advertised as "America's Serial Supreme" by William J. Flynn, a retired Chief of the U.S. Secret Service. Featuring the popular screen stars, King Baggot and Marguerite Snow, "The Eagles's Eye" was a stirring allegory on the protection of national resources against German intrigue in America.

It was over in 1920 — the movie company left Ithaca, in the wake of financial losses.

In the fifty years that followed, the industry progressed from serials ending in "to be continued next week" that were cranked out of nickelodeons, to the wide-screen, feature length films of today.

Ithaca 1971 has recently produced, under the auspices of Ithaca College, a color, 95 minute feature, along the lines of the French New Wave. The film, "Incident of November 20," starring Ralph Meeker of "The Dirty Dozen" and other credits, was the personal statement of writer, directors, and producer, Peter Klinge. Anti-war in theme, it was an experiment into the French style of intellectual cinema.

Experimentation in film might be considered a part of Ithaca's heritage. And, after a silence of fifty years, the city may again have something new and exciting to offer America's film industry.



Billy Pike is the villain, and Mary Hennessy is the victim in this silent but dramatic Wharton studio production of 1915.

Cornell's Batman

by DAVID EPRILE, Sp. St.



Prof. Wimsatt gives this bat its daily feed of mealworms.

Though Emerson Hall may not qualify as a tomb or a deserted cave, Professor William A. Wimsatt of the Division of Biological Sciences at Cornell makes the most of the building's facilities. He keeps a room full of bats in the basement.

Bats are admittedly an oddity of nature. They are the only mammals capable of flight, and the vampires are the only mammals that subsist on blood alone. Their activities begin at twilight, and they use a sonar mechanism to guide their path and track their prey. But aside from these unique habits, why does Prof. Wimsatt study the bat? Why does he devote his life to the investigation of a creature that most of us encounter very infrequently, if at all?

The bat, however, is more than an inhabitant of the shadows. Contrary to popular belief, the mammal occurs in large numbers, and can have important economic repercussions on society. In the basement of Emerson, Prof. Wimsatt has three species of bats, representing three different families. In addition to these live specimens, he also keeps several other bats preserved in jars.

Perhaps the best-known characteristic of the bat is its sonar mechanism, by which it emits ultra-high frequency sound pulses to determine the location of solid objects. This practice was first observed in the 18th century by an Italian monk, who was puzzled by the fact that the local bat population was able to fly around in the dark without hitting anything. Thus, he decided to experiment, and captured some bats which he blinded and let loose. The bats were not affected, naturally, which irritated him to no end. Eventually, he discovered that when he blocked the ear canals of the bat, it wandered around in aimless confusion. From this evidence, it was logical to conclude that the bat's guiding mechanism was operated by sound. But the monk was unable to accept his own proof, as he couldn't hear the high frequency sound signals. For this reason, the subject was dropped until the 1940's, when equipment that could detect these sounds became available.

Curiously enough, not all bats use sonar. Most of the Old World fruit-eating bats are visual animals. While they have large eyes that show most of the structural features associated with nocturnal vision, they can see quite well during the day. Nevertheless, their activities are confined to dusk, for only one or two in that group both see well during the day, and use sonar.

The tomb bat of India has its own special version of sonar. It produces audible signals by banging the back of its tongue against a hardened area of its mouth, creating a series of clicks. However, all other bats produce the sound pulses with a mechanism in the larynx.

The nature of the sonar signal differs from bat to bat in its acoustical properties. Experts can identify bats by looking at recorded sound pulses on an oscilloscope. They can distinguish families in most cases, and sometimes even the genus. This means that to some degree the sound pulse is not species specific, but family or genus specific.



Prof. Wimsatt has made several trips to Central and South America to capture and study bats. In those countries, bats are so numerous that they have become a major pest, causing thousands of dollars of damage annually. In Mexico, for example, it is estimated that 50,000 to 100,000 head of cattle are lost each year to bat-transmitted rabies. The symptoms of rabies were first described in the chronicles of the Spanish conquerors of the area, and it is reasonable to assume that the number of vampires has increased in proportion to the number of prey animals. It is obvious that these countries must institute some kind of bat-control measures if they wish to eliminate these large economic losses.

Bats are captured by using a bird bander's mist net. This device is similar in appearance to a fine black silk hairnet, and measures about 7' by 30'. It has a series of heavier strings running through it at certain intervals, forming panels in the net. The net is set up on poles like a tennis net, but not as tight. The mesh is too fine to be detected by sonar, so when the bat runs into it, it becomes entangled, and pockets one of the panels. The bat is then quickly removed before it chews its way out.

The bats are transferred to wire cages which contain an alcove where they can hang in darkness and privacy. Insectivorous bats are fed mealworms, while the vam-

pires receive warm cow's blood. The vampires are voracious eaters. Although they are small (about three inches in length), they have a very high metabolism rate when active. Since blood is mostly water, with a relatively small amount of protein, they have to ingest rather large quantities in order to get sufficient solids to satisfy their metabolic needs. They eat $\frac{1}{2}$ to $\frac{2}{3}$ of their body weight in a 24-hour period.

The bat offers many challenges to science. For example, nothing has been done to explain how the fighting bat is able to scoop in the right place to catch fish. How does the bat account for the change in sound frequency from air to water? So far, nobody has come up with a satisfactory answer. Furthermore, how does a bat know when to come out of its cave at night? Scientists have observed that bats tend to adjust their emergence time according to the lumens of light present in the immediate area. But how does the bat know this if it lives in a pitch-black cave? Perhaps the bat has an extremely low threshold of light that we cannot yet detect.

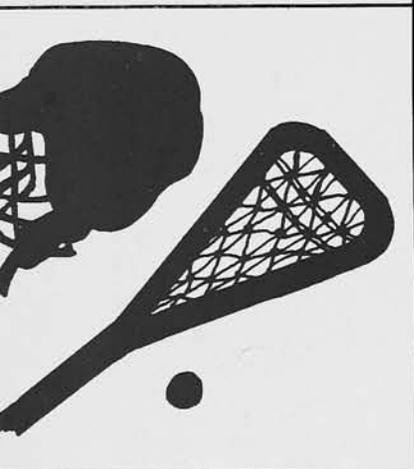
Many more of these biological mysteries remain to be solved. But in the meantime, if you're walking to a class in Emerson Hall, don't worry about the vampires in the basement. They're all locked up in steel cages. At least Prof. Wimsatt says they are.

SPORTS 1971



HOCKEY

Under new coach, Dick Bertrand, a wing on Ned Harkness' 1969-70 Big Red club that was 29-0, Cornell won an unprecedented 6th straight Ivy title, defeating top threats Harvard and Brown in the final week of play. Over the last 5 seasons, the Big Red compiled the impressive record of 132-10-1, with 4 straight Eastern titles through 1970, and NCAA titles in 1967 and 1970.



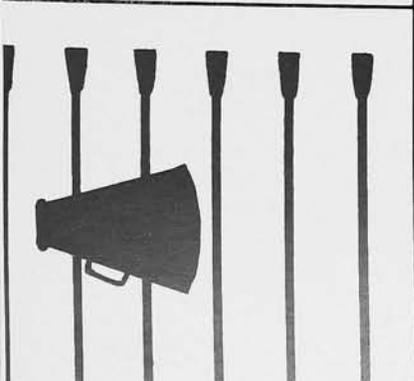
LACROSSE

Winning the first NCAA Lacrosse Tournament, and thus becoming National Collegiate Champions, third year coach Richie Moran's team compiled a 13-1 record for the 1971 season. Outstanding players included Al Rimmer (on cover) who set an all-time Cornell record for career points (162 on 80 goals and 82 assists); Bob Rule, who was the recipient of the C. Markland Kelly Jr. Memorial Award as the nation's outstanding goalie; and John Burnap, who was awarded the Schmeisser Memorial Cup as the nation's outstanding defenseman.



FOOTBALL

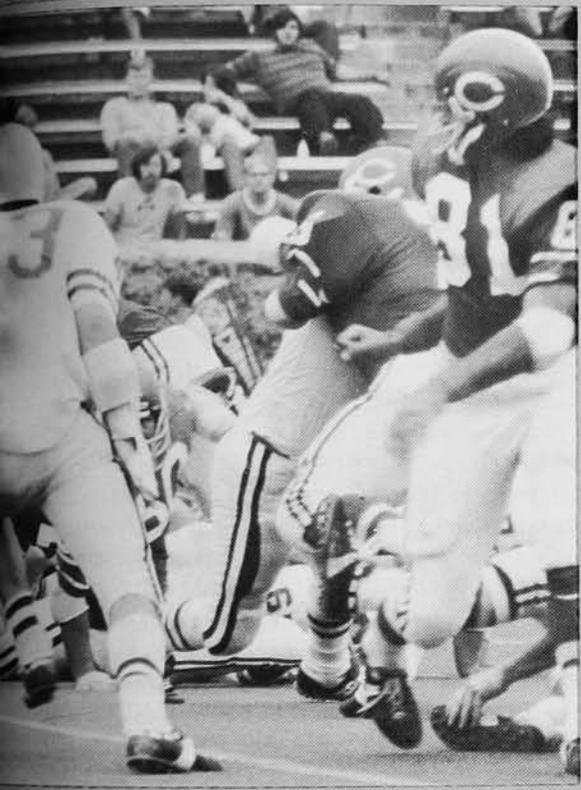
Cornell's Big Red football team won its first Ivy League Championship since the inception of the league in 1956. Under Jack Musick, the team compiled an impressive 8-1 overall record, losing only to Dartmouth, with whom they share the title. The big story in 1971 was, of course, the performance of All-America tailback, Ed Marinaro, who, among other honors, broke Steve Owen's career rushing record by amassing 4,715 yards in his varsity years (compared with the old record of 3,867).



CREW

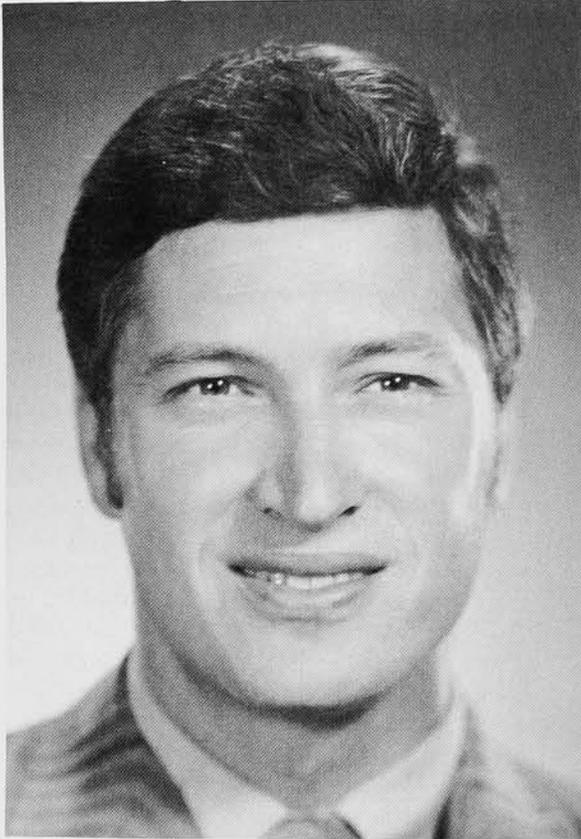
With the shore of Onondaga Lake lined with 12,000 people, Cornell's 8-oared varsity crew, under the direction of coach Todd Jesdale, crossed the finish line just ahead of defending champion, University of Washington, for the International Rowing Association championship. The crew, which had not won a national or regional title since 1963, was awarded the Ten Eyck Memorial Trophy for the best overall rowing among the 26 crews.





Dick Bertrand: *From Player to Coach*

by DAVE ELENBAAS '73



'What's important is that the coach offer his players all he can in the way of know-how, experience and discipline, and that the players respond with dedication and hard work . . .'

How does one go about becoming the coach of a major college hockey power when only ten short years ago he was leaving his small town high school to seek his fame and fortune in the big city?

Well, if you're Dick Bertrand, Cornell's current hockey mentor, the road is certainly a highly unusual, if not a circuitous one.

Dick was born and raised by his French-Canadian parents in the tiny community of Connaught, deep in the prime mining and logging region of northern Ontario. In 1961, upon graduating from South Porcupine High School where he starred in three sports, Dick decided to head for Toronto, although uncertain of his future.

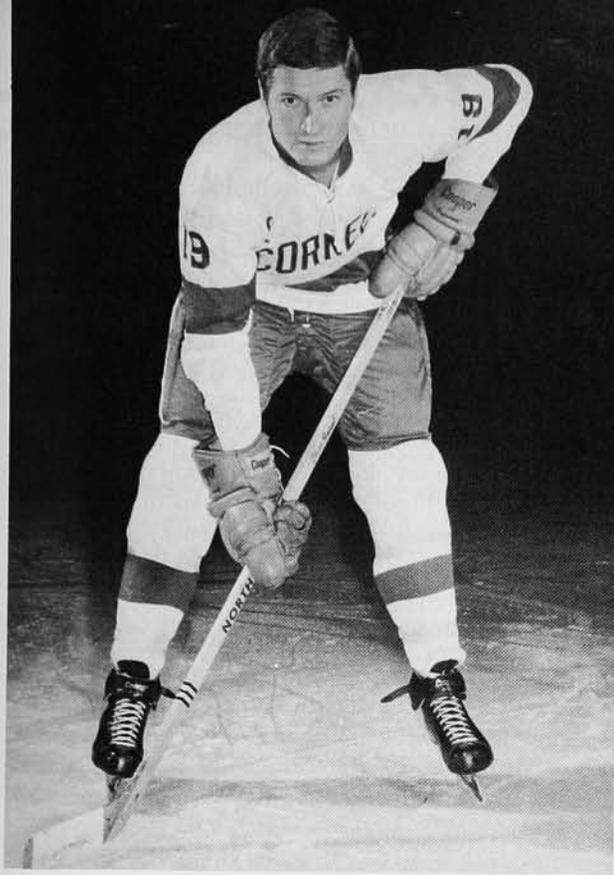
"I didn't want to stay in Connaught because I was afraid that things would become stagnant. I didn't want to end up in the mines like the others," Dick Bertrand explains.

Toronto, it seems, did not turn out to be the metropolis of unlimited opportunity that Dick had envisioned. "I received some bad advice and when I reached Toronto I simply did not have enough money to go to university or enter teacher's college as I had wanted."

With few jobs available for those with only a high school education, Dick became an insurance clerk, hoping to save sufficient money to go back to school. It was at this same time that he met his lovely wife, Ainslie, and decided that a change in occupations was in order. "It's very difficult to support a wife on only 56 dollars a week!"

And so Richard Bertrand became a policeman. "It provided me with the best paying job I could find at the time. Actually I made twice as much as I did as an insurance clerk." Dick was fortunate in that, because of a knee problem, he was able to avoid pounding a beat as is custom for rookies on the police force. After working in a precinct for two years, Bertrand began working out of a patrol car in Toronto's "cabbagetown" sector.

Dick recalls a few memorable incidents. "One night we were called to break up a family squabble between a husband and wife. When we got there the woman was holding a long butcher knife." Either because she had had some unpleasant encounters with the police previously or simply because she wanted to test the



'Actually when I came to Cornell I was 23 years old and had no intention of playing hockey.'

sharpness of the blade before using it on her husband, the woman lunged at Dick. "I was just able to grab her hand in time."

On another occasion our patrolman answered the call of a milk store robbery. Rushing to the scene of the crime Dick was surprised to find the thief still there. "I went in and there he was pointing a gun right at me. A customer managed to jump him from behind and wrestle the gun away. He received a special citation."

Between the robberies and the stabbings Dick was able to find time to attend night classes at Toronto's York University. At this time hockey was far from his mind. "Because I was taking only three subjects at York I was ineligible to play for the hockey team. I had met Bill Purcell, the coach, while I was working at the precinct. He worked at the fire hall next door. One day he asked me if I'd like to play as a ringer in an exhibition game against Cornell in Ithaca, as some of his players were unable to make the trip." Deciding to play in the game was a decision that was to alter his life. The university made an immediate impression on Dick and soon he was enrolled as a business major in the College of Agriculture.

As most individuals even vaguely familiar with Cornell hockey know, Dick was a member of the varsity squad and in his senior year was a tri-captain and important force in Cornell's 1970 NCAA championship team. Playing right wing on a line with Larry Fullan at center and Garth Ryan on the left side, Dick scored many impor-

tant goals but none so dramatic as his game winner against the University of Toronto in a hard fought 2-1 victory. "Actually, when I came to Cornell I was twenty-three years old and had no intention of playing hockey." Moreover, much of Dick's attention was focused on his position as a houseparent at George Junior Republic, a private school for teenage problem children, near Ithaca. Undoubtedly his association with the boys helped broaden Dick's outlook on life and aided him, as a coach, in his understanding and handling of players.

With many outstanding employment offers and several outside interests, Dick's life appeared to have finally hit a steady course upon his graduation when Robert Kane, Cornell's director of athletics, on the recommendation of Ned Harkness, asked Bertrand to become coach. The lure of Cornell hockey was too great to pass up and Dick accepted the challenge.

With a highly successful first year at the helm behind him, including an Ivy League championship, Dick feels that he has matured as a coach. "It's very important to exert self-control and to deal with each player as the individual he is. That, plus the fact that I have more confidence in my ability as a coach, are two factors that should help me immensely in the future."

Quite often coaches are referred to as "frustrated players," meaning that they accept their coaching duties only because they are unable to be still playing. In voicing his preference of favoring the position of the coach to that of a player, Dick firmly notes: "I knew long ago that I didn't have the talent to play hockey professionally. At 19 I attended the Kitchener Ranger's Junior-A camp and was placed on a line with Rod Gilbert and Jean Ratelle (two top players currently with the New York Rangers). I couldn't keep up at all. That quickly ended any professional aspirations that I had had."

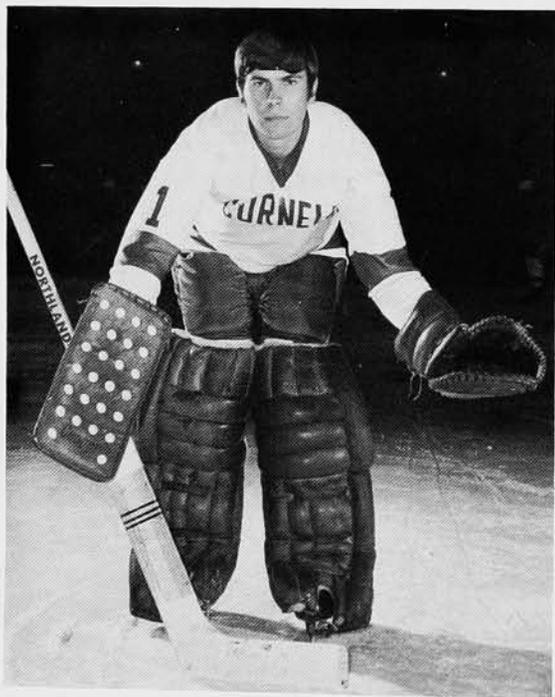
Coaching hockey at Cornell is a difficult, time-consuming task. The actual coaching of the team, according to Dick, is the easiest part. Unknown to most fans, the job entails much more. It also includes the scheduling of both the varsity and freshmen games, public relations

work, obtaining housing for the players, being sure to please anyone and everyone, and finally most important of all, the recruiting. "I'd have to say that recruiting is the foremost task that I have to do. Without talent, it's pretty difficult to win hockey games."

Dick believes that discipline and hard work are the keys to success. This is the team's formula. Many attributed last season's slow start to the problems of a former teammate having to adjust to the role of coach. Bertrand feels that despite the fact that the transition was a difficult one, the age difference between himself and the players helped, and he expects no such problems this season. As for the pressure, Bertrand acknowledges that there is a good deal of it when coaching a Cornell hockey team, where winning is expected. "Last year I inherited a team that had been undefeated the previous season and was expected to repeat as Eastern champions. Naturally I was the first to be blamed for any failures and I anticipated that." What fans didn't

realize, however, was the rebuilding job on defense that Dick had to contend with throughout the season and which now appears to be the strongest link of the team.

It appears doubtful that South Porcupine High has produced many college hockey players, let alone coaches. Yet one is well known at Cornell as both a former player and now the coach. With prospects brightly abounding for the 1971-72 version of the Big Red hockey team and with all the experience of a policeman turned coach, Dick Bertrand best sums up his job as coach and the players as players: "There is no such thing as the perfect hockey coach. Some may shout too much, others might not say enough. What's important is that the coach offer his players all he can in the way of know-how, experience, and discipline and that the players respond with the type of dedication and hard work necessary for them to use their God-given abilities to the utmost advantage at all times."



Dave Elenbaas, author of the above article, has an inside advantage for information — his coach is Dick Bertrand.

Dave Elenbaas, in writing this article, had an inside advantage. The advantage was that Dick Bertrand is Dave's coach.

Although best known to most Cornellians as the starting goalie for the Big Red Varsity pucksters, he demonstrates another of his abilities in this article.

A junior in the College of Agriculture and Life Sciences, majoring in Communication Arts, Dave has recently been elected to the sports board of the Cornell Daily Sun. In addition, since he is a Comm. Arts major, Dave will be on the staff of the Countryman in the near future.

Like most Cornell hockey players, Dave is Canadian, and hails from Scarborough, Ontario, a suburb of Toronto. In playing goal for the varsity club, he is continuing the long line of outstanding netminders that have been assets to the club for the past several years.

Expression With Flowers

by ILENE KAPLAN '73

Principles of Flower Arrangement. Fall or spring term. A study of the care and handling of flowers, the factors affecting keeping quality, and the design principles involved in the use of flowers as decorative materials.

Don't let this dry course description fool you. In the midst of the many textbook-type courses offered, Professor Raymond Fox, of the Floriculture and Ornamental Horticulture Department, has combined the informative with the creative. "We're concerned with the historical background of floral arrangement," contrasting the Eastern and Western styles. There is theory combined with the practical approach. "The emphasis is on the lab," stated Prof. Fox. "Each person makes a floral arrangement. We critique each arrangement, and discuss where they can be placed practically."

"The course is geared to flower arrangement in the home, with emphasis on the consumer." Principles of design and color are important aspects studied. One project students are working on is to pick a room and then design an arrangement to suit it. Furniture style and color must be taken into consideration. Another aspect is the color preferences, since they vary in different people. For instance, red, a very popular color, may be disliked by some since it reminds them of blood. "Then again," Prof. Fox added, chuckling, "you may like pink because it reminds you of a strawberry sundae."

"Many students haven't looked at flowers enough to know what to do with them. This is an ongoing process." Prof. Fox has found that most students become more creative about the middle of the term.

The flower arranging course has been enjoying much popularity among the students. "There is a problem with the numbers," Prof. Fox maintains. "Twice as many sign up as can take it." Over one-third are Human Ecology students, and others are from the Colleges of Agriculture and Life Sciences, Arts and Sciences, and Hotel Administration. "Once in a while we even get an engineer." Prof. Fox feels that their interest in design has made their work extremely good.

One of the outstanding features of this course is the use that its experiences can be put to once the student has graduated, even though he is not a major in the Floriculture Department. Prof. Fox has just received a letter from a former student, a food science major. Now working for a commercial magazine, she is responsible for checking the floral arrangements that are photographed with the foods.

Cholchineopan Padumanonba, a student from Thailand, is doing independent research in flower arranging with Prof. Fox. She has found her work to be extremely valuable. "I think that it is very useful. I will be involved with international relations with the Ministry of Foreign Affairs in Thailand, and proper etiquette and pleasant surroundings will be very important."

Prof. Fox lets his students take the flowers home with them. This adds to their creativity, he feels, since they can design arrangements around their own room. Don't be surprised then, if in the dead of winter, you see a student walking across campus, holding a bright bouquet of flowers.



Professor Fox discusses the aspects of this coed's floral arrangement in his Floriculture 105 course.

I Still Seem to Be Myself

by WILLIAM ALIPRANDI, Grad.

Life can be complicated enough for any 35-year-old man who decides to return to college. It is even more so if you are an Australian and a Catholic priest as well. There are all kinds of complications: the generation gap, the cultural gap, and a large gap between a bachelor's degree earned 12 years before, which could be called the "education gap." I had experienced nine years of busy parish life and three busier years in radio and television when I applied for admission to the graduate program in communication arts last year.

My work demanded that I return to school. I needed the academic and professional qualifications to train priests, brothers, and nuns in the use of mass media for the National Catholic Radio and Television Committee of Australia. I was not overjoyed at the prospect of returning to serious study once again. All those lectures, books, term papers, and things that make up a student's life were not all that appealing. The problem seemed even more complicated because I was coming to America and into an educational system I was quite unfamiliar with. But it certainly looked like it would be an interesting experience.

I arrived in Ithaca in the middle of the December snow in 1970. I had seen snow for the first time in my life in Europe on my way, and I thought it was rather beautiful. I was soon to discover on the campus that there was another side to it. (You can slip very easily on the ice; snow can freeze in your hair and give you a nasty head cold. It can get into your shoes and freeze the feet off you. As for driving in it — the least said the better.)

House Hunting

House hunting in Ithaca in December has its own problems. I was fortunate in finding an apartment right on campus. It was a resident's apartment that happened to be vacant for the semester. So, I began life at Cornell much as everybody else does, in a dorm. I had been told that if I could stand the noise I would find dorm living reasonably tolerable. I was glad to get a place on campus so that I could be close to the libraries and the lecture halls. Here I was to be introduced to campus living. I wondered whether I should have brought along with my winter clothes, a complete kit of riot equipment (helmet, face guard, and riot stick) after

all the stories I had read of riots on campus. I soon found that all that was needed was a ready smile and openness on my part.

The months I spent in the dormitory were wonderful, as I came to understand something of life at Cornell and its ways. I came to know the feeling of distance from friends and loved ones at home, but found a new warmth and acceptance amongst new-found friends. Of course it did not happen all at once.

I was a curiosity to many students. I was older; I had a terribly "British" accent which I had acquired on my way to the United States at the BBC in London. The British cannot stand "colonial" accents and to the BBC my Australian drawl was just too much. So all kinds of instructors with red moustaches and stiff upper lips taught me BBC English, and my "horrible colonial accent" disappeared. What emerged did not really endear me to my own countrymen and I think intimidated the Americans I was living with. However, students are curious by nature and I was not all that formidable. Questions began to be asked and the ice was quickly broken. Soon people were dropping in to the apartment for rap sessions and I was visiting around.

Religious Life

In the beginning I joined the eight priests on campus for Mass each evening at the Catholic Chapel. I soon found that some of the students wished to join me for Mass in my apartment each evening. Regular church schedules might not have fit in very well with student life, so we usually met together at about 10:30 pm for Mass after returning from the library. This went on during the whole time I lived on campus.

I really did not find any difficulty in being a priest and a student at the same time.

My introduction to classes and seminars was gentle. I was the oldest student in most classes I took. From the moment I arrived I did not feel in any way that I was in a special position. I just felt at home, almost as if the twelve previous years had never existed. The anticipated difficulties never emerged. I was just another student going through the routines of the university. Of course sometimes a remark like, "I would invite you out for a beer after class, but I suppose drinking is against your principles" would be made. Then my national pride would be aroused. Australians are larger



William Aliprandi, center, is talking to a couple of his fellow classmates during a break in their class.

consumers per capita of beer than even the Germans, with a yearly average of something like 10½ gallons for each man, woman, and child. I am not sure that I keep up with the national average but I can say that I have spent many a pleasant evening over a glass of beer with classmates and friends.

I met the local clergy and from the beginning I accepted various invitations to preach and say Mass in the surrounding parishes on Sundays. This was a pleasant experience and produced some surprises. It is quite a reversal of role to be standing in the pulpit and to spot a professor in the congregation. It gave me a chance to have them as the captive audience for a change. It can be heady wine, but you can be brought down to earth pretty quickly when a professor shakes his head during a sermon. It gave me a feeling similar to a Roman gladiator when the Emperor gave him the thumbs down. Still, it is rather nice to have the professor on the receiving end and give him "what ho."

Each semester brought with it the problem of finding accommodation. For two semesters I lived on campus. By then I had become used to driving on the right-hand side of the road and was courageous enough to buy a secondhand car. In August I was invited to move into the rectory of St. Catherine of Siena Church in Cayuga Heights as assistant priest. In return for bed and board I was to assist with the Masses in the parish. I now became a working priest again whilst still remaining a student. The arrangement was quite satisfactory. I was in easy distance of the campus and the rectory was pleasant.

St. Catherine's parish serves many from the Cornell community, both faculty and students, so I felt quite at home. I did find the parish ministry is somewhat dif-

ferent to what I had been used to in Australia. Many ideas of church renewal and change are being accepted and implemented faster here than at home. Perhaps it takes longer for new ideas to penetrate to the antipodes. Parish life has been a learning experience for me; I am coming to know Americans in a way I never would have if I had remained living on campus. I have visited them in their homes, talked with them about all kinds of problems, visited them when they were sick, and ministered to them as priest, counselor, and, I hope, as friend. I have the opportunity to meet the youth of school age as well as those in college. I think it has broadened the scope of my experience.

Parish Priest

My accent is still a problem. Sometimes I think it makes me interesting, other times I think people don't understand me at all. Of course the reverse is also true, I find Americans interesting too, and many times I don't quite understand them either. I mix in a wider community and there are all kinds of new insights into the American character to be appreciated. I have met with genuine kindness, unlimited understanding, and quite a bit of patience. I do have to limit my parish activities as my primary role for being here is to study for a degree. I wish I could have the time to share more in community activities as there are so many around Ithaca. The only contribution I feel at the moment I can make is to help indirectly by encouraging others to join community service groups.

This fall semester I have had the opportunity of doing some teaching assistant work which has also been a valuable part of my life at Cornell. T.A.'s seem to be a special breed, something between student and teacher.

Bushwab Frosh!!

"No use on Earth, To Hell! To Hell!
No use in Heaven; With 1911!"



For intellectual sterility,
Lack of due humility,
And general debility
Give us the rough-neck frosh:

But we'll show them with agility
The really great senility
And absolute futility
Of opposing us, by Gosh!

1 9 1 0

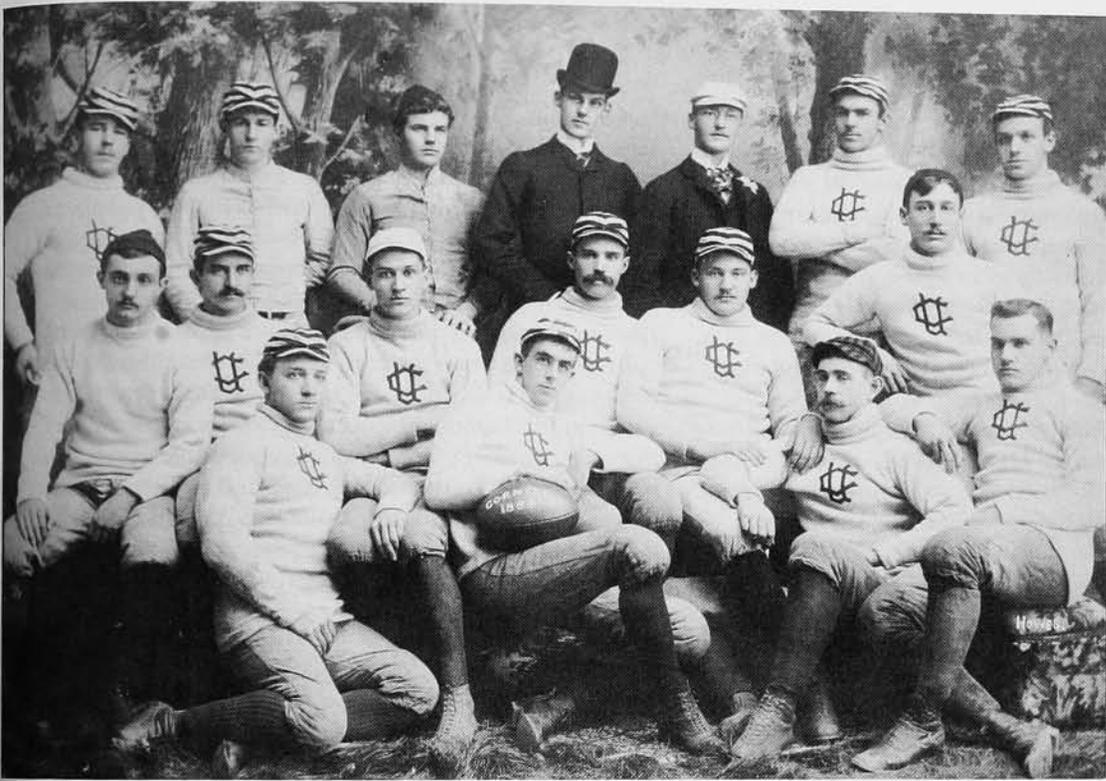
LOOKING BACK

Some things on campus, like the statues and buildings, don't change much, but many others do, as the photos on these pages show. The Countryman went to the University Archives to dig up a few scenes to see how different life was in the "good old days."

Above, a "mud rush" poster, for the rush of 1911; at right, the promise of the poster comes true as the frosh try to ascend the mud pole; lower right, Cornell's 1895 answer to the Yankees.

Opposite page: top, the 1888 version of Big Red football; lower left, students enjoy skating on Beebe Lake in 1940; lower right, the first cover of the Countryman in 1903.





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The Cornell Countryman



CORNELL UNIVERSITY
COLLEGE OF AGRICULTURE
ITHACA, N. Y.

To Propagate Falcons

A Cornell ornithologist will try to learn how to propagate peregrine falcons and other birds of prey in captivity with the ultimate goal of seeking to assure the continued existence of endangered species of birds. Tom J. Cade, research director of Cornell's Laboratory of Ornithology and professor of ornithology, will conduct his research with a \$45,300 grant from the National Science Foundation. Cornell finished construction of a \$120,000 special Behavioral Ecology Building last winter to house the experimental birds.

The existence of the peregrine falcon has been endangered by the use of DDT and other chemicals in the environment. "We need to know how environmental factors influence behavioral and physiological functions to bring about the successful production of young by parent falcons and to determine the limiting conditions for reproduction in captivity," Cade said.

The practical goal, Cade explained, is to restore pairs of peregrines to natural areas from which the species disappeared as a breeding bird. The studies will also contribute to an understanding of the behavioral, physiological and biochemical mechanisms underlying the reproduction of birds and how these mechanisms are influenced by the environment.

Speech Contest

Twelve weeks of work in speech class paid off, literally, for four students, winners in the Woodford Prize Speaking Contest at Cornell. Mrs. Richard Fauntleroy, a junior in the College of Human Ecology, and William L. Perdue, a senior in the College of Agriculture and Life Sciences, tied for first place honors and divided \$300. Mrs. Fauntleroy described the effects of lead poisoning on ghetto children. Perdue presented an anti-smoking plea.

Third place winner was Thomas Lynch, also a senior in the College of Agriculture and Life Sciences, who received \$75 for his speech on self-confidence. Miss Constance Malach won fourth place and \$25 for her speech advocating work-study programs to make education more relevant. She is a junior in the College of Agriculture and Life Sciences.

Study of Oceans, Lakes

Cornell University and the State University of New York are preparing to undertake a comprehensive, long-term program to develop New York's Atlantic Ocean and Great Lakes environments to benefit the people of this state. The project represents a major, cooperative effort to make intelligent use of largely untapped marine resources for economic development, more job opportunities, recreation and ecological advances.

In the first year, Cornell and the State University acting as a consortium in the New York Sea Grant Program, will initiate 26 projects on campuses across the state. Research will deal with such matters as the development of the new "aquaculture" industries, impact of waste-heat disposal on New York waters, and the utilization of marine mineral deposits.

Cornell University President Dale R. Corson said Cornell's participation in the Sea Grant Program pays "tribute to the tradition of the land-grant institution of New York State."

Chicks, Chromosomes

A Cornell scientist has discovered that a significant portion of embryonic deaths of chicks is caused by a genetic disorder involving abnormal numbers of chromosomes. Prof. Stephen E. Bloom, avian cytogeneticist, said that the number of chromosomes in fertilized eggs sometimes deviates from the normal 78 chromosomes. As a result, defective eggs end up with too many or too few chromosomes. When such a genetic mishap occurs in a fertile ovum, the chick embryo has almost no chance of survival, said Bloom.

Previously, scientists have attributed the egg's failure to hatch to nongenetic causes such as nutritional deficiencies, environmental factors, and effects of pesticides and other chemicals.

Bloom said he has developed a laboratory test that enables detection of chromosome abnormalities on a large scale, making it possible to track down the carriers of genetic traits responsible for chromosome disorders in their offspring. This procedure can be useful in poultry breeding and hatchery operations. Bloom added that his findings may also have importance in medicine involving studies of chromosome-related diseases in humans.

CAPSULES

Henry Mollenhauer, Winter Course '22, writes from Fort Myers, Florida, that after 57 years in the milk business in Rosendale, N.Y., the Mollenhauer Brothers have sold their business to the Fitchett Brothers, Alson, '41, and Edwin, '44. The Mollenhauer dairy barns are being converted into apartments.

Lisle E. Hopkins, '34, of Bath, N.Y., has been appointed to the Agricultural Resources Commission by Governor Rockefeller. Mr. Hopkins is currently a member of the Board of Directors of the New York Farm Bureau, having previously served as president of the Steuben County Farm Bureau. He operates a 220-head, 700-acre dairy farm near Bath.

Frank B. Hicks, '37, of Canton, N.Y., has been named acting chairman of the Division of Agriculture and Life Sciences at SUNY Agricultural and Technical College at Canton.

Garry B. King, '64, has recently been named eastern regional vice president for Jewel Home Shopping Services, a division of Jewel Companies, Barrington, Illinois. His territory covers the eastern seaboard, with headquarters in Binghamton, N.Y.

Robert Fistick, '68, has been promoted to executive city editor of the Times-Union in Albany. Formerly a feature editor for the paper, he has been state editor of the Newport News (Va.) Daily Press.

Colleen Seeley, '71, has been named extension 4-H youth editor for Michigan State University.

Virus Research

Cornell researchers are making an all-out attempt to identify plant substances that have an unusual ability to resist invading viruses. If the work is successful, it will represent a major step toward understanding how plants defend themselves when attacked by viruses, and may eventually lead to control of viral diseases affecting many food and fiber plants.

Prof. A. Frank Ross, a Cornell plant pathologist, is undertaking the project with a \$75,600 grant from the National Science Foundation. In some of his earlier research, Ross found that the natural resistance in a plant capable of localizing viral infections is greatly increased following infection of only a part of the

plant. The overall effect of this is similar to human immunity triggered by vaccines.

Food Symposium

Scientists from Cornell and members of the faculty of the New York State Agricultural Experiment Station's Department of Food Science and Technology recently participated in a symposium on Environmental Contaminants in Foods in Rochester. The one-day symposium included discussions on pesticide problems and possible solutions of the 70's, pesticide residues in foods, nitrates and nitrites, nitrogenous compounds in processed foods, food packaging problems and trace minerals.

Ag. Ambassador

The New York State College of Agriculture and Life Sciences is trying to improve the image of the campus tour for prospective students by initiating an Ag Ambassador Program. The unique part of the Ambassador Program is that the tours, previously providing one guide for 10-20 visitors, are usually conducted on a one-to-one basis by students in the College.

Memorial Fund

Henry W. Roberts, '68, Elmira, was killed on Nov. 10 in a tragic airplane accident while piloting his own plane on the return flight from the New York Farm Bureau annual meeting in Ellenville, N.Y.

He was vice president of the Chemung County Farm Bureau and had been attending in that capacity. Henry, originally from Hastings-on-the-Hudson, was in partnership with Thomas W. Rhodes, '63, in a dairy farming operation near Big Flats. Friends and neighbors have established

the Henry W. Roberts Memorial Fund to provide an endowed scholarship in his name. Contributions to this fund can be mailed to:

College of Agriculture and
Life Sciences Fund
Box 19, Roberts Hall
Cornell University
Ithaca, New York 14850



Donald M. Bay



Russell R. Billings



Martin P. Catherwood



Hugh E. Cumming



Theodore D. Day



Herrell F. DeGraff



Stanley E. Garrison



Ronald N. Goddard



Willis H. Hayes



Joseph P. King



William R. Kunsela



Varnum D. Ludington



Lester W. Martin



George L. McNew



Don J. Wickham



Silas E. Eakins



Albert G. Hall



Lowell S. Hardin



Winfield D. Tyler

Countryman Salutes

The College of Agriculture and Life Sciences has been extremely fortunate over the years in the support it receives from its Advisory Council. Since the early 1960's, the Council membership appointed annually by the Trustees of Cornell University, has represented the breadth of interests in modern agriculture and the sciences that support it. The Council, composed of a membership of 25 leaders from state and national interests, provides the College and University administrations with a continuing interest and sense of direction for the varied efforts of a College that long has been close to the problems of the people of New York State.

Dr. Herrell DeGraff, President of the American Meat Institute, is chairman of the Advisory Council. His long experience in New York agriculture as well as with Cornell University before going into the top management role for the American Meat Institute on the national scene, is invaluable in guiding the affairs of the Council. Prior to his term, two gentlemen currently members of the Cornell University Board of Trustees, Mr. Joseph P. King and Mr. Morton Adams, were chairmen during the period of the present College administration beginning in 1959.

Two formal meetings of the Council, one in the fall at Ithaca at which time the wives also attend, and a second meeting at Geneva in the spring, provide an opportunity for special project reviews, an interchange of ideas, reporting of Council members on problems of concern to them, and an interaction with faculty and students, as well as administrators, make up the formal parts of the programs. There is sufficient informality in visits to facilities and program areas to provide the members of the Council with an overview of the total program effort of the College, as well as the status of its support. Special reports and communications go out to the membership during the year.

During the year, the work of special committees, or the effort of individuals from the Council, provide additional inputs in behalf of the College. Reports to the University and College administrations as well as to the University Trustees come from the Council. Without question, this active and dedicated group of leaders give much to the shaping and support of the College program, and provide guidance so essential to balance in its effort. We are most fortunate to have their generous concern and warm friendship expressed in our behalf.



Seaton C. Mendall



Harry W. Porter



Thomas A. Rich



Leslie J. Rollins



Max V. Shaul



John H. Talmage

Ellis Room

Subsidies,
Phase II
& Trade

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Phase II Bypasses Farmers

by ROBERT CAMPBELL '73

The American public may have been expecting a bang as loud as the one they heard when President Nixon ordered the wage-price freeze back in August of 1971, but the announcement of Phase Two sounded more like a muffled pop. For those still expecting a bang it may well be a long wait.

This quiet Phase Two is the administration's plan to slow but not stop inflation. In fact, most economists view inflation as a good, if not necessary part of a nation's progress. For many years inflation stayed close to a 2½ per cent annual rate, increasing the amount of money in the wage-earner's pocketbook as long as productivity made substantial gains. However, the rate soared to 5 and 6 per cent levels in the late 1960's, wiping out the consumer's buying power. Phase Two has its eyes on a return to that sweet 2.5 per cent level of inflation.

To get there, wages, salaries, pensions, bonuses, commissions, and fringe benefits will be limited to a 5.5 per cent annual rate of increase. Prices will, hopefully, meet a 2.5 per cent ceiling.

Phase Two incorporates a number of commissions to watch over and decide upon wage and price increases. To be exact, there are three committees, two commissions, one council, one administration, and one board. The major ones are the Pay Board, concerned with pay boosts, the Price Commission, concerned with price regulation, and the Cost of Living Council, which serves as overseer of all Phase Two operations. The Internal Revenue Service takes care of enforcement problems. Lesser committees deal with more specific fields such as doctors' fees and lawyers' costs.

Although the guidelines have been set at specific levels, pre-wage-price freeze contracts will be honored, both in planned price increases and in wage agreements. But the Pay Board and Price Commission will insist on balancing pre-freeze contracts with post-freeze adjustments. For example, the pre-freeze contract might have



called for a 10 per cent wage boost. That will be granted if post-freeze increases are 2 per cent. The average would then remain at roughly 5 per cent, below the set guidelines.

Interestingly enough, Phase Two arrives at the doorstep of a national election. Candidates backed by the administration fared poorly in the 1970 elections, mostly due to the rising rate of inflation and unemployment. Phase Two, if it goes according to plan, should ease both national problems by late 1972.

So far, post-freeze prices have continued to climb. Labor contracts that were frozen are now being honored, and seasonal prices are being adjusted to make up for the three-month lag caused by the freeze. Recently, steelworkers were granted a 7 per cent pay boost while coal workers received a 15 per cent increase. Small businesses, on the other hand, report no major changes. They make up some 80 per cent of the U.S. work force and account for 50 per cent of all sales.

The supermarket gauge, one of the most familiar indicators to the consumer, shows some increases due to post-freeze thaw. Farm produce, however, is exempted from any controls as long as it remains in the raw, unprocessed form. Shoppers will find that prices for these goods will fluctuate similarly to previous non-Phase Two years.

Processed foods present a much different story. While the farmer will get market prices for his raw produce, the processor will be restricted to the 2.5 per cent ceiling on prices. In some cases the consumer price may increase, but such an increase will probably be offset by the wage ceiling of 5.5 per cent.

Large agricultural corporations should fare pretty much the same as the food processors. Feed and grain prices will fluctuate according to the open market, but processed goods like fertilizers and mill products will be held down to the 2.5 per cent maximum rise dictated by Phase Two. They will also be subject to the maximum wage increase of 5.5 per cent. Overall, farm buying from these firms is expected to remain about the

Corn growers have quite a problem on their hands (or in their cribs) this year: lots of corn. As a matter of fact too much. The year 1970 was a poor year because of corn blight, so farmers planted more corn and introduced blight-resistant hybrids for 1971. Then the weather turned around and produced one of the best crops in history. Five billion bushels were harvested, about 30 per cent more than 1970, and prices fell to 90 cents per bushel while the farmers' costs remained at \$1.08. Government buying and some international sales helped bring the price up to cost, but there is still a lot of corn around.



Prices are fixed on the commodities a farmer buys, such as the fertilizer shown above, but prices he receives for his goods are flexible under Phase II provisions.

same as in previous years. Prices will rise but profits will be small due to increased production costs and wage payments.

The farmer should do better than he did last year. Because all of his unprocessed goods will escape Phase Two controls, his profits will be up. Livestock, especially beef, will bring higher prices at the stockyard. Feed costs will be down because of abundant grain supplies this spring, and costs will rise in line with Phase Two guidelines. Dairy products will rise in price much the same as beef.

The grain outlook is not so bright. Wheat and corn crops from 1971 are up quite a bit from the previous year and probably won't bring good profits. Costs for these growers will be up, too, all pointing to slim profits, if any. Poultry prices will be down, too. The general outlook is for a better year than 1971, but rising costs will hold down any high profits farmers might have been expecting.

Phase Two itself may work at cutting inflation rates down, but, it is felt, it definitely will not bring many smiles to the consumer using the supermarket gauge. Prices and costs will continue to rise, but both will move at a slower pace than in the past two years.

In an election year, the muffled sound of Phase Two on the American economy might never be recognized as an asset to the consumer already hypersensitized to yearly price jumps. Phase Two might look good to businesses plagued with cost increases that have outstripped the high profit years of the mid-60's, but to the average consumer expecting dramatic changes, the prospects of a reasonable inflationary rate will take quite a while to be seen. For those expecting a loud noise in the economy, it might be a long wait.

China Trade and U.S. Farmer

by ROBERT EPSTEIN '73

New relations with Red China offer little hope for American agriculture, according to several Cornell professors of agricultural economics. As high-level meetings are taking place between the United States and the people's Republic of China, the professors warn that the likely effects of such talks will be largely political and have little bearing on agricultural trade between the two nations.

Prof. Thomas T. Poleman, Jr. of the Department of Agricultural Economics, said "The Midwest American farmer, who has traditionally felt a desire to side with the Chinese people, will be greatly disappointed at the limited realities concerning trade with Red China." Professor Poleman feels that in the foreseeable future, negotiations with Red China "won't benefit American agriculture at all."

Kenneth L. Robinson, professor of agricultural economics at Cornell, sees the effect of the Presidential visit as "minimal." "Canada and Australia, the countries that presently supply Red China with most of her demand for wheat, will continue to do so, without much effort or any sizable need of an American contribution," said Professor Robinson.

Several significant statistics reported in the October 11, 1971, issue of *Foreign Agriculture* provide some insight into the agricultural economics of China. With a population of about 800 million people, Mainland China has given high priority to agriculture over the past decade. "Grain production has increased steadily in recent years, reserves have been built up, and wheat imports have been reduced. Purchases of wheat contracted for in 1970 were only 2.5 million tons compared with approximately 7.5 million in 1969.

Wheat is China's largest agricultural import, but their requirements are decreasing each year. This is not a good sign for wheat farmers in America who were hopeful for great volumes to be purchased by the Red Chinese people.

Ranking second in the list of today's Chinese imports is sugar. However, with a rapidly increasing domestic supply of sugar, China imports decreasing tonnage. According to trade figures compiled by FAO, Red China imported up to 1.5 million metric tons of sugar in one year of the early sixties but in 1969 import tonnage was only one-third as much, almost exclusively from Cuba. The prospect of American agriculture supplying Red China with sugar is probably nonexistent.

Red China is a major cotton grower. However, it is unable to provide enough fiber for its own production

needs. Competing with foreign cotton producers, the United States may be able to supply China with some part of its constant demand for around 120,000 metric tons of fiber a year.

The United States will find little trade in the products mentioned thus far. Other products China does not presently import in significant tonnage could play a somewhat important part in Sino-American trade in the distant future. Some items would include food for livestock and possibly dairy products.

China has been partially successful in the home production of meat, especially pork products. However, China's exportation of fresh meat has been showing a decline since 1966. The decrease may be due to a less stringent control of domestic consumption, disease, or a limited supply of feed grain.

Whatever the reason for the decline, *Foreign Agriculture* reports that "animal and animal products are the Republic's most rapidly expanding foreign sales item." In accordance with this observation, Daniel G. Sisler, professor of agricultural economics, said, "In the distant future, Mainland China will want more meat, notably poultry and pork, but it does not have the capacity to produce the feed grain needed."

As Mainland China's standard of living increases, there would be a greater demand for meat, causing a greater demand for food grain. In this regard American agriculture may find considerable trade with China. But as Professor Poleman warns, this will be only in the "very distant future."

There will be a need for the importation of dairy products as China matures. Currently, China supplements its needs from New Zealand. On January 1, 1973, when the United Kingdom becomes a member of the European Economic Community, New Zealand will lose part of its lucrative market there in dairy products. As part of efforts to diversify and become less dependent on the British pound, New Zealand probably will be more receptive to additional trade with Red China.

On the other side of the trade situation, where the possibility of competition could exist with China, Professor Sisler feels that the products China can offer us will have "very little impact" on American agriculture. He went on to say that we presently import a few items from Mainland China, such as hog bristles and bamboo, and that the future demand for these items in the United States will not be significant.

As for any forecast of plentiful trade between the People's Republic of China and the United States, the agricultural picture as seen through both sides of the Bamboo Curtain appears dim.



“... at the peak of harvest, over 30 million bushels of wheat were on the ground due to lack of transportation caused by the dock tie-up.”

Dock Strike

Farmer Becomes an Innocent Victim

by MARIO MAZZA '73

The West Coast dock strike, with its labor-management feuds, has hit industry and business a big blow. Agriculture, although removed from the main arena of controversy, is forced to sit in the stands and play the part of concerned onlooker until the teams regroup and finish the game.

One of the basic inequities of a strike such as this, says Daniel G. Sisler, professor of agricultural economics at Cornell, is its “differential impact.” This is the concept whereby a certain group may be negotiating for its own well being yet at the same time may be working to the distinct disadvantage of other groups. In terms of agriculture, this particular strike may affect severely the growers of citrus fruits, off-season fruits and vegetables of California, while it might leave the entire dairy industry virtually untouched. Ironically, it is these same types of commodities that have been most affected by the West Coast affair. These fruits and vegetables are used as imports on a large scale by nearby Canadian markets. With shipping facilities rendered nonexistent, the only alternative left to the concerned companies is to reroute or rechannel these commodities. In another instance, the Soviet Union was forced to purchase some of its corn requirements from Argentina because of the uncertainty of our port situation.

“What we must remember,” said Professor Sisler, “is

that in the case of agriculture, we are dealing for the most part with perishable goods. These strikes cause produce to be held in cold storage which may eventually erode profits. When shipping costs are too high, you simply cannot risk a disruption in delivery. If the articles in question were more easily stockpiled,” (i.e. non-perishable goods such as outboard motors), “alternatives as far as rerouting would not be as quickly sought. The components of the commodity would be such that it would not require immediate attention.” As a case in point, consider that this most recent West Coast strike coincided with one of the largest wheat crop harvests in the history of the Pacific Northwest.

Before a recent meeting of the Senate Committee on Labor and Public Welfare, Secretary of Agriculture Earl L. Butz indicated that “at the peak of harvest, over 30 million bushels of wheat were on the ground due to lack of transportation caused by the dock tie-up. Some of this wheat suffered quality deterioration.” Butz goes on to say that continuations of these strikes pose a serious threat to the entire wheat market. “Based on purchases by the Japanese Food Agency,” Butz continued, “the U.S. farmer’s share of this market for the March-December period fell from 55 to 40 per cent. U.S. losses of sales are in the neighborhood of 25 million bushels valued at \$40 million.” Figures indicate that

Korean and Taiwanese imports of U.S. wheat dropped alarmingly. Shipments of raisins and prunes into the United Kingdom were found to be infested with insects. The infestation was directly attributed to the delay due to diversionary hauls.

Butz conveys the gravity of the situation thusly: "Even those commodities that succeeded in reaching foreign markets did not represent a total plus."

The loss of these agricultural exports has had a serious impact on port economies. Seattle, a city already beset by grave employment problems suffered additional losses in employment due to the dock strike. According to Butz, "last year agricultural export losses cost the port district over \$1 million monthly in wages and \$3 million monthly in sales and revenues for local businesses."

The problem is, no doubt, intense. But Professor Sisler does not believe that the strike is tantamount to the destruction of the basic United States economic structure. "From the standpoint of an economist, this strike may not even deserve a footnote in someone's history text ten years from now," he said. "I really do not see this strike as having a crippling effect on the total economy."

Sisler says, however, that we should concern ourselves with the effects strikes of this nature have on the United States in terms of newly developing foreign countries. Items being shipped from Central and South American countries, for example, are not moving. The sale of such perishable items such as bananas are lost. This may not have a tremendous effect on a country as established as the U.S., but to an infant country seeking to expand and grow, there is a setback in terms of export potential. Consider too, the less critical yet definite loss in importing more strategic agricultural inputs. Methods for re-routing such items as agricultural chemicals, sprays, insecticides, pesticides, machines, replacement parts and tires are not readily available.

Problems born of these labor-management power plays are not restricted to economics. They take on

political overtones.

Although failure to import and export desired goods on the part of the newly developing countries may prove to be a slight economic setback at first, recurrences will do much, in Sisler's words, "to make the people of those countries lose confidence in North Americans, to erode potential U.S. markets."

Labor-management byplay reaches beyond the mere stockpiling of goods or the absence of men from their labors. Agriculture is an ambassador of American goodwill. Time- and cost-consuming halts on international trade and commerce may well go to eventually supplement one's weekly paycheck but will, in time, weaken or destroy an extremely valuable socio-economic, intercultural tool.

PACIFIC COAST EXPORTS—JULY-SEPTEMBER, 1970 and 1971*

Commodity	In million dollars		%'71 of '70
	1970	1971	
Grain/Feed	141.8	13.8	10
Wheat/Flour	88.7	1.4	2
Rice	25.7	5.6	22
Fats/Oils	12.3	7.4	60
Cotton	17.4	2.5	14
Poultry	2.8	1.1	39
Livestock/Meat	32.4	13.7	42
Fruits/Vegs	69.3	30.9	45
Citrus Fruits	11.0	8.5	77
Fruit Cocktail	2.7	.3	11
Fruit Juices	3.3	1.1	33
Other Fruits and Nuts	37.6	14.8	39
Vegetables	13.0	6.2	48

* Excerpt from a Statement of the Honorable Earl L. Butz, secretary of agriculture, before the Senate Committee on Labor and Public Welfare, February 3, 1972.

Staff Changes in Resident Instruction

The resignations of Prof. J. P. Hertel and Prof. Howard Tyler from the Office of Resident Instruction at the end of last semester triggered a shuffling of personnel in that office.

Prof. Earl H. Brown has been moved from the Department of Agricultural Economics to become associate director of admissions.

Donald Burgett, formerly associate director of admissions, has assumed responsibility for registration, petitions and student advising.

Replacing Burgett as associate director is Gordon L. Peck. Peck's former title was assistant director.

Richard A. Church, who was an administrative assistant in the office of the dean, has been appointed assistant director of admissions.

Allen W. Perry is in charge of student intern programs and student interviews with prospective employers. He was formerly on the faculty of the State University of New York at Delhi as an assistant professor of agricultural technology.

Ecologists Romp Florida Swamp

by SUE CARPENTER '73

"Field trip" can mean a lot of different things—from visits to the local canning factory to a tour of Uncle Ed's chicken farm. But to 11 students enrolled in Natural Resources 603 last semester, "field trip" probably means their three-week intersession tour of Florida.

The two-credit-hour seminar was entitled "Wildlife and Environmental Problems in Southeast United States," so the trip gave students a chance to view the problems of the area firsthand.

Setting off in three fleet cars, the students, accompanied by their instructor, Prof. Dan Thompson of the Department of Natural Resources, stopped in Tall Timbers, Ga., and the Osceola National Forest in Florida to observe the role that fire plays in the ecology of the region. The impact of channelization, the development of artificial waterways, was studied on the Kissimmee

River and the Cross-Florida Barge Canal. Along their route, students also investigated the conflicting water needs of industry, agriculture, recreation and cities.

But it wasn't all work either. Some of them took the opportunity to see what they really look like with a beard. . . . The group met movie star Julie Christie strolling along a trail. . . . And what do you call slogging through mud in the middle of the night on an alligator-tagging expedition? A baby alligator is being tagged with a plastic marker (photo below).

The path of pollution was traced from industries, such as the orange juice factory effluent (opposite page, lower right) that one student classified as "pretty disgusting," through the state's waterways via canoe (opposite page, upper right) and air boat (opposite page, upper left).





Farm Subsidies: Pro and Con

by SCOTT HALLABRIN '72

It is no secret to Americans that, given optimum weather conditions, farmers have the capacity to produce surpluses for every available storage facility. To avoid this disaster and to maintain farm incomes, the government distributes money to farmers by way of crop supports, land retirement payments, and other intricate methods "in such a messy and seemingly senseless fashion," wrote one observer, "that it often offends the public."

Subsidy payments, as they are familiarly known to the public, have been receiving widespread criticism since the time they were introduced to augment farmers' incomes during the Great Depression in the 1930's. The basic criticism of subsidies is that the benefits of such programs are unequally distributed among farmers. Concurrent with this criticism is the fact that in 1970 the upper 8 per cent of the farmers receiving payments from the government got over 30 per cent of the total subsidies paid, while farmers representing the lower 49 per cent got only 11 per cent of the total. Some farmers, usually cotton producers from the Deep South, Arizona, and California, have been known to receive annual subsidy payments well in excess of \$100,000.

Each year the United States Department of Agriculture pays close to \$4 billion for leaving land idle and supporting crop prices. The rationale for doing so is analogous, for example, to the major oil companies getting together and agreeing to produce to only 60-65 per cent capacity, thus not overstocking the market with oil products which would force a price decline. Of course, for five or six oil companies to reach an agreement of this kind may be relatively easy, but to reach a decision on farm prices among three million farmers is another question. This is where the government steps in, trying to assure the farmer that the prices he gets for his products will keep pace with his costs.

Areas producing wheat, cotton, and feed grains, usually in the Deep South, Arizona, California, the Great Plains, and the Corn Belt, receive nearly 90 per cent of these subsidies. Beef and pork producers always resisted governmental control, and potato and egg prices used to be supported before the cost of storing such perishable goods became too high. Not everyone, then, receives subsidies.

To receive his subsidy payment, the typical wheat farmer would go to his county Agricultural Stabilization and Commodities Service office and, after a consideration of his land's historical yield base, is told how much land he must keep idle in order to qualify for payments. If he agrees to keep the designated amount of land idle, he can then collect his subsidy and farm the remaining land. A similar subsidy payment system is arranged for both cotton and feed grains farmers.

Supporters of federal agricultural subsidy programs do not feel that payment is in fact unequally distributed among farmers. According to Prof. K. L. Robinson of Cornell's Department of Agricultural Economics, "It is not the objective of Congress to redistribute income, but to pay those farmers who produce." Professor Robinson cited recent statistics to show that direct subsidy payments have not contributed significantly to widening income differential among farmers. "In fact," he said, "small farmers have apparently shared more than proportionately in such payments." Statistics do show that farms with sales of less than \$10,000 in 1970 accounted for only 11 per cent of the gross sales, but received 20 per cent of the payments.

Noting that some individual farmers were in some circumstances receiving over \$100,000 in subsidy payments, Congress passed the Agricultural Act of 1970. Designed basically to limit the amount of money an individual farmer could receive on one crop, the bill





proceeded to set a limit of \$55,000 per farmer per crop on subsidies. To attract support, the bill also contained a provision in which a farmer, as long as he laid idle a designated amount of cropland, was allowed to grow any crop he so desired. Furthermore, the bill was designed to permit the government to lower price-support loan rates, thus lowering the price of U.S. farm commodities and allowing them to be competitive in the world market. However, the Act did not reduce federal outlays for subsidies, as payments totaled over \$3.7 billion.

The Agricultural Act of 1970 had no drastic effects upon federal subsidy programs because it incorporated much of the legislation from previous programs. Its effects upon certain crops and surpluses was notable, however. As mentioned, many farmers, having promised to lay idle a designated portion of their cropland, were given a free choice on what products to grow. Formulators of the bill assumed that the open marketplace would wage a stabilizing effect upon the amount of certain products grown as farmers raised crops that were in demand. Coincidentally, 1970, the year before the Act became law, was a bad year for corn and the government surplus stocks dipped very low. Consequently, in 1971 many farmers chose to grow corn and record highs for the crop were recorded. The result was a price decline for corn in the marketplace and a contribution to the eventual resignation of Nixon's

Secretary of Agriculture, Clifford Hardin. Now several Democrats are claiming that the Republican Administration-passed act was not effective and are calling for more changes. The Administration, nonetheless, is maintaining the act, which expires at the end of 1973, making only a few changes in the amount of land used to grow corn for this year.

As in all past and present subsidy programs, loopholes in which a farmer can get more than provided for are numerous. "It is very difficult to draft a subsidy bill without loopholes," said Professor Robinson. "Farmers know a lot more about this business than Congressmen do, so it's easy for them to find loopholes." He cited one example in cotton farming where a well-known practice, since the 1970 Act, is for a farmer to rent a portion of his land to a friend or family member and have him qualify for the \$55,000 maximum for the crop. The farmer and his companion can then split the subsidy payment between themselves; no doubt that a farmer can do this three or four times. Another method of increasing income by way of subsidies is collecting payment on land which one did not intend to farm in the first place. Apparently, these attempts to increase payments cause the government many headaches. According to Professor Robinson, "Not only are violations of this kind hard to guard against, but the Secretary of Agriculture has a difficult time ruling on them."

Since around the turn of the century when the U.S. gradually transformed from a predominantly rural country to an urban one, agriculture has been in steady decline as a political issue. Occasionally, there may be stories of famine or scandal that have a marked effect on agriculture, but this section of the economy has been more and more relegated to the background in national party politics. Such is the outlook for subsidies and their effect on the 1972 Presidential elections. "Subsidies may be a big issue for a handful of Congressmen in their elections," Professor Robinson said, "but with farmers representing only five per cent of the national population you won't see these issues affecting Presidential candidates." He did say, however, that farmers were not being totally overlooked. "With the price of corn pretty low due to a combination of last year's record crop and the new Agricultural Act," he said, "the Republicans are trying to get the price back up by this fall just in case the race may be a close one."

With all of its defects and criticisms, the government's manipulation of subsidized crops has helped to maintain the income of farmers. While critics continue to seek a more efficient means to the same end, it must be admitted that subsidy payments are no worse than some farmers' own attempts to keep prices up. These attempts included, on occasion, the mass destruction of potatoes, the withholding of pigs, and the dumping of milk, acts which seem absurd in light of contemporary hunger problems in other parts of the world.

Two New Bills Will Regulate Farm Pollution

by NANCY B. COLE '71

In 1965, and again in 1966, Congress passed two major acts aimed at controlling water pollution on a national level. These acts were concerned primarily with industrial and municipal wastes. Now, with these programs well under way, the eyes of Congress are turning in another direction, toward agriculture and the construction industry.

Here we are concerned with a different type of water pollution in the form of runoff from the land. This is called "non-point source" pollution. Unlike factory and city wastes which enter the water directly, the particles and nutrients in runoff enter over the length of the stream bank of lake shore, both from the surface of the land, and by percolating down through the soil and joining the stream or lake at some point below the water surface.

Senate Bill 2270, the National Water Quality Standards Act of 1971, introduced by Sen. Edmund Muskie (Dem., Maine) has been passed by the Senate and sent to the House. It is an extensive bill, covering research and training grants for pollution control studies, grants for waste treatment facilities, and information services. Its primary significance to agriculture lies in the fact that it is the first Federal bill specifically mentioning agricultural and other non-point sources of pollution.

Under the Muskie bill, the states would be required to submit plans, subject to Federal approval, to identify and control non-point sources of pollution. This would mean they must, in the words of the bill itself, "... set forth procedures, processes, and methods (including land use requirements), to control *to the extent feasible* such sources."

The phrase, "... to the extent feasible" is open to interpretation. The problem arises now of deciding what is "feasible" and determining what goals should be

established. As yet, it is impossible to know exactly what standards of water quality to set. Not only do we lack any effective monitoring system, but there is no generally agreed definition of "good water" as opposed to "bad water." Water pollution, especially in the case of non-point sources, is an area which needs considerable further research.

According to Prof. Raymond C. Loehr, Departments of Agricultural Engineering and Water Resources, nine times out of ten the farmer will be able to meet the requirements using good waste management methods. The greatest benefit of the bill will be to increase farmers' awareness of how their activities affect the environment. Proper waste management and pollution control should have high priority, right alongside production goals, he said.

Prof. Robert J. Young, Department of Poultry Science, feels that the Muskie bill is over ambitious. While research has supplied many new ideas in waste management and runoff control, many are still experimental and the bill is asking too soon for widespread application. "The pollution problem evolved over the last two centuries or more and we cannot expect a solution in only a few years," Young said. Time is needed for industry, municipalities, and agriculture to adjust their technology to reduce pollution.

The determination of the meaning of "to the extent feasible" is left to the individual state. It allows tailoring a program to the state, its topography and climate, its type of agriculture, population distribution, and economy.

Not all states are waiting for orders from Washington. In Kansas, they had a severe problem with pollution from the many cattle feedlots where concentrated cattle operations produce huge amounts of wastes. There is a large buildup of wastes, and the runoff from the feedlots carries very high levels of nutrients. Therefore, Kansas State law now requires that they build retaining ponds of a given capacity, depending on the number of animals they are feeding. They must register and obtain a permit from the Kansas State Department of

States would be required to submit plans... to identify and control non-point sources of pollution... 'to the extent feasible.'

Health. This permit can be revoked if they violate the standards.

In New York State, a bill is under consideration by the Joint Committee on Environmental Conservation. Introduced in the Assembly by Assemblyman Tills, the bill has undergone several revisions and hearings are still being conducted. The present revision of the bill is largely in response to recommendations from agricultural organizations, the Soil Conservation Service, and a task force of the New York State College of Agriculture and Life Sciences faculty members from the Departments of Agronomy, Agricultural Engineering, Natural Resources, Vegetable Crops, and the Agricultural Waste Program.

If enacted, the Tills bill would increase the number of Soil and Water Conservation Districts, and give them new powers. Rather than being advisory bodies, the district boards would have the power to make rules and regulations on a local level. These regulations would be subject to approval by the district member who represents the Department of Environmental Conservation and copies would have to be submitted to the Department before they went into effect.

Concerned specifically with runoff from both farm land and construction sites, the bill defines land runoff and agricultural land. In this context, agricultural land is all holdings over 50 acres which are used for the productions of crops for direct or indirect consumption by humans. However, such concentrated commercial operations as feedlots and poultry houses are also specifically covered.

Farmers would be required to submit a land use compliance plan every three to five years. This may limit the flexibility of farm management. Any changes from the original plan must be approved, after a new

application is filed. Each application, new or revised, must be accompanied by a fee of \$25. From these fees, however, it is intended to pay administrative costs, at least in part.

The Tills bill could have a major impact on the

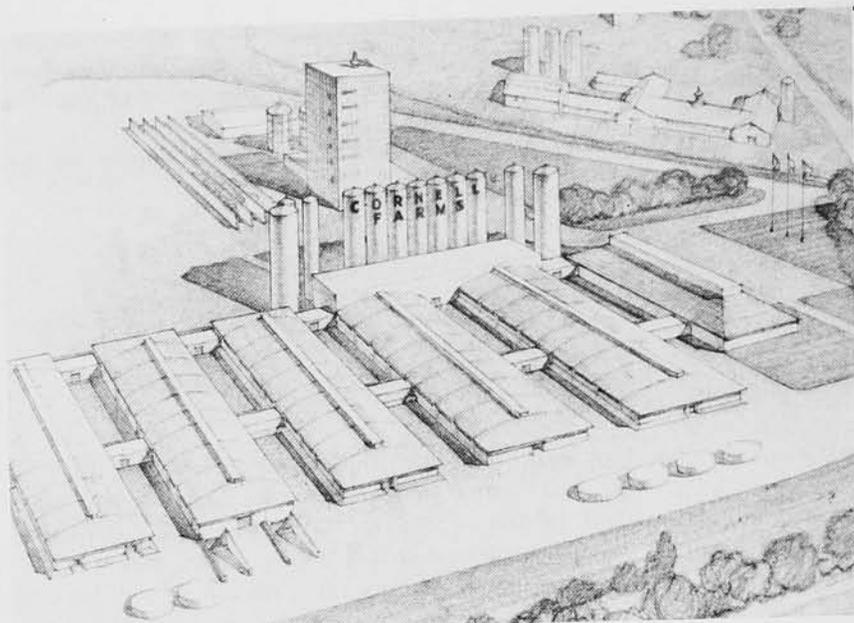
Farmers would be required to submit a land use compliance plan . . .

farming in the State. The changes in responsibilities of the Soil and Water Conservation Districts will alter their relationship to the farmers. Instead of seeking voluntary cooperation and offering advice, they will now be enforcing compulsory rules. Also, there will have to be an increase in the amount of input by technical and enforcement personnel.

At present we cannot precisely determine what is the level of various nutrients and particles desirable in "good" water. Nor can we tell what is exactly the best treatment for each field in the State. It is an extremely complex problem. However, there is a large amount of information available now, which can be applied for runoff management in many instances. It is essential though, if this bill is enacted, to constantly review and revise the regulations as new methods and standards are developed. An active program of research, education, and information should also be part of the overall effort. In this way, and only in this way, can we control pollution without harming the agriculture of our State.



Agricultural waste such as in this photo may come under the control of both state and federal laws.



This is how the new complex would have looked if state budget problems hadn't caused cuts. The feed mill, the tall building at the top, and the headquarters building to the left of the barns have been deleted.

'Palace' Awaits Cornell Cows

by JAMES McRAE '71

More than four years of planning and makeshift boarding of cattle will, hopefully, end this fall with the completion of the Animal Science Teaching and Research Center in Harford.

Since the main dairy barn burned in June of 1968, Cornell dairy cattle have been housed in several outdated barns in the area.

The new complex will consist of five interconnected barns housing dairy cattle and young stock. A feed and mixing room is another integral part of the project. A series of bunker silos have already been completed and a number of tower silos are expected. The complex will also house a maintenance, machine and repair shop.

The new barns have been designed to facilitate various types of nutritional and management systems research and will have different types of waste removal systems. The concept behind this plan was to enable Cornell to experiment with various systems, rather than limit itself to one. This, its planners say, should provide relevant information for farmers.

One barn is designed for teaching and research with individual animals and includes systems for precise measurement of feed and water consumption. In addition, for the first time, Cornell will have milking parlors for demonstrations and research.

The project has met with some setbacks. A large

headquarters building, which was to house a classroom, sample preparations rooms, offices and housing for six students has succumbed to a tight state budget. Temporary arrangements for these facilities will have to be made.

Barth E. Mapes, administrative assistant to the head of the Department of Animal Science, asserts that the cuts may be difficult to live with. However, he does feel that "This facility will greatly increase teaching potential compared to our present facilities."

Monetary conditions have also resulted in the deletion of a feed mill and most of the feeding system including perhaps half of the 12 tower silos originally planned for this phase of the project. Phase two of the project, which was to include housing for Cornell's beef, swine and sheep, has definitely been delayed for a number of years.



Construction continues on the interior of the barns, including this one designed for waste management research. The outside shells have been completed.

COUNTRYMAN CAPSULES

Dear Editor

I live in a small cabin in the Pine Barrens. My income from the rental of two other small cabins leaves me well below the "poverty level." However, I resent the programs, with their associated taxes, which attempt to wrest me out of poverty into the affluent world of ulcers, heart attacks, and pollution.

Sincerely,
Tom Palven, '67

Dear Editor

In browsing through the January-February issues of the "Cornell Countryman," I noticed a photograph of myself with Professor Fox in an article on flower arranging. Beneath the photograph, the caption read: "Professor Fox discusses the aspects of this coed's floral arrangement in his Floriculture 105 course." My initial reaction was one of anger, not because my name was omitted, but simply because I was referred to as a "coed." My physical ap-

pearance in the photograph made this word redundant and unnecessary. Glancing at the picture on the opposite page I noticed that there was no such unnecessary wording when referring to a male. I felt that the more appropriate term to be used, when describing a female would be "student," since both females and males are viewed equally in this respect. I only hope that this letter will enlighten you and guide any further references that you make towards students at Cornell.

Sincerely yours,
Susan Kelsy, '72

Memorial Fund

W. Stephen Middaugh, '62, died unexpectedly in his sleep at his home in Anaheim, Calif., Jan. 10.

Middaugh, 32, received his B.S. degree from the New York State College of Agriculture and Life Sciences in 1962 and his M.B.A. degree in 1963.

At the time of his death, Middaugh was regional vice-president of the Great Western Region of the Jewel Home Shopping Service.

While a student at Cornell, he was active in student government, served on the staff of the *Cornell Countryman* and was Chancellor of the Cornell chapter of Alpha Zeta, national agricultural honorary.

After graduation, Middaugh was High Chancellor of the national Alpha Zeta fraternity from 1964-68. He was High Censor at the time of his death.

A memorial scholarship fund, part of the College of Agriculture and Life Sciences Fund, established six years ago in memory of his father, Wessels S. Middaugh, '26, has been expanded to honor Steve Middaugh as well.

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Agriculture Fund

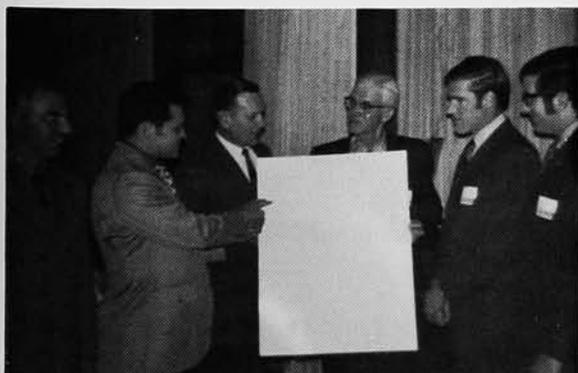


Photo shows John J. Sullivan, '62, LeRoy, New York, Special Gifts Chairman for Western New

York, College of Agriculture Fund, reviewing goals with County Coordinators at a meeting held in January at Arcade, New York: (left to right) Barry Rogenmoser, '51, Middleport, N.Y., Niagara County; Sullivan; Herman Cocchetto, '48, Olean, N.Y., Cattaraugus County Co-chairman; Hughes N. Evans, '38, Houghton, N.Y., Allegany County; Robert Sears, '62, Allegany, N.Y., Cattaraugus County Co-chairman; and James Baaden, '70, LeRoy, who is assisting Sullivan. Goal for Western New York area is \$75,000.

Other County Coordinators are:

James Chamberlain, '59, Erie County
Richard Call, '52, Genesee County
Donald Paddock, '67, Livingston County
William Bigham, '48, Ontario County
Roger LaMont, '64, Orleans County
Rex Wood, '41, Wayne County

FOUNDATION for the FUTURE

Agricultural Leaders' Forum

April 6, 1972

Alice Statler Auditorium, Cornell University, Ithaca, N.Y.



Sponsored by the New York State College of Agriculture and Life Sciences,
a Statutory College of the State University, Cornell University

Chairman: Associate Dean Nyle C. Brady

10:00 a.m.

Introduction and Welcome — Dean Charles E. Palm

Land-Grant Contributions

10:15 a.m.

From Economics and the Social Sciences

Dr. D. G. Sisler, Professor of Agricultural Economics

10:45 a.m.

From the Plant Sciences

Dr. N. F. Jensen, Professor of Plant Breeding

11:15 a.m.

From the Animal Sciences

Dr. J. T. Reid, Head of Department of Animal Science

11:45 a.m. — Discussion

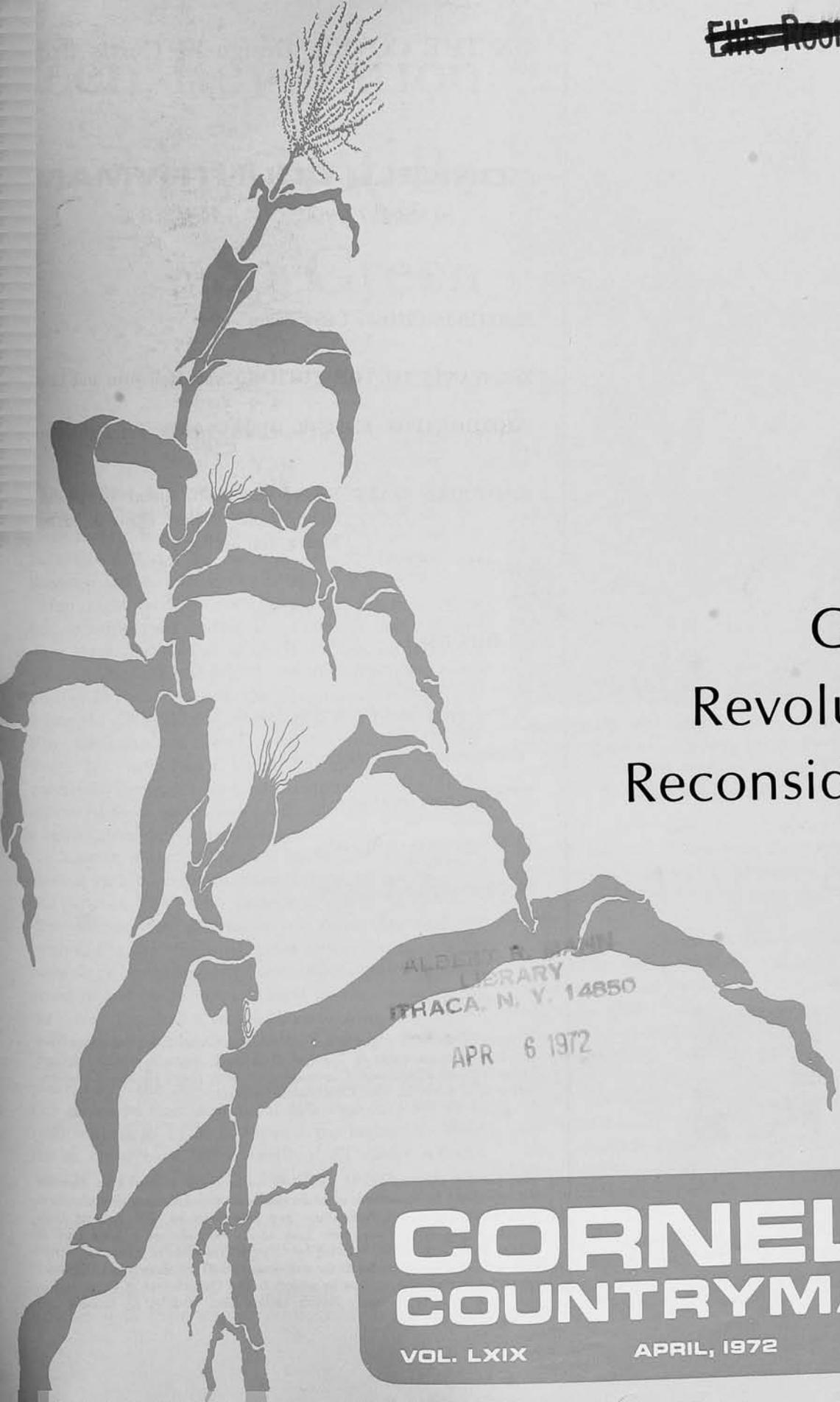
12:00 noon

College Alumni Association Luncheon honoring Dean Charles E. Palm

2:00 — 4:00 p.m.

Tours to see outstanding examples of accomplishments in science and technology and in their dissemination to the consuming public. Special buses will transport visitors to selected locations on the campus where outstanding contributions will be demonstrated and discussed. Faculty will be available for informal discussions with visitors who do not choose to take the tours.

~~Ellis Room~~



Green Revolution Reconsidered

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COUNTRYMAN**

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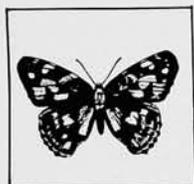
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ON THE COVER: Design by Curtis Brill

CORNELL COUNTRYMAN

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Green Revolution May Not Be So Green

by ROBERT CAMPBELL '73

No designer has ever created something he did not think would work. The test came when his project became reality. If it looked good, he could work out the bugs, and if it did not make it, then the creation was scrapped and something else tried.

You might say the Green Revolution, a possible solution to world food shortages, has entered that trial and error stage. Substantial production gains, some to the point of self-sufficiency, have been recorded in a good number of countries using the advanced technology and high-yield grains developed as part of this Green Revolution. An immediate answer would be perhaps that the design has worked as is because of the gains made by previously agriculturally-poor countries, but the implications of those same gains reach into areas much more complex than simply producing more food.

Changing an entire nation's agricultural status, when dealing with a rurally-oriented society, means changing life patterns. Then with perhaps a change in the rural structure, political alterations are more than likely to evolve. Finally, the ecological implications of mass technology, including fertilizers and irrigation systems, could in fact wipe out any food production advances the Green Revolution would claim its own.

The advances, however, that the Green Revolution can claim at this time are most impressive. In Asia, acreage planted with the new, high-yield varieties of wheat and rice increased from a minimal 200 acres in 1965 to 43 million acres in 1970. In Mexico, the high-yield wheat strains cover over 90 per cent of all wheat acreage. Similar "take-offs" have hit Pakistan, Turkey, and some of the Southeast Asian countries. Yields realized by these countries run similar to increased usage. The Philippines is now a rice-exporting country, significant because it has been importing rice for 50 years. Now that high-yield varieties of rice are available, they claim self-sufficiency in their staple cereal grain. India predicts



Experimental plot adjacent to the International Rice Research Institute (shown in the background) is the trial grounds for the new varieties developed by the Institute as part of the Green Revolution.

that by the end of this year they will have attained self-sufficiency in wheat production. Other countries predict similar schedules in both rice and wheat production.

Production methods can also claim to be advances. To increase yields, fertilizers had to be used, but were unsuccessful with the local varieties of wheat and rice. The main reason was the stalk size. Fertilizers would increase the amount of grain per plant but also increased plant height to an unsupportable size. Because the grain was heavy, the stalks bent and the crop lost to pests and rotting. The solution for both wheat and rice came with the cross-breeding of dwarf species and local varieties. The result was a plant of small stature but a sturdy enough stalk to support the increased amount of grain produced by the fertilizers.

Irrigation methods have received top priority in the Green Revolution along with fertilizer improvements because the new high-yield strains require more water than the local or indigenous varieties. Small-scale systems for farmers of the Far East were designed to be

simple and easy to build, and in future years will be the main component of the improved agricultural scene in those countries. With the improved technology, it will be possible for farmers to look for two, three, or even four harvests per year rather than one. When the farmer uses the multiple crop idea, he may be able to use his land for two different crops every year. This would be advantageous in areas without adequate irrigation for more than one rice crop each year, but enough water for some other plant. For example, Pakistani wheat requires only one-third the amount of water a rice crop needs.

With increased production farm profits naturally will go up. Already, net profits in Turkey are two and one-half times those realized using traditional plants and methods. Pakistani net profits have risen four times over traditional profits, and Indian farmers using the high-yield grains have profits four and one-half times the traditional ones. And even though Philippine high-yield rice gets about 30 percent less on the open market than the indigenous varieties, farmers are still making nearly twice as much with the new rice as with the traditional.

There are some nagging afterthoughts, though, in relation to this rapid change from subsistence farming so traditional in the Green Revolution countries. Becoming self-sufficient could upset the traditional interdependence within the countries. For example, Thailand at one time supplied most of Southeast Asia with rice. When the Philippines became self-sufficient in rice production, Thailand of course lost an important market. With other countries approaching this self-sufficient stage, the one-time exporters will have an unsellable surplus and have to enter larger world markets, faced with competition from already-established producers

New varieties of rice, such as the one shown below, may require different methods of growing, harvesting

like the United States.

Another unpleasant thought in terms of the purpose of the Revolution is that of the rich getting richer and the poor poorer. Technological costs in producing the new grains are quite high in comparison to traditional crops. Even though the farmer should realize a greater profit with these high-yield grains, the profits come at the harvest, not at planting. Most of the farmers who would use the new grains and greatly improve their economic positions would have to be those farmers that were formerly subsistent. To accomplish this, quite different credit arrangements will have to become the standard.

Then the question of actual production arises. Is the Green Revolution really concerned with new strains of grain and new technology, or have the countries simply put more land into production? If this was the case, present data would really emphasize a country's potential being realized rather than great breakthroughs in technology.

There are other afterthoughts not directly related to the Revolution's plan, and these are causing more speculation than the singular agricultural advance. With the change from mere subsistence farming to the highly technical methods needed to produce the new high-yield grains, the social structure of the developing countries is bound to change.

Farmers and farm workers will become better educated, will eat better, and in general their quality of living will improve. But in order to realize the potential of the Revolution, new means of marketing and crediting will have to happen, both of which are unknown to the majority of the farmers at this time. Methods of farming will have to be changed or altered, too. In fact, the use of expanded irrigation systems and previously unused

and preparing than the ones with which the natives are familiar.





Extensive laboratory work may be needed before the new breeds are ready for field trials. A technician studies flooding of rice soil in the Institute's greenhouse.

land will put a demand on the farmer to be more educated and less-traditionally oriented.

With the usual or traditional one crop per season routine lifted for the two or three crops per season or multiple crop system, some of the cultural patterns based on harvest time will in fact be altered or destroyed. The implications change from country to country, but this new seasonal planting scheme will have an effect.

One question that combines both the cultural aspects with the agricultural side of the Green Revolution is that of taste. What do the new grains taste like? In some cases, they do not taste as good.

"It is possible for people to change their eating habits," said Professor Kenneth L. Turk, director of International Agricultural Development at Cornell University's College of Agriculture and Life Sciences. While at the International Rice Research Institute in the Philippines, a central component in the Green Revolution's production and hybridation of rice, he noticed that the dining services there ran out of the traditional rice supply and substituted one of the high-yield varieties. At first the diners refused to eat the new rice, claiming that it was unpalatable. That lasted for three or four days. Then they got used to the new taste, and when the old rice was available again in the dining services, the one-time complainers refused to eat the traditional variety.

They said it was unpalatable, and that they now preferred the new rice. Prof. Turk said it was simply a case of getting accustomed to something different. Even with this in mind, crosses between traditional grains and newer varieties may eliminate the taste problem.

The political implications may take time to develop into major questions. Countries that will experience agricultural booms will be faced with a more educated and higher-living farm society. The immediate effect will be a decline in the mass movement to the cities, possibly slowing the rate of industrial growth. On the other hand, the needed inputs for the new methods of farming may well put pressure on governments to expand industry related to chemical production. Foreign investments add another dimension to political areas, bringing large corporations into the countries. Diplomatic changes would both alter the existing culture and alter the international status of the countries.

The final and perhaps the most subtle consideration developing around the Green Revolution is the ecological or environmental impact of this change from subsistence farming to full agricultural production. The trouble in assessing the effects mass fertilizing and irrigating would have on the ecosystem are not immediately available. In fact, they can take anywhere from 10 to 30 years to begin to show up.

Because the new strains of grain are hybrids, they remain susceptible to diseases that normally do not affect the local or traditional grains. Pesticides and herbicides must be administered in high doses to the hybrid plantings. Fertilizers have to be spread over planting areas in great amounts, too, and the resistance ability of the ecosystem could be put in jeopardy. Also, the use of hybrids limit the genetic variability usually associated with adaption to a local area, and could essentially wipe out an entire national crop, at the same time wiping out that country's agricultural potential.

If any definite statements about the Green Revolution are to be made, they have to remain positive at this time. The possible famines predicted in the mid-1960's do not have the threatening qualities going into the 1970's, and there is even the possibility that the detour from famine will put some nations on their own feet, at first agriculturally and later economically.

The "greenness" of this revolution may not be so green as the more complex social problems evolve and surface, but for now it has bought enough time to concentrate on those problems and at the same time improve the agricultural techniques of developing nations. Like the design that at one time sat on a drawing board, the Green Revolution is now trying to make it for real. The success will depend on how well and how completely the afterthoughts can be analyzed and put to use, in terms of a growing population that needs stabilizing and in improving the quality of life that population can expect to live in some 20 years from now.

Professor Paul Buck

'Fur Trader on Frontier'

by NANCY B. COLE '71

Do you work to live or live to work? A rather unusual way to begin an article on food technology? Perhaps it is, but Prof. Paul Buck of the Department of Food Science, who put this question to me, is a rather unusual man. His view of his work as a food technologist is as much a philosophy of life as a field of study. Ecology, social concern, and willingness to try a new way of doing things all play a part. His work is a way of life, a service to mankind, and also an expression of his belief that the idea of a man as one creature in the balance of nature should guide our lives as individuals and as a nation. In that sense, Professor Buck lives to work.

What is a food technologist as opposed to a food scientist? According to Professor Buck, it's the difference between an "ivory tower" scientist and an engineer. The scientist who works to establish hypotheses, theories, or laws, is not limited to the physical factors. The technologist, however, must make his decisions with the practical limitations of the engineer. He is on the frontier, "the fur trader out there talking to the Indians." Also, the food technologist is concerned with service, which all too often food scientists and businesses are not. "In many ways, the food technologist must be a better scientist than the food scientist," said Professor Buck. He's working on his own with a lot of unknown factors.

Professor Buck is involved with two lines of research: organic farming and health foods, and tissue cultures which produce important organic substances such as protein for fortifying foods.

"You're not going to eat single-celled plants grown on petroleum," he explained. "You're probably not even going to eat algae and things like that." But algae, which he described as "a terrific source of essentials," can be grown and have its enzymes and vitamins extracted. From algae and tissue cultures, it would be possible to get flavors, hormones, vitamins, and similar substances. Corn and soybeans provide cheaper sources of carbohydrates and proteins, he went on to say, but soybeans don't provide perfect proteins. So, we could grow single-celled plants as a source of the essential amino acids, and use them to bring up the quality of soybean-based foods.

This type of process is not in conflict with Professor Buck's work on organic farming and health food marketing. It is, in fact, supplementary. These are not synthetic foods. They are "engineered foods." Nothing artificial is used; you're just making natural foods better with the use of natural extracts. The "engineered foods" on which Buck and his students have worked include such things as whole wheat donuts, hot dogs, Bulgar bread and guapple.

"Americans snack too much," Buck asserts. Many snack foods are really quite poor nutritionally. However, the whole wheat donuts, with a fish protein concentrate added, have 19% protein, and are far more nutritious than most donuts, yet have a good donut flavor. Another of his recipes is Bulgar bread, a dark nut flavored bread of cracked rice or wheat, with fish protein concentrate (f.p.c.) again included. "This sold well until we told people what was in it," he noted. "Then the number

This is the wrapper from one of Professor Buck's new products.

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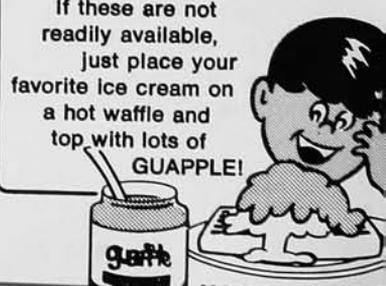
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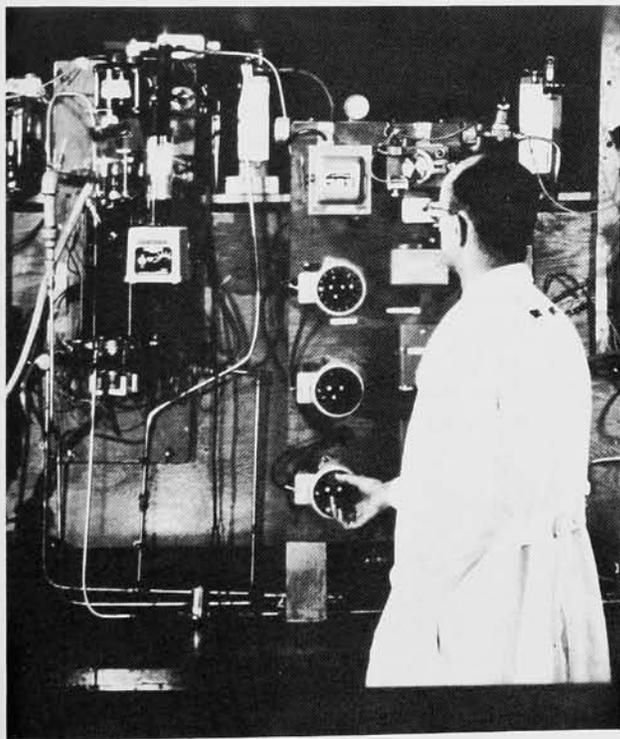


of new customers dropped right off, although those who had tried it continued to buy." People were suspicious of f.p.c. and expected the bread to taste fishy. "You have problems using f.p.c. in white bread," Professor Buck pointed out. "It makes it gray and gives it a horrible taste." In whole wheat or Bulgar bread, however, the taste is very good and the food value is very high.

Anybody for some guapple? Guapple is an interesting fruit topping idea that combines apples and guava. As a cultural bridge, guapple combines popular fruit tastes from the tropical and temperate zones to make a tasty dessert. North Americans see the "apple" and think it's a new kind of applesauce. People from tropical areas, on the other hand, see the "gua" and think of guava. Guapple has more food value than applesauce and can be substituted for it in many instances. Also, you can delight your palate with Guapple Floozle for breakfast and get your day off to a good start!

Professor Buck is also working on hot dogs that have no additives. They would include such nutritious supplements as soy flour, whey, f.p.c., and even cheese. Commercial hot dogs are one of the foods containing large amounts of additives, particularly nitrates.

"You know we eat over five pounds of additives a year," he said. "That's a lot of stuff that we don't know the effects of." Chances are that these additives won't really do much harm, but Professor Buck thinks that people should be more concerned about what they eat.



Unlikely source of food is this machine which produces fish protein concentrate, an ingredient in many of the new foods developed by Professor Buck.



Unfamiliar fruits, at least to many Americans, are the bases of these puddings now being marketed.

Public concern in the field of food quality is very influential. He mentioned, for example, the important role that American women and writers played in getting the first food law passed in 1906. Theodore Roosevelt was then president and he sent requests to Congress repeatedly for a law concerning food quality. Congress did not respond until a mass letter-writing campaign by women was undertaken and, spurred onward by this show of publicity, it passed the first U.S. food law in 1906.

The food industry, however, should not wait for the government to act. The industry cannot be content only with quality control in their processing plants, but their goal should be "quality assurance." This would involve the whole chain from grower, to processor, to distributor, to the customer. All of these stages, Professor Buck said, should be equally concerned about the quality of the food. Unfortunately, agriculture and the food industry are often more concerned about profits than about nutrition.

Professor Buck believes that a new ethic must be sought that will put food production and the rest of the economy into a better balance. There is always, in truth, more than one solution to any one problem. Only in opinion are there definite right and wrong answers. To achieve this goal, Americans must search for the optimum solution and be willing to try a new idea if another does not seem to be adequate.

Food science, of course, cannot be discussed in a vacuum. A realistic discussion of food science must also include consideration of ecology, economics, and human social values. It must be remembered that food science is only one component of food technology and a small part in the work toward better foods.

Arbor Day 1972



Pictorial sequence at right shows gradual "greening" of the Ag. Quad from 1904 to the present. In the foreground of the first picture is old Vet building with the future of Roberts Hall on the hill beyond.

Regreening In Celebration

by ROBERT H. EPSTEIN '73

If a beetle rests on your elm tree, the tree may be doomed. Cornell University is presently facing this problem as many of the campus quads are losing their foliage.

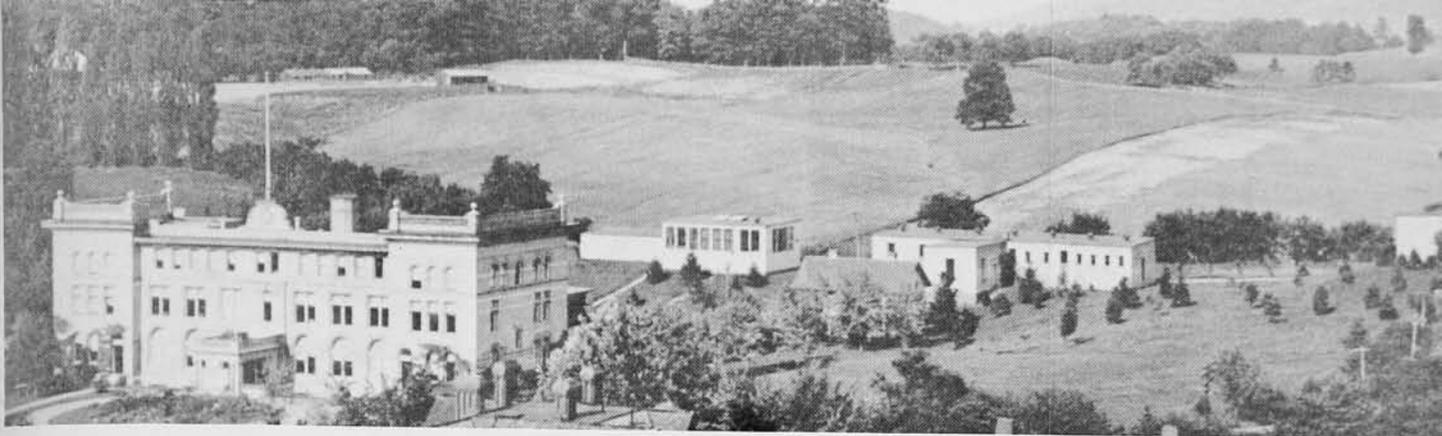
Dutch elm disease, carried by two species of beetles, is a fungus infection originating under the bark of the American elm. Its major symptom is that the tree starts dying. The only cure is the tree's removal.

The only preventive measure to fight the spread of Dutch elm disease is to plant the elm trees at least 600 feet apart. Other trees of different species may be planted between the elms, since the disease which the beetles carry have no effect on other tree species.

Whereas the Dutch elm disease was introduced into the United States in the first quarter of the century, another elm-infecting disease has entered New York State only this past summer. One tree on the Cornell campus between the Plant Science building and Mann Library has fallen victim to the new disease, Phloem Necrosis.

Below is a present-day view of the Ag. Quad and its foliage. The "greening" process has obviously come a long way since 1904 and, as shown by the sugar maple at left, apparently is not complete. This maple suffers from one of a few diseases that have hit Cornell's trees in recent years.





Looking at a history of the foliage on the Ag quad, one notices most of the trees planted were elm and at a distance of less than 600 feet. Because of this fact, we must face the elimination of many of the trees that adorn and beautify our campus.

Therefore, action should be taken immediately to plant new trees in order to replace the dying American elm.

Prof. Richard B. Fischer of Environmental Education in the Education Department incorporates into his Field Natural History 404-405 courses, a personal appreciation of trees. His 42 students now teach in the Ithaca area elementary schools the same concern for the surroundings that Ithaca residents have become accustomed to over the past century.

The culmination of the student-teachers' activities will be taking the elementary school children "into the field," and planting needed trees. These trees will be donated by civic clubs, garden groups, and local nurseries.

Professor Fischer reminds us that it was a New Yorker, J. Sterling Morton, who in 1872 persuaded the Nebraska legislature to appreciate the beauty of trees and declare a holiday in their honor. Arbor Day, now celebrating its 100th anniversary, should remind us to go outside and plant some trees again.



The picture above shows progress on the construction of Roberts Hall some years later. Note that trees have yet to be planted in the Ag Quad vicinity.



By 1911, Roberts Hall was completed and the foliage around it quite heavy. Ag. students at the time were finally beginning to enjoy the sights of spring that future students had, as in the 1930's photo below.



Butterflies In Mailbox

by RICHARD ARNOLD '72

Insects know no boundaries; they live everywhere on the earth. And wherever these varied and colorful creatures occur, there are people, young and old, who collect and study them, and desire to share their experiences with others.

The Teen International Entomology Group, whose headquarters are in room 315 of the Plant Sciences building, offers young people an opportunity to share their entomological experiences and knowledge.

TIEG, the first subject-oriented youth organization with an international membership, was founded in 1965 by Colleen Seeley '71, a Communications Arts major interested in entomology. The organization has grown from a handful of members to nearly 2,000 from 30 countries and all fifty states. Thirty Cornell students are members. Colleen acted as editor-in-chief of our quarterly *TIEG Newsletter* until last year when Robert Dirig '71, succeeded her.

Oddly enough, Colleen never planned the conception of TIEG. It just evolved. Her parents and older brother, Jay, were 4-H entomology leaders in their hometown of Oneonta, New York. Their club had a number of young members and grew rapidly as teenagers from neighboring towns joined. The members corresponded and traded insects with a few teenage entomologists from other areas of the country. They also exchanged names and addresses of teenagers who had similar interests.

So many young 4-H'ers joined the club that it became difficult to keep in touch. Thus, we agreed that we needed some sort of regular newsletter to keep each of us up to date.

With this in mind, the Seeleys approached Prof. Warren T. Johnson at Cornell, who is responsible for the New York State Cooperative Extension 4-H Entomology Program. A short time later, our first *TIEG Newsletter* went to press. That first issue, which was four pages long, came out in the spring of 1965. TIEG was born.

Editor's Note: The author is the current editor-in-chief of the quarterly TIEG Newsletter.



TIEG's insignia is an adaptation of the four leaf clover used by 4-H clubs across the nation.

From then on our membership has almost doubled every year. We have set up exhibits displaying our work at county and state fairs. In 1968, we sent an exhibit to Europe and countries behind the Iron Curtain.

"Teenage" entomologists is something of a misnomer, as the Group also attracts very young collectors, who have just begun their study of insects, and professional entomologists. These professional entomologists and other adult members are classified as "Interested Adults." They lend a helping hand and provide encouragement for the younger members, as well as advise those interested in pursuing entomology as a career.

Part of the Group's uniqueness comes from its organization. Professor Johnson now acts as TIEG's advisor. There are regional editors in different areas of the world who gather news items from their local members. This information is compiled and sent to the editor-in-chief for inclusion in the *TIEG Newsletter*.

The *Newsletter* now averages about 40 pages per issue and acts as a focal point for member's activities for capture, rearing and the preservation of specimens, and recent developments in entomological research are written by the teenage members. The *Newsletter* also has sections for news about members' entomology projects and awards they may have received.

Since TIEG is financially supported by Cornell University and several professional entomological societies, many of the articles emphasize methods of teaching entomology to young people. This makes the *Newsletter* an invaluable tool in 4-H entomology clubs. Bibliographies of reference books, diagrams of easily constructed equipment, and identification keys are published to help the beginners. Leaflets describing injurious insects and their control are often sent along with the *Newsletter*. These descriptions of newly introduced insect pests offer the young entomologists a chance to do a valuable service by detecting harmful insects.



Traveling displays such as this are sent to county and state fairs throughout the country. In 1968, the group sent an exhibit to Europe and countries behind the Iron Curtain.

Apart from the discussion of the injurious nature of some insects, TIEG members also recognize the need for insect conservation. Interest in this area has been particularly great in England, where a number of native species of butterflies are in danger of extinction. Preservation of the unique habitats for some insects, especially near larger cities, is concerning American students as well.

One of the most valuable functions the organization serves is to provide the opportunity for communication between collectors. A revised list of members is sent out annually stating each member's particular entomological interests. A section of the *Newsletter* is devoted to exchange notices for specimens and information. Reliable dealers are allowed to advertise equipment and exotic specimens.

Recent projects of TIEG have included a writing contest. Several dealers donated exotic insect specimens for prizes. The summer '71 issue of *Newsletter* was devoted to plant-insect relationships, and the fall issue was prepared solely by our British members. Many members rear insects and have provided living material for researchers all over the world. One member recently supplied several hundred silk moth pupae for critical research into insect pathogens undertaken by the Squibb Company. Others have collected fireflies for the National Space Administration for outer-atmosphere studies. This summer, we will be sending exhibits to several states; Ottawa, Canada and Canberra, Australia for the 14th International Congress of Entomology.

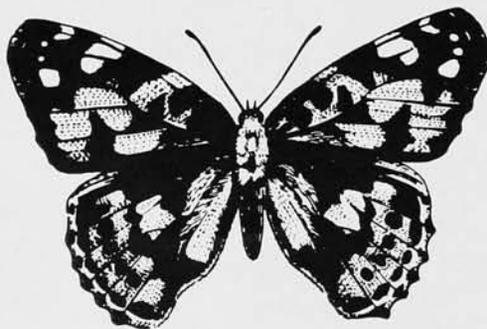
Quite a few members have banded Monarch butterflies to help entomologists at Scarborough College in Toronto, Canada, study the migration paths and habits of this insect. One member discovered a moth in New York

State which previously had not been known to exist in the U.S. Many TIEG'ers have won college scholarships for their entomology projects. Four national 4-H entomology project winners are Cornell students. A few members have paid for their college expenses by selling insect livestock or specimens.

This summer, two TIEG members, one from Japan, the other from England, will be travelling to the U.S. to live with TIEG members and learn about our insect fauna here. We hope to expand our student exchange program in the future.

TIEG, like the insects its members study, knows no geographic boundaries. This is perhaps the Group's greatest asset. A quotation in the *British Amateur Entomology Journal* summed up the organization by saying:

"It is our opinion that societies of this nature besides widening the outlook of their members beyond their parochial borders, will do more towards world peace than all the party politicians in the world, by inspiring personal friendships, which by their common interest, will outlast many years and survive strains which would disrupt mere treaty friendships."



Foods, Facts and Fads

by SUSAN CARPENTER '73

It's like a game of "20 Questions." What does the consumer want? What does he need? Why and how are foods fortified? Which is better, inorganic or organic gardening?

A new course in the College of Agriculture and Life Sciences, Food Science 150, is trying to provide the answers to these questions, and others like them. The course is aptly titled "Food Facts and Fads."

In the first session, Prof. David Call of the Graduate School of Nutrition, attempted to summarize what the consumer wanted, at least in the viewpoint of the economist. According to Professor Call, the economist assumes that when there are alternatives available in the marketplace, the consumer will choose what she wants.

And, what the consumer apparently wants now are convenience foods, foods with a "bigger bundle of services wrapped around them." Many of the "new" products introduced today are nothing more than old products with new services, Professor Call says. For example, a consumer a few years ago bought raw potatoes and mashed her own. Now she buys dehydrated potatoes and adds water.

Competition among new products in the supermarket actually works in favor of the consumer, according to Call. Each new product must prove that it can hold its own in the market tests.

One complaint about the supermarket system is the high prices. Professor Call believes that people think food is much more expensive because it is almost the only commodity left that the consumer pays for with cash. This cuts into their "pocket dollars" and makes them more conscious of increases in cost.

Simply stated, what the consumer needs is a continuing supply of nutrients to maintain his body's structure and function, according to Professor Marjorie Devine

of the College of Human Ecology.

The problem is actually much more complicated because the food must be acceptable to the consumer from a cultural standpoint. Certain groups find some foods delectable; others find the same thing unpalatable. In addition, the amount of nutrients needed varies with the stage of the life cycle, the amount of exercise and the amount of stress.

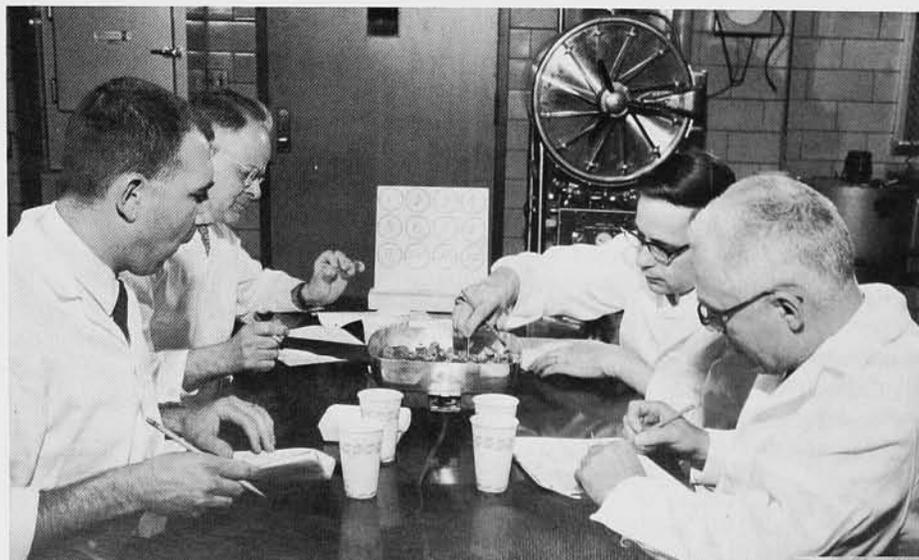
What the consumer wants now are convenience foods . . . 'with a bigger bundle of services wrapped around them.'

Professor Devine says that the primary need of today's consumer is knowledge of his nutritive needs and of the nutritive value of the supply so that he can make rational choices to avoid both deficiencies and excesses. Where educating the consumer used to be fairly simple: "Eat 'x' portions of the Basic 4 daily," the problem has been complicated by the introduction of simulated foods. Natural orange juice and prepared orange drink do not have the same amount of nutrients.

Another area of concern to Professor Devine is receiving too much of any one nutrient. In her opinion, manufacturers "may go overboard in fortifying foods."

Richard H. Barnes, dean of the Graduate School of Nutrition, explained the government's stand of food fortification.

He made the distinction between malnutrition, which is obvious because it leads to diseases such as rickets, pellagra, or scurvy; and poor nutrition, which is more long-range and difficult to assess. According to Dean



Taste panels rate new products in direct comparison to old varieties before the new foods reach the consumer.

Barnes, food fortification alleviates many of the problems of poor nutrition in the country.

One of the major problems with food fortification is that industry must rely on traditional foods to serve as carriers for the extra shot of nutrients. The consumer will not buy fortified foods if they are altered in taste or consistency. Therefore, one of the easiest ways is to add the nutrients to products made from cereal grains such as wheat, rice or corn. People consume 26 percent of their daily calories in the form of cereal grains. This figure has been fairly constant over the years, and does not seem to be influenced by economic levels. Different geographic areas may favor one type over another, however.

An area that is just beginning to come under scrutiny is prepared foods. The United States Department of Agriculture feels that these foods should be comparable in calories and nutrients to what they would contain if the consumer prepared them entirely in her own kitchen.

Professor William Kelly of the Department of Vegetable Crops traces the development of modern fertilizers to horses, or rather, the lack of horses to provide organic fertilizer in the form of manure.

When chemical fertilizers were first introduced, people thought that they would actually improve the nutritive value of the food grown in the treated soil. Professor Kelly said that the fertilizers did not live up to this expectation.



Uniform height is one of the characteristics which scientists try to breed into plants, like the corn above, to make mechanical harvesting easier.

For example, growing tomatoes in inorganically fertilized soil may increase the leaf size. This shades the fruit, lowering the temperature, which, in turn, causes an increase in the amount of the chemical lycopene in the tomato. The lycopene imparts a red color to the tomato and the consumer usually buys the redder tomato, assuming that color is a good indication of quality. Actually, the nutritious ingredient in the fruit is beta-carotene, and the amount does not vary with temperature.

The big difference between organically grown foods and those grown with chemical fertilizers is freshness, according to Professor Kelly. Organic gardens are usually small operations, so food from the garden is consumed within hours of harvesting, before the nutrients have a chance to be depleted.

Convenience foods should be comparable in calories and nutrients to those which the consumer prepares entirely in her own kitchen.

Commercial gardens are more apt to be fertilized with inorganic material, but they are also bigger and farther, literally, from the table. By the time the consumer buys them, their nutritive value may be decreased.

In spite of the old gardener's complaint that the new variety of butternut squash is tasteless in comparison to the old variety, Professor Henry Munger of the Department of Plant Breeding says that most of the new varieties are improvements over the old.

According to him, people may think the old ones were better because they are making a comparison by memory, rather than directly; the individual's tastes may change as he grows older; the vegetable may not be harvested at the right time, or it may be grown out-of-season.

Although many people assume that increasing the yield of a crop, such as rice, leads to poorer quality, Professor Munger says that there is no correlation. Some of the new varieties may need different growing or cooking methods.

Ideally, those selecting new strains should try to improve the nutritional quality of the plant, said Professor Munger, but this has proven to be difficult. A new type of corn, such as Opaque 2, may double the amount of protein, but divide the yield in half. In addition, the more nutritious varieties are difficult for the consumer to identify in the market so they fail their marketing test.

It's not really "20 Questions" because there are only 14 lectures, but Food Science 150 is trying to present answers to the problems that bother the consumer the most.

COUNTRYMAN CAPSULES

Morton Adams, '33, of Rochester was reelected president of the New York State Agricultural Society.

President of Curtice-Burns in Rochester, he has served on the Cornell University Board of Trustees since 1965. The university charter calls for the president of the society to sit on the board as an ex officio member.

John A. Mott, '37, has recently been promoted from Agricultural Demonstrations to acting director of the Department of Historic Agriculture at Old Sturbridge Village in Massachusetts, a restored New England village of the first half of the 19th century. Freeman farm, a part of the newly formed association of Natural Historic Farms, operates as a living New England farm in costume and techniques of this period in agricultural history.

Jerome H. (Brud) Holland, '39, the United States Ambassador to Sweden, was presented the Theodore Roosevelt Award by the National Collegiate Athletic Association (NCAA).

The primary requirement for the

award is earning a collegiate letter as an undergraduate. Holland received his letter in football; he was named an All-American end in 1938 and 1939 and has been inducted into the National Football Hall of Fame.

In addition recipients of the award are chosen as outstanding Americans "for whom competitive athletics in college and attention to physical well-being thereafter have been important factors in a distinguished career of national significance and achievement."

The former president of Hampton Institute and Delaware State College is a member of Cornell's Board of Trustees.

Harry A. Kerr, '42, soil conservationist in the Department of Agronomy at Cornell has been named professor emeritus by the Board of Trustees. During 1970 he was an executive director of the State Commission on the Environmental Impact of Major Public Utility Facilities and had previously served as the director of staff of the committee on agriculture and conservation during

the constitutional convention in 1967. Kerr retired on Nov. 17 after 25 years on the college staff.

Wayne M. Pulver, '66, has recently been appointed an officer for the First National City Bank in Panama, where he is working in the newly organized Mortgage and Real Estate department, and handling "agribusiness" accounts.

Rolf Jesinger, '65, is in charge of Agricultural Development for Rohm and Haas Company in the Asian areas from Afghanistan to Vietnam to Indonesia. He resides in the garden city of the east, Singapore.

Bruce L. Anderson, '68, now a graduate student at Purdue University, has been awarded a Fulbright scholarship to do independent research on co-ops in Sweden.

While at Cornell, Anderson was an undergraduate exchange student in 1966-67 at the Agriculture College of Sweden at Ultuna.

Min-Ecology Hints

Ecology minded students and staff at Cornell University have issued some guidelines which, they say, will not only help improve the ecology of the University offices but, in some cases, will save money as well.

The Division of Campus Life Recycling Committee suggests that you:

- Take a glass cup to the coffee pot rather than a paper or plastic one.
- Use and purchase only white paper since colored paper is not easily recyclable.

- Print or reproduce on both sides of a piece of paper.
 - Use the good side of waste mimeo paper and old letters for rough drafts or scratch paper.
 - Don't send one paragraph memos on whole sheets of paper. Mimeo or reproduce several on a sheet and cut.
 - Use recycled paper when possible.
- "These are small matters when considered individually," a memo to department heads said, "but the cumulative effect can be significant."

Bruce T. Wilkins, '67, a member of Cornell University's Department of Natural Resources, has been appointed program leader of New York's Sea Grant Advisory Service Program. This facet of the Sea Grant Program will focus on translating knowledge of the State's marine resources into useful action for the people of New York, with emphasis on marine resource management and on the recreational aspects of resource use.

Gary Nelson, '68, is presently training in Washington D.C. for a position as assistant area development advisor (AID) in Vietnam. He will leave for Vietnam in May.

Dr. Eric J. Trotter, resident in surgery at the Small Animal Clinic of the New York State Veterinary College at Cornell University, has been awarded the first ALPO Research Fellowship by Allen Products Company, manufacturer of pet foods.

The award amounts to \$10,000 per year to be used for the advanced training of a doctor of veterinary medicine in small animal medicine, surgery or other specialty, and the advancement of knowledge in that field.

Dr. Trotter, who is engaged in a 2-year program in canine surgery, will be awarded the master of science degree in small animal surgery

at the completion of his residency. He will devote half time to research involving a modification of dorsal laminectomy in the dog. A laminectomy is a technique in spinal surgery for the exposure and decompression of the spinal cord.

Dr. Trotter is a son of Mr. and Mrs. Sherman, 246 Highview Ave., Elmhurst, Illinois. He lives in Etna, N. Y., with his wife, Marilyn, and daughters Amy and Katie.

A Cornell plant scientist, **Prof. Louis J. Edgerton**, has completed four years of study on a plant growth regulant called ethephon.

The chemical, which may be cleared for limited use on cherries and apples for processing this year, makes the fruit easier to detach from the tree and speeds up mechanical harvesting.

Prof. Olaf F. Larson has been appointed director of the newly established Northeast Regional Center for Rural Development at the Cornell University Agricultural Experiment Station. Larson, a professor of rural sociology at Cornell, is a specialist in community development and farm labor. He explained that although the Center is located at Cornell, the program is intended to serve the agricultural experiment stations and the Cooperative Extension activities at land grant institu-

tions in the 12 northeastern states. The principal purpose of the Center is to bring together people who cross departmental, discipline, college, university, state and agency lines to focus on research and extension problems of rural development, including human resources. The program is also designed to train graduate students and professional workers whose principal interest is rural development.

New Corn Varieties

Cornell University researchers have discovered a number of promising corn varieties that show natural resistance to crop-killing freezes and frosts.

The discovery, made after several years of work under laboratory and field conditions at Cornell and in Mexico, raises the possibility of cold-resistant corn.

Not ready for field trials around the world, the Cornell researchers will test their selections this year in New York State and seven foreign countries—Colombia, Ecuador, Peru, Mexico, Kenya, Nepal, and New Zealand.

The international test program, supported by the Rockefeller Foundation with a series of grants totaling \$44,000, is directed by Prof. Clarence O. Grogan, corn specialist at the New York State College of Agriculture and Life Sciences.

College Gets \$20,000 Grant

The Farm Credit Bank of Springfield, Mass., has presented a \$20,000 grant to the College of Agriculture and Life Sciences to establish a Farm Credit Study Program.

The program is to be developed over a three-year period by the college's Department of Agricultural Economics. It will provide an opportunity for students with an interest in farm management and finance a better understanding of the agricultural credit and finance system. This grant fits into the

innovative instruction area identified as a major objective of the College of Agriculture and Life Sciences Fund.

Two New 'Friends'

In other Ag Fund highlights two founder members have joined the list of friends.

Aaron M. Nadler, '17, Brooklyn, N.Y.
George W. Perkins, Millbrook, N.Y.

COUNTRYMAN SALUTES

U.S. Agricultural Publications



The *Cornell Countryman* this month salutes the nation's agricultural publications, which played a vital role in the growth of modern agriculture.

Our special congratulations go to the *American Agriculturist*, which celebrates its 130th anniversary this month.

The *Agriculturist* is typical of many early farm journals and agricultural magazines. When it launched its first issue in 1842, it faced an uncertain future. National commitment to agricul-

ture was yet to come; modern technology was yet to be born.

That and other journals devoted to farming should be justly proud. The last 100 years saw a veritable revolution in farming, bringing unparalleled prosperity and a new way of life in America. What the farm journals have accomplished, as friends and mentors to the American farmer, cannot be overestimated.

They are to be congratulated for a job well done.

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NO. 7



The New Ag Student



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MAY 18 1972

COVER: Design by Todd Duncan. The photo sequence on the cover shows the changing face of Ag students. The bottom photo is of a group of students who won an award in Washington in 1913. Ag students in 1960 are shown in a Roberts Hall classroom in the middle photo. The top photo shows the latest generation of Ag students.

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CREDITS

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Who Is New Ag Student?

by SUSAN CARPENTER '73

Robert Fallon, '73, is majoring in ecology, evolution, and systemics. After graduation, he would like to enter the Peace Corps and eventually attend graduate school. He is from Mamaroneck and has never had farm experience.

A dairy science major, Roger Fanton, '74, was raised on a farm near Belmont, a small town in Allegany County. He plans to return to farming after graduation.

An interest in preserving wildlife spurred Douglas Wells, '75, to become a natural resources major. He lives on a farm outside Canandaigua.

June Albrecht, '73, would like to become a veterinarian, so is majoring in animal science. She is a native of Camden, and completed her farm practice requirement on a dairy farm.

Which of these is the "typical" student in the New York State College of Agriculture and Life Sciences, Cornell University? Do any of them represent a "new" ag student?

Perhaps no one is more qualified to answer these questions than Prof. Leonard Feddema, director of admissions. He concedes that there has been a change in the type of person coming to Cornell, but he couldn't characterize any particular person as representing a "new breed."

"What we are seeing now is kids, bright, dedicated kids who are interested in social concerns such as ecology. They are looking more towards making a contribution to society than to filling any particular job."

Reaching for the stack of admission folders that filled most of the available space in his office, Professor Feddema pulled off the top five.

"...wants to be pre-med. Last summer he had a National Science Foundation grant to study ecology.

"...interested in marine biology. Students choose



Ag students today look more like those pictured above than like the farmer and his wife portrayed in Grant Wood's "American Gothic."

this field because they feel that we will soon be harvesting the sea.

"... another pre-med.

"This one wants to be a landscape architect.

"Here we have a prospective wildlife management major. She's the daughter of a Long Island dentist. Ten years ago, she would probably have selected a liberal arts college. Both the parents and the youngsters are now aware that contributions and employment are available in the field of natural resources."

Professor Feddema also sees the beginning of a trend from the city back to the farm. "Someone has said, 'Agriculture is becoming more acceptable at the rate of two percent per year,' and we're seeing that now.

"About four years ago we began to notice that more and more students from cities were choosing agriculture-related fields. It looks as though they are trying to find some way of existing without going back to the city. There is a feeling in our country now that the land assures survival, and these kids are trying to be closer to the land. They are concerned about their own welfare, and that of their neighbors."

Professor Feddema admits that there are fewer students with farm backgrounds, but he really doesn't see this as significant because it correlates with the declining number of farms.

Many farm-raised students choose other fields initially, but return to farming. "I can think of three students right now," Feddema said, "that were raised on farms and received music scholarships at major music schools. They all returned to farming. One said, 'I don't like the idea of practicing 12 hours a day; I can get the same solitude on the farm.'"

Feddema finds the idea of solitude is important as well to the novice who enters the field. He sees it as a chance to be alone, and near the soil.

More and more of the students in the college are girls. Feddema says that they have increasing numbers of girls in all majors, including general agriculture. The tally of students admitted for the next year shows equal numbers of boys and girls admitted for pre-vet.

The college is also accepting many more transfer students, both from other four-year schools and from two-year colleges. "We look at the transfer student as a stabilizing force within the school. Our freshmen have stars in their eyes and are searching for goals whereas the transfer student comes to us with a clearly identifiable goal," Feddema said.

Enrollment in many of the courses the college offers is being swollen with students from other colleges and schools within the university. Engineers are taking conservation courses to add another dimension to their professional studies. Students from the Arts College are also appearing in conservation and ecology courses. "With the current emphasis on ecology, many of these students want to make sure that they have some background in this field," Feddema said.

Biological Sciences 107-108 is designed for the student who does not plan to major in biology. Feddema says that the class is attracting seniors from the Arts College who are trying to fulfill their science requirement. "They must be interested in some sort of contact with the science because you don't take any biology course if you're looking for something easy," Feddema said.

With the changing ideas of the students, the departments themselves cannot remain unaffected. For example, the enrollment in the Department of Communication Arts has risen considerably in the past few years.

"Students are beginning to realize how important it

Job Prospects for New Ag Student

Allen W. Perry, placement counselor in the College of Agriculture and Life Sciences, believes that the class of 1972 may have a better chance in the job market than last year's graduates.

"There is still a job shortage," Perry said, "but there seems to be a few more jobs available than last year."

He explained that it is still too early to predict the outcome of this spring's job interviews. This year, according to Perry, there were 28 firms which conducted interviews on campus as opposed to only 22 last year.

"Students," said Perry, "are taking a more active role in trying to find jobs. The list for interviews was filled up this year and we had anywhere from three to 12 people on the waiting lists for every company."

Those companies recruiting most vigorously are the agri-business concerns, such as Agway, said Perry.

The class of 1971 began to search for jobs last year just as the nation's economy really started to look bad.

According to a report on the class, compiled by Howard S. Tyler, professor emeritus of the Office of Resident Instruction, the starting salaries of male graduates last year averaged about \$300 less than the starting salaries of the class of 1970. Too few salaries were reported by woman graduates to be analyzed, the report said.

The placement office handles job requests for graduating seniors and for alumni who wish to use the service. Perry said that nearly 200 students had requested job interviews this year.

"This represents about one-third of this year's senior class," Perry commented. He explained that approximately one-third of the students go on to graduate school and another third either find jobs on their own, go into military service, or are undecided in their plans.

"There's no doubt that jobs are hard to come by, but the situation has eased since last year," Perry said. "Students are beginning to realize that the employers are not going to come looking for them anymore; this labor market is a buyer's market." The initiative is now on the student to sell himself to his future boss, Perry said.

Graduates with a bachelors degree in biological science, according to Perry, are faring badly. "This is a real tough one," he commented, "but luckily this is one of the larger groups that go on to graduate work."

Perry said he didn't know for certain if so many go to graduate school because of the poor job situation, but, "I rather think so," he added.

With the buyer's market in jobs, the average person's first thought is that the graduate with the poor or average grade point average is out of the running. "Not at all," Perry countered. "The main thing employers look for is a good background of work experience and a reasonably good academic record. Grades are not always the prime prerequisite. In fact, some employers might look warily at the graduate with a phenominally high GPA and no work experience."

is to express themselves clearly, so they choose communication. I think they decide to come to Cornell rather than a journalism school such as Syracuse University because they feel that the students here are different. Students with training in physical, biological and social sciences are prepared to write on a variety of subjects as professionals," Professor Feddema said.

Biology continues to be a popular field with more than 200 prospective freshmen choosing that as their major. Above the freshman level, however, students transfer into more applied fields of biology as they relate to agriculture.

Another area that loses students to more specialized fields is general agriculture. Feddema says that initially students aren't aware of the variety of possible majors. Others enter different areas because of job opportunities.

The Department of Agricultural Economics is one of the largest in the college, and it's holding its own, despite the fact that it is more job-oriented than idealistic

freshmen say they want. A large number of students who receive their degree from the department have "migrated" in from both other departments and other colleges. Feddema said that a large number of engineers transfer into the agricultural economics department because there is a feeling of common background with business-oriented people.

Engineers interested in water pollution and waste management are choosing the Department of Agricultural Engineering even, in many cases, over the College of Engineering. For this reason, enrollment in the department is increasing.

The change in today's ag student is merely a reflection of the increasing importance of agricultural-related subjects during the past few years. As ecological problems, the feeding of the world's population, and biological research become more of a concern to the world, it is only natural that students of many different types turn their attention to them.

No Waste at Ecology House

by ROBERT H. EPSTEIN '73

Each student uses four waste baskets. Multiplying this by the number of residents in the Ecology House means that the former Residential Club has more than 400 trash receptacles.

In a typical room at the Ecology House, you would find separate pails for white paper; clear and colored glass; aluminum and leftovers. Far from finding the number of garbage cans bothersome, the students discovered that it saves them a lot of time later on in the recycling process.

The trash, "recyclable material" in the jargon of Ecology House, is taken to the back of the building, a swarm of activity. Some students were taking the metal rings off bottles; the faculty advisor, Prof. Peter Marks, ecology and systematics, was leading a group of students in bottle-smashing with a chant of "Crush that glass!"

In one corner Bonnie Bowen, '72, was separating aluminum cans from the so-called "tin cans," actually bimetal cans. People dump both types together, not realizing the differences. The Ecology House must screen them carefully, though, be-

cause Ithaca does not have the facilities to crush the bimetal cans.

Inside the dorm, a group of eco-minded students were discussing the impact of pollution on weather. It was mid-April and it was snowing.

Marcia Cohen, '72, said that these donut and coffee hours were only one way that students get together. Marcia has run Sunday spaghetti meals also, a good dinner that saves on waste and money too. Students also meet during the biology and society sections conducted by Professor Marks and Peter Uthro.

Another successful project of the Ecology House was winning University Senate seats for four students running on the ecology ticket. They are Curt Brill, '73; Morris Diamant, '73; Bill Lewek, '73; and Jerry Neuwirth, '73.

The coed residential college attracts a wide range of people. Cindy Engst, '74, majors in general agriculture; Gregg Bidlack, '73, is a student in the Hotel School; Steve Temple, '73, is an astrophysics major in the College of Engineering and Betsey Cole, '73, is a design student in the College of Human Ecology.

Diverse as the backgrounds of the Ecology House residents are, they are sharing a dorm in the hopes of teaching others to share a world.



Behind Ecology House stand the many containers that ensure proper distribution of recyclable bottles and cans.



The shaded part above indicates the proportion (about one-third) of transfer students now enrolled in the College of Agriculture and Life Sciences.

Ag Transfers Increasing

by JIM McRAE '71

One-third of the College of Agriculture and Life Sciences' incoming students last year were not freshmen. Three hundred and two matriculating students were transfers from other schools. Almost one-third of the student's population in the college at this moment has come to Cornell by way of the transfer program.

These may be staggering facts especially for those who have not been connected with the university in the past ten years. In that time ag transfers have increased over ten fold. Under the guidance of Dr. Leonard W. Feddema, director of admissions, the college has increased ag transfer matriculation from 32 in 1963 to an expected 330 this year.

The increase is all part of a master plan devised by the university in conjunction with the State University of New York. The purpose of the plan is to provide more places in the state-system-four-year colleges for graduates of two-year ag and tech schools and community colleges.

"The two-year college is a national trend," Grodon L. Peck, associate director of admissions, said. "In California 90 per cent of the students entering colleges enter two-year schools. In New York 54 per cent of those entering college enter two-year schools."

This trend has caused a real demand for transfer spots in four-year schools. Last year the college had on file 530 transfer applications and matriculated only 302 students. This year 680 applications are on file as of this date with the college expecting to matriculate approximately 330. Already the number of applications far exceeds the projected total matriculation for 1980. According to Peck, "The scheduled goal for 1980 is 410 transfer students and 558 freshmen."

With only so many places available in the college,

the increasing number of transfers taken has intensified competition at the freshmen level. "The competition for those wanting freshmen admission to the college is increasing," Peck said. "In the past two years freshmen applications (to the college) have increased 30 per cent each year.

Thirty-nine per cent of the ag transfers taken last year, or 131 students, came from two-year ag and tech schools. The three leaders were Morrisville, Farmingdale and Delhi in that order. Because of their previous college experience, incoming ag transfers and especially those from ag and tech schools have a better insight into what can be gained from an agricultural education.

"Students who transfer have interests in more vocational areas. They are picking specialized fields and have a better idea what they want from Cornell," Peck said.

The three areas transfer students go into the most are agricultural economics (especially business), animal science, and natural resources. However, Peck says that there is a much better representation among transfers in such areas as floriculture, vegetable crops, pomology, agronomy, food science, and horticulture than with freshmen.

To get into Cornell an ag transfer should have at least a 2.7 cumulative average although the general cut-off point is 2.5. They should want a program that the college can uniquely offer, and should have some academic or practical experience in their chosen field. For students who have a 3.0 or better, getting into a four-year school in the State University system presents little problem. However, for the C student transfer places are getting harder to come by.

The incoming ag transfer faces perhaps fewer problems than the incoming freshman in adjusting to college

life. On the whole, Peck reports that transfer students do well academically at Cornell.

"Some of the transfers experience an academic shock when they first come to Cornell. Students who had a relatively easy time getting B's at a two-year school find Cornell academically tougher, but after one semester final adjustments are usually made," Peck said.

Another problem the transfer experiences is credit acceptance. "I think we are very generous in accepting transfer credit," Peck said. "We try to communicate well enough with the two-year schools so that they know what we want. The ag and tech schools know, for instance, that we like at least one year of chemistry and biology."

Transfers are urged to visit the college in the spring to preregister and meet their adviser, and in the fall there are some orientation programs available to them.

One of the bright spots in the ag transfer program is the increase of funds available for financial aid. "In the past the only way a transfer student could hope for financial assistance was to be an extremely good student, which meant at least two semesters on the dean's list," Peck said. Now he reports that the situation is improving. The College of Agriculture Fund started by the Alumni Association of the college in 1969 provided seven scholarships to transfer students this year and hopes to increase that number to ten or 12 next year. The college also provided some ten or 12 other scholarships to ag transfers.

No picture is complete without going to both sides of an issue. Perhaps the best way to find out about the ag transfer program is to talk to transfer students. We talked to three and got their opinion of the transfer program.

Doug MacNeil is a junior in general agriculture. He came to Cornell after two and a half years at another state school, the University of Buffalo. He matriculated in January of this year.

Susan Schindler, '73, is majoring in food science. She graduated from Morrisville, a two-year ag and tech school. She came to Cornell in September of 1971.

Janice Hastings is also a junior in the college. Her major is animal science. After graduating from Dutchess Community College, Poughkeepsie, N.Y., she came here in September, 1971.

In talking with these three students certain problem areas became apparent. One was the problem of communication between the college and various two-year schools from which it draws. Also between the college and transfer students who had been accepted.

While the college admits that communication with community colleges around the state is not very substantial, they do maintain fairly close relations with ag and tech schools, especially those the college draws from the most. One such school is Morrisville, which last year provided Cornell with 40 students.

Sue Schindler was aware before she got to Cornell what the basic ag college requirements would be, and she scheduled courses to complete them. However, beyond that point communications broke down. At Morrisville, Sue did not know what her food science requirements would be at Cornell. When she got here she found that the Food Science Department would not accept many of her credits toward her major requirements. She also found that many of the courses she was taking at Cornell repeated much of the same material she had covered at Morrisville.

When they got to Cornell all three students experienced another problem, orientation. Of the three transfer students, Janice found orientation to be most successful. In the fall, transfer students were assigned transfer counselors. Janice's counselor was very active, but she knew of other people who had never been contacted by their counselor. Besides the counselors, the girls knew of only one other orientation event, a transfer picnic. Both girls said that they received much of their orientation from other students who were willing to help. Doug said that in January the only event that he was aware of was a transfer breakfast. He never heard anything about counselors. All three transfers said that they wished more orientation activities had been made available to them.

Academically, the three transfers found the going tougher at Cornell than their previous college experience and experienced something akin to what Gordon Peck described as a "cultural shock."

Janice did the best in overcoming the initial trauma of Cornell. She made the dean's list. She also found Cornell to be the most congenial. She said that she had expected Cornell professors to be impersonal and cold and was surprised by their willingness to help.

Sue on the other hand found the atmosphere cold. She said, "It took me three weeks to find out my professors' names."

On the whole all three found Cornell to be academically much stricter especially with rules and regulations. Doug termed the college as more conservative than what he was used to and said that generally the courses required more work.

Of the three students interviewed only one was seriously disappointed with Cornell. Sue said that looking back she would have just as soon stopped at two years. Janice said that transferring had worked out well for her and she recommends the same course of action to others. If he were to do it all over again, Doug said he would have applied to Cornell right out of high school.

The overall recommendation the three had for those coming into the transfer program was to take the initiative to find out as much as possible about college and major requirements.



"Ithaca after

At five o'clock on Saturday night, the close simultaneously and night life at Co

For the romantic, or the indigent, a suspension bridge may be entertaining.

For the more affluent, there are more ranging from stag flicks to cartoon show

There are also countless bars, whether a noisy booth or wine in an intimate co

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theaters with offerings
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AG FUND

\$1 Million Drive Near Mid-Point

by **STEPHEN L. SCHAEFER '73**

Three years ago, alumni and friends of the College of Agriculture and Life Sciences had a dream of a million dollars. Today that dream is being fulfilled as the College of Agriculture and Life Sciences Fund nears its completion.

The immediate aims of the Fund were outlined by Joseph P. King, '36, general chairman, at the annual Alumni Association meeting on March 27, 1969. The first goal was "to provide scholarships for undergraduate students of proven academic caliber and demonstrated financial need." Secondly, the Fund was designed "to support the college's initiative in establishing innovative instructional programs." The third purpose of the Fund was "to act as the vehicle whereby alumni and other friends of the college may participate in their own way in the future growth and development of the college."

These three objectives have continued to be the guiding forces throughout the course of the Fund. And as of April 1, contributions and pledges have reached \$403,500 or roughly, 40 per cent of the original \$1 million goal. It is hoped that an additional \$100,000 to \$200,000 can be raised by the end of August when the drive officially ends.

One important aspect of the Fund has been the "Friends" program. Upon the suggestion of Myron M. Fuerst, '29, special gifts chairman, a program was developed to recognize the major contributors to the Fund. These individuals and organizations have become members of the Friends of the New York State College of Agriculture and Life Sciences. Gifts of \$5,000 or above qualify the contributor as a founder member, while persons giving gifts of \$3,000 to \$5,000 are recognized as charter members. Founder members of the "Friends" program are M. P. Catherwood, '32, the H. M. Cohn

Foundation of Rochester, John S. Dyson, '65, Myron M. Fuerst, '29, Aaron M. Nadler, '17, George W. Perkins, William T. Smith, '38, and John Sullivan, '62. Charter members are Morton Adams, '33, Roscoe C. Edlund, '09, William Fuerst, '39, Harold J. Humphrey, '17, and Robert D. Ladd, '43. Many other alumni have made generous contributions to the Fund, and these gifts serve as a strong financial base for the college's future.

Many of the contributions to the Fund have already been utilized, with part of the income awarded as scholarships last fall. Perhaps the most direct financial benefit has been to transfer students. The college has always sought to help transfer students, and under H. L. Everett, director of resident instruction, and L. F. Feddema, director of admissions, the number of transfer students has steadily increased. In fact, 40 per cent of the entering class in September 1971, was composed of transfers. Over two-thirds of these students come from agricultural and technical colleges, and community colleges where they have proven their academic capability. However, many need financial aid to continue their education at Cornell. So last fall the first scholarships from the Fund were awarded to six deserving transfer students. The recipients were Dan G. Bailey, agricultural economics; Russel D. Biss, wildlife biology; Robert Butcher Jr., food science; Thomas Maloney, extension; John J. Pfister, food science and Raymond Wilson, pre-vet. These awards are only the beginning of a continuing scholarship program from the Fund's resources.

Innovative instructional programs in the college will also receive financial support from the Fund. Such current instruction includes "on the scene learning" for students on field trips to various regions across the nation. Instruction in marine ecology off the New England Coast, in tropical agriculture in Puerto Rico, and in regional agronomy in Colorado are all part of the college's new programs in learning. These programs have greatly aided the students in their understanding of agricultural topics and have served as an important means to practical experience. The contributions to the Fund will allow these projects to expand even further as well as help institute new programs currently being planned.

The major fund raising effort of the College of Agriculture and Life Sciences Fund will be finished in only three months. But its accomplishments will long be remembered as the college continues to develop its programs for the future.

'Multicat': New Concept In Animal Care

by EARL AINSWORTH '73

Multicat. Although it sounds like a code name from a science fiction novel, it is actually the nickname for the Multicategorical and Laboratory Animal Research Wing now being constructed at the New York State Veterinary College, under the direction of the state construction fund.

Dr. Alan J. Grout, director of Laboratory Animal Standards at the college and the man largely responsible for the project, calls Multicat "the most sophisticated armamentarium of any institution in the world, capable of attacking any animal disease problem in the world." Included in the arsenal of Multicat will be four electron microscopes, five intensive care units, five surgical suites and other ultra-sophisticated equipment.

In assessing the need for Multicat, Dr. Grout is quick to point out some surprising facts. "In the last decade," he explains, "our faculty and staff have increased by more than 300 per cent; our student enrollment, research programs and budget have likewise increased. Yet our physical space has, for all intents and purposes, remained the same. In broad terms, Multicat is an aggregate of the needed sophisticated facilities necessary to enhance our ability to control animal disease and further our knowledge of these diseases."

The key word when talking about animal research is "space" and Multicat provides that. Dr. Grout says that many research projects never materialize because scientific investigators don't have a full complement of equipment — and no place to install it if it were available.

"In order for this institution to recruit scientists of extremely high caliber, we have to offer certain things in addition to salary. We have to provide space and facilities. Multicat enables us to do this," Dr. Grout said. He further points out that "We are the only veterinary college in New York State and there are none in England, so the Northeast relies heavily on Cornell."

Seven of the existing eight departments in the college will have space in the complex in addition to the college administration. The nature of the work that will be undertaken when Multicat is in full operation taxes the mind and imagination of the non-scientist. The varied



'Multicat' is a product of the rapid growth that has taken place in Cornell's Vet College over the past decade.

fields of research span the gamut of biological sciences. Everything from radiation biology to epidemiology to organ transplants will take place in the most controlled environment possible at this time.

In addition to the research that currently complements the Veterinary College's teaching and extension, totally new research will be initiated. One of these projects will be gnoto-biotic studies made with germ-free animals and requiring sophisticated equipment and procedures. Surgical and immunochemical technique never before possible will be performed in Multicat.

A new concept that will be employed is the one of "clean - dirty corridors." "Before entering the animal facility," Dr. Grout explains, "you must take off your street clothes, go through a shower, and put on animal facility clothes. Then you can go into the clean corridor. From there you have an option of going into animal rooms, special purpose rooms, or surgery suites. Once you enter the animal room, you must go through the entire shower routine again before re-entering the clean corridor. The process minimizes cross-contamination and other stresses."

"We are not operating in a vacuum here," Dr. Grout emphasizes. "Work carried on in Multicat will be concerted with work being done in other departments within the university and with other universities."

Multicat has been a long time coming to Cornell. To many of those involved it was a dream long before the glass and brick tower started taking form on the eastern end of Tower Road. Now Multicat, and the advanced techniques it makes possible, are becoming reality.

Businessman Finds Peace In Country

by SCOTT HALLABRIN '72

Late one spring afternoon near the end of my senior year in high school my father returned home from work in an unusually good mood. Apparently, he had just discussed the purchase of a farm with a real estate man and had revived a lifelong dream to relive the summer days of his youth. "Just imagine," he would say to all of us, as his eyes glossed over and his mind slipped backwards 40 years, "we can drive a tractor across the fields, ride horses, even dam up the creek and build a swimming hole..." Thoroughly suburban and not used to such outdoor adventure, the rest of the family, including myself, was highly skeptical of the amount of enjoyment owning a farm could actually produce. However, as time went by, the number of family skeptics became less and less.

My father, of course, was undaunted and he completed the purchase of the farm with eagerness. He viewed the farm as an expensive toy to be used for weekend visits to the country, gatherings on holidays, and a means to augment his businessman's salary. So, he purchased all 187 acres of it at a site near Hillsboro, Ohio, (population 5,474) which was about 70 miles southeast of our home in Dayton. It lay in the rolling hills of south-central Ohio on land that was approximately one-half woodland and one-half cropland. On it also was a barn and a five-room farmhouse complete with a chicken coop and an outhouse. Peach trees grew near the house and a small creek ran through the woods on the southern extreme of the property.

Foremost among the family skeptics was my mother. Unlike my father, who, as mentioned, spent much of his youth on a farm, she was born and raised in Pittsburgh and developed a natural aversion to insects, weeds, and outhouses. My father's goal then, was to create an attractive place for her to visit; a "home away from home," if you like. Given this context, his first project was the removal of the outhouse and the installation of a plumbing system throughout the farmhouse. Enlisting the help of our hometown neighbors Kurt Hinsch and Bob Bennett, he raised the outhouse (a job which they allowed him the pleasure of doing alone) and installed a flush toilet, a shower, and running water. Then, after developing a spring and constructing a leeching system,



they all built a fireplace, paneled the walls, tiled the floors, put in kitchen cabinets, and ran more electricity into the house. To touch it all off, my father then proceeded to lasso the house's chimney and pike to its top in order to install a television antenna. After these improvements, the conveniences of the five-room farmhouse surpassed some of those of the various houses in which our family had lived since my younger days. My mother was completely disarmed; now she had no rational arguments to resist an invitation to visit the farm. So, we packed up a picnic lunch and traveled to Hillsboro to have a look at what had become my father's and his friends' major preoccupation.

From that time onward, my father was convinced that his entire family had finally accepted the farm, so he decided to invest in it further. At the time, 12 acres of corn and one-half acre of tobacco was growing on the property and would soon need attention. Also, further available cropland was in need of proper development and small roads had to be created for property surveillance. Shortly thereafter, a jeep, a tractor (with various mowing attachments), a two-point plow, and a cultivator appeared on the scene along with 12 head of cattle and seven miles of fence to contain them. Much to my chagrin, all of us were now apparently full-fledged farmers. Though my father and his companions seemed to thrive on farmwork, additional help was sometimes needed and that's when the rest of the family was required to help. The first of these instances arose when the corn became ripe and needed to be picked. My mind still can picture the sight of the Hinsches, the Hallabrin's, and the Bennetts hand-picking corn and loading it into baskets on the back of our jeep.

Gradually, my attitude toward the farm changed, though it wasn't because of the work I was doing there. The farm became a setting for various anecdotes that, in a humorous way, showed the contrasts between rural and urban life. One of the most revealing stories involves that of old Mrs. Schumaker, who owned a general store close to the farm. Through many visits to her store we had all gotten to know her and were probably among her best customers. Mrs. Schumaker showed a hospitality that was rare in the city. For instance, one day a friend of my father's who needed a pair of overalls in which to work at the farm stopped at the store to pick up a pair. Unfortunately, every pair of overalls he tried on seemed to be too long. Undaunted, Mrs. Schumaker grabbed the best-fitting pair, ran over to her house, and returned in ten minutes with the pants appropriately shortened to the man's size. Another time, my father stopped at Schumaker's to buy some ice, but to his disappointment, she sold none. Once again going to her house, Mrs. Schumaker soon returned to the store with two full ice cube trays from her refrigerator. Incidents like these were typical of her behavior. We found all of our country neighbors to be friendly and helpful from Dick Williams, who offered my father a lot of free help in gathering his crops, to local folks we didn't even know who waved to us every time we drove by them.

In contrast to the hospitality and friendliness offered by our country friends was an incident that occurred after my mother and father and three other couples had a get-together at the farm. One couple, Al and Ginny Kunst, left the party early and developed car engine trouble about two miles from the farm. Assuming that the remaining couples would drive by them soon, the Kunsts kindly refused every farmer who came by and offered help. As expected, all three couples did drive past the Kunsts, but not one of them saw or recognized the disabled car and they continued on their way. Finally, the beleaguered urbanites had to rely on the farmers' help and were eternally grateful for it. At 1:00 the following morning Ginny called my parents to tell them what had happened. She said that, except for their friends, the people in every car that passed by offered them help. "In fact," Ginny said, "one of you almost ran me over as I tried to flag you down."

The farm also became a scene of hilarious incidents. As mentioned, the farm had 12 head of cattle, a number that increased to 35 after one year. Home from college and down at the farm for a holiday, I decided to take my girlfriend for a ride in our jeep. In order to reach the road I wanted to take, we had to drive through the field in which the cattle stood and open a gate at the other end. As I pulled the jeep to a stop in front of the gate, my girlfriend got out to open the gate, but soon scrambled back into the jeep when the cattle approached her. Apparently, two of the cattle had horns and looked a little ferocious to her. Also, she explained that she was wearing a red jacket and that she didn't want to

lure them into a charge. After considering her argument a second and noticing the cattle's studied survey of our red jeep, I also decided that the risk of a goring wasn't worth a drive in the jeep. After returning to the farmhouse, my father laughingly informed us that those "bulls" were actually heifers (young females for you non-farmers) and that Herefords (breed of cattle) weren't generally known to charge humans, even if the humans were wearing red.

Other incidents also come to mind. The aforementioned cattle for two months running made weekly escapes through faulty parts of the fence and roamed about the area roads unharmed. My father often received calls from Hillsboro concerning these escapes while engaged in business meetings in Dayton.

There was my brother-in-law's horse that, besides receiving a tremendous thrill from frightening cattle, also escaped regularly and created such a stir that he made Hillsboro radio's "Farm News" every morning. Nor can one forget the time that a lady friend of the family was picking peaches from a ladder and, leaning over too far, fell into the overripe peaches scattered on the ground below, leaving her newly purchased wig snagged in the branches above. And, of course, there are stories about the president of one of Dayton's banks who, like my father, also purchased a farm near Hillsboro. Rumor has it that he can be seen in Hillsboro on weekends wearing farm overalls and hat, but also bedecked in an expensive shirt and \$70 shoes.

After four years of work and play on the farm, I have come to like it mostly for the good times it has given me. The work, of course, is physically demanding but not enough to make one too tired to enjoy himself. Anyway, like it or not, I now know partially what it is to work and live on a farm and I can now understand the value my father saw in it.



Palm's Response to Tribute

Editor's Note: The following are excerpts from a response by Dean Charles E. Palm to a tribute paid him by Morton Adams, '33, at the annual meeting of the Alumni Association of the College of Agriculture and Life Sciences on April 6, 1972.

Members of the Alumni Association and guests: Your kindness in expressing good wishes as I move from the dean's office to that of professor is deeply appreciated. It's difficult to express adequately how one feels when his friends and associates of many years say so many nice things about him! They have been exciting years, filled with pleasure as well as some disappointments. But such is life!

Together we have helped our college continue to grow and serve an ever broader group of people. It's a very special college to me. I think it has the finest Cornell has to offer. Its spirit of service to our students, to the solution of problems through research, and the application of this new knowledge for the benefit of the people of our state, nation, and the world, continues to highlight its mission.

Working with our students, faculty, and staff has provided many rich experiences. We have gone forward together in search of the greater good, and continue in that quest as we move to the future. I am most fortunate in having had support and friendship of many capable and loyal associates. Our new dean has been one of them. I will be delighted to do anything I can to be of help to him as he takes over the administration in early July.

As alumni, you can be justly proud of your college. It stands high within the two great universities of which it is a part, and among the colleges with similar responsibilities in the land-grant and state universities of the nation. It is a rewarding place to



Dean Palm, with Mrs. Palm at his side, accepts a plaque presented by Floyd E. Morter, Jr. '52, President of the Ag Alumni Association.

be, with a capable and dedicated faculty, staff, and student body, with alumni who take pride and work for the future of their college. Many of our new areas of teaching and research touch vitally upon the pulse of our growing and complicated society, with its problems as well as its potentiality for greater leadership for all mankind.

I am honored that Morton Adams would preside over the benediction for my administrative assignment. Mort was among the first to offer me support when I entered as dean in 1959. He worked with the Alumni Association and helped develop a student interest which has continued to grow and grow.

To provide basic knowledge for the solution of problems and the training of graduate and advanced undergraduate students, the Experiment Stations at Geneva and Ithaca join with other faculty research interests to give modern agriculture in the Empire State continuing leadership in all phases of the industry. Cooperative Extension in our college, along with the programs in

Human Ecology, Veterinary Medicine, and Industrial and Labor Relations, deals effectively with the changing problems of rural New York as well as those in suburban and urban areas that are appropriate to our resources.

On the world scene, our faculty and students have turned to agriculture in search of new knowledge and to be of assistance to others where possible. We are truly a cosmopolitan group on campus, still learning and hopeful of being able to contribute effectively to the solution of the problems of our people. Food and fiber in an expanding world population are essential keys to survival.

Students of the future will be grateful to the success of the alumni's College of Agriculture Fund. While many deserve great credit, permit me to thank all of them through Joe King, as chairman, and Myron Fuerst, as chairman of the Special Gifts Committee. This very real support by the alumni is, in itself, a tribute to your faith in the future of your college.

COUNTRYMAN CAPSULES

Wickham to Retire

Effective June 30, 1972, Commissioner Don J. Wickham, '24, and Assistant Commissioner Daniel M. Dalrymple, '28, will retire from the New York State Department of Agriculture and Markets. Commissioner Wickham will be succeeded by another Cornellian, Assemblyman Frank Walkley, '43, Asst. Commissioner Dalrymple will be succeeded by Senator Theodore Day of Interlaken.

Wickham has been a member of the governor's cabinet since 1959 and Gov. Rockefeller spoke of him as a "good and close friend, an outstanding administrator, and a wonderful person who has contributed his expertise, skill, and enthusiasm to my administration for more than 13 years."

Rockefeller also praised Dalrymple for "his knowledge of agriculture, his attention to detail, and his obvious enjoyment of his work" which have contributed to the department.

Walkley, who as an assemblyman has served on the Committee on Agriculture, and will succeed Commissioner Wickham, graduated from Cornell in 1943, with a major in agricultural economics.

Mott Gets Medal

Russell C. Mott, experimentalist in charge of the Plant Conservatory of the Bailey Hortorium at Cornell, recently received the Alice Doscher Horticultural Bronze Medal from the Federated Garden Clubs of New York State. Mr. Mott has been on the staff at Cornell for over 35 years. He is active in research on roses, orchids, gesneroids, aroids, and palms, and has developed artificial soil mixes for foliage and epiphytic plants.

Prof. Meek Dies

Prof. Alexander M. Meek of the Dept. of Animal Science at the College of Agriculture and Life Sciences, Cornell University, died March 16, in Edinburgh, Scotland, following a brief illness. Meek was well-known to the dairy farmers of the state from his work with Cooperative Extension, and helped to organize a three-year research program on mastitis control in Cayuga, Madison, and Onondaga Counties. He was also involved in a cooperative effort with the Miner Agricultural Research Institute at Chazy, N.Y., to

aid dairymen of northern New York.

Meek was a native of Edinburgh, emigrated to Canada, and later entered the U.S. He had been active in cattle rearing and reasearch in all three countries.

Alumni Officers

At the annual meeting of the Alumni Association of the New York State College of Agriculture and Life Sciences on April 6, the following officers were elected:

President: Albert R. Lounsbury, '56, Saratoga Springs, N.Y.

Vice Presidents: Charles H. Riley, '38, DeWitt, N.Y.; Warren M.

Wigsten, '50, Pleasant Valley, N.Y.;

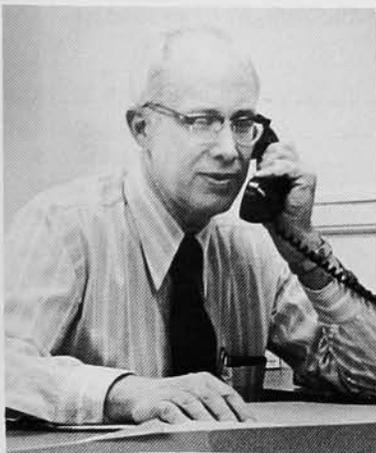
Clifford F. Luders, '38, Elma, N.Y.

Secretary: Richard A. Church, '64, Dryden, N.Y.

Treasurer: George J. Conneman, '52, Ithaca, N.Y.

Executive Committee: Don M. Bay, '55, Macedon, N.Y.; Ralph E. Winsor, '57, Harpursville, N.Y.; Floyd E. Morter Jr., '52, Canton, N.Y.

The date for this year's Alumni Breakfast is scheduled for Saturday morning, June 10.



Kennedy Named New Dean

W. Keith Kennedy, professor of agronomy and vice provost of Cornell, will succeed Charles E. Palm as dean of the College of Agriculture and Life Sciences effective July 1. Kennedy has served as associate dean of the College from 1965 to 1967. He has also been director of research at the Colleges of Agriculture and Home Economics and di-

rector of the Agricultural Experiment Station at Geneva.

Kennedy earned his B.S. degree from Washington State University and his master's and doctoral degrees from Cornell.

A feature article on the new dean will be run in the October, 1972 issue of the *Countryman*.

Action For A Creative Future

The deadline for the College of Agriculture and Life Sciences Fund is August, 1972. Although the Fund has received much support, the goal has not yet been reached. Continued support is needed for the Fund to fulfill its following purposes:

- To cement and stimulate associations and relationships with the College of Agriculture and Life Sciences.
- To support innovative programs and unique scholarships for students in the College.
- To provide the "seed" funds which so often have far-reaching effects in stimulating new discoveries of great benefit to mankind.
- To establish a base of ongoing support enabling the College to maintain its leadership in education and training.



I am pleased to join with alumni and friends to support the Fund for scholarships and innovative programs to create the margin of excellence.

Signature _____ Total Pledge \$ _____
Enclosed \$ _____
Date _____ Balance as follows:
Month/yr. Amount
_____ \$ _____
_____ \$ _____
_____ \$ _____

Please make checks payable to:
College of Agriculture Fund
195 Roberts Hall
Cornell University
Ithaca, New York 14850

