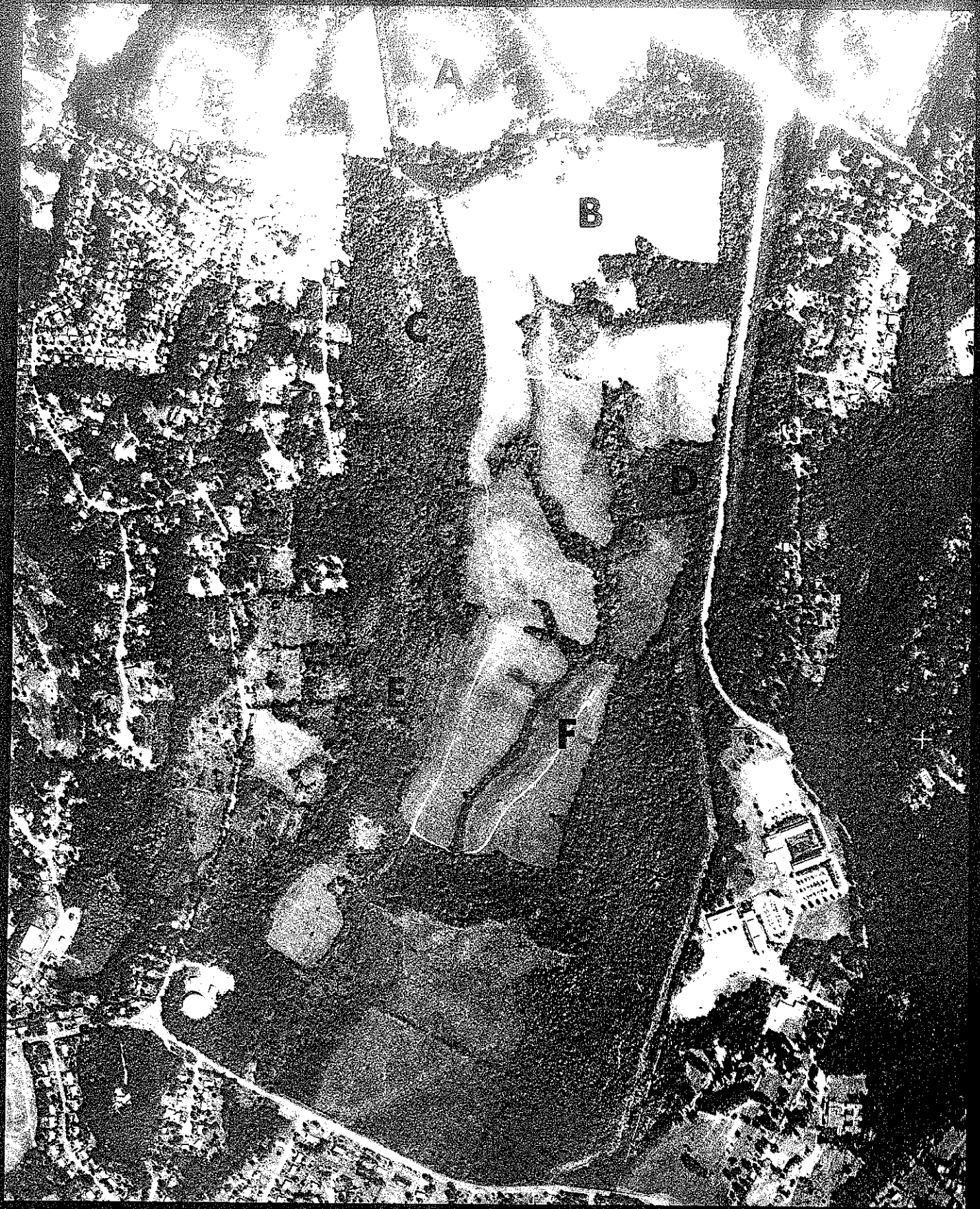




# How science lives

Afield, at home, in the hands of generations



*Aerial photographs tell part of the history of Vassar Farm. Some of the changes which occurred between 1959 (facing) and 1980 (above) are readily visible. The college's septic system leach fields (A) were shut down and are reverting to forest. The horse-riding tracks have disappeared and*

*been replaced by faculty gardens (B). Several fields (C, D, and E) left fallow are becoming wooded, and the Field Laboratory (F) with its access road now occupies what was once a pasture. The drumlin (C) is the only hill on the farm.*

# Idyll thoughts

and prescriptions from a farm ecologist

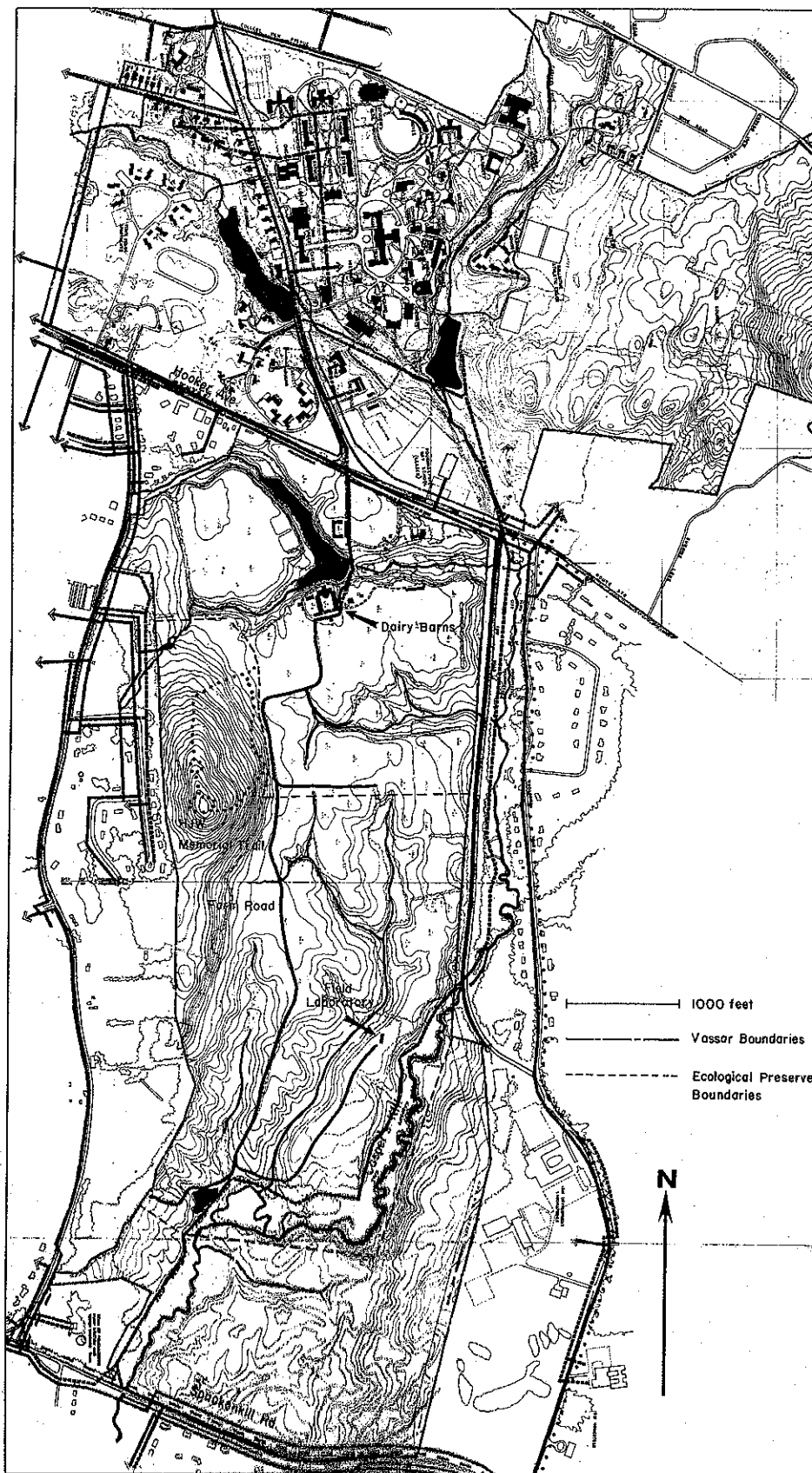
by Robert Suter

## Beset

When they first noticed me coming over the rise last fall, they must have been rather startled. The three — a jogging assistant professor and two Vassar seniors strolling the farm road — had greeted each other and paused to look at the fall colors. Several hundred yards from them, across two fields and a shallow valley, were a small laboratory building and, behind that, oaks and maples, their subtle hues made redder by the late afternoon sun. I had been tending some colonies of bees which were tucked into an apiary on the near side of the valley but out of sight. I'd run out of smoke, then taken off about thirty pounds of honey. The bees were furious and I was panicking. Even adorned as I was in a white hat, veil, white shirt, shoulder-length gloves, and long pants, I'd been stung about the waist twice. So, as I topped the rise only fifty feet from the road, I was moving at a lumbering run, encumbered by thirty pounds of honey, trying to sidestep the poison ivy, and convinced that one of the little buggers was inside my veil.

The apiary was installed in the spring of 1978. Like several other new features on Vassar farm, it was constructed to augment the already rich natural repertoire of "studyable" phenomena near the college. That it also augments my diet and the diets of some other faculty members is, of course, quite irrelevant. In fact, the two colonies have been poor producers of honey in the four years of their tenure on the farm. (Thirty pounds of honey is well below average even for one hive. An average hive in the Poughkeepsie area can be expected to produce sixty to seventy pounds per year.) But they have been very good producers of field experience for biology students. The colonies or the bees individually have been scrutinized in many ways: as representative insects in *The Biology of Invertebrates*, as social thermoregulators in *Behavioral Ecology*, as pollinators in the introductory biology

*Robert Suter is an assistant professor of biology at Vassar and director of the Ecological Field Station at Vassar Farm. Though he holds a Ph.D. in animal behavior from Indiana University, he asserts that his undergraduate training at Swarthmore College is primarily responsible for his appreciation of the farm as a valuable resource.*



courses and in Evolution of Plants, and as optimal foragers in Ecology and in Behavioral Ecology. Thus far, the apiary has not been visited by people who want to see what bees do when they are seriously molested. Of course, that too would provide a learning experience for the molesters, and one not likely to be forgotten.

### Homing in

The laboratory building that joggers and strollers see as they make their way along the farm road was installed at Vassar Farm during the summer of 1978. It arrived one hot Thursday morning in July, a 14' by 60' mobile home at the center of a caravan of lesser wheeled vehicles. Until its arrival, I had neglected to think about the intricacies of moving seventy feet of truck-cum-mobile home up and down dips in the road, around sharp corners, and under very weeping willows. But as the caravan turned into the farm road from Rt. 376, think I did. I knew the road intimately by then because of earlier supervision of backhoes, road graders, tractors, and the like. Smiling at the driver of the truck, I confidently beckoned him on. When he rounded the corner at the big barns (hump and sharp right), there was a slight rending of aluminum as rocks met siding, and a slight erosion of my confidence. But the rending stopped, my confidence and color returned, and together we traveled the mile to the turnoff (dip and sharp left) to the construction site without incident. Seeing the difficult turn coming, my driver grinned, said, "Well, here goes," and simply cut across the field, avoiding the sharp left, but not avoiding numerous dips and bumps. We had been back on the road to the construction site for no more than thirty feet, that is we were about half on, when my driver smirked, then, forgetting diplomacy, guffawed, "No way we can get around that, buddy" (hairpin left, 5' to 7' drop on each side, overhanging willow with its trunk at the inside of the turn). We eventually did reach the intended installation site, but only with considerable deflation of my ego, some despoiling of the landscape, and half a mile of cross-country towing.

Once in place, the structure underwent considerable change. College carpenters removed partitions and built laboratory

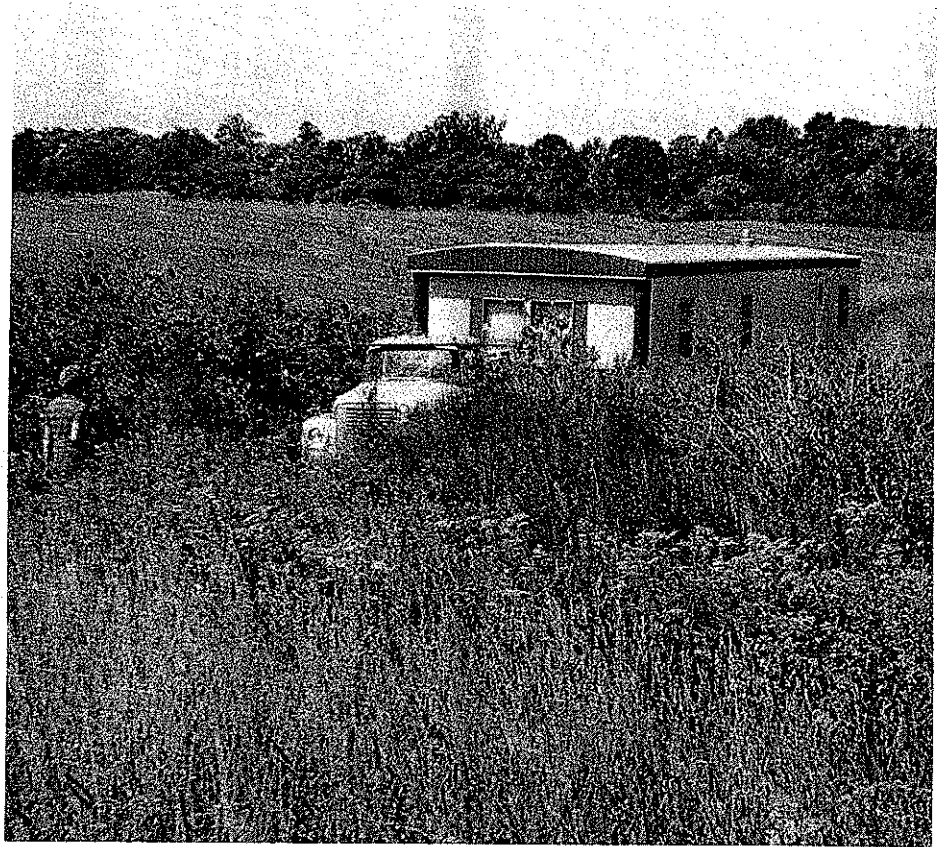
### Facing: Succession

Vassar Farm, just to the south of the campus, extends from Hooker Avenue (and Rt. 376) to Spackenkill Road. Within its boundaries are fields and woods, streams and ponds, and abundant flora and fauna. Recent additions to the farm include the Helen Johnson Woodworth Memorial Trail and the Field Laboratory. The dairy barns, once the site of considerable bovine activity,

now store heavy equipment. The contour lines on the map represent five-foot increments in elevation.

### Below: Cross Country

The Field Laboratory, an extensively modified mobile home, was installed at Vassar Farm in 1978. Because of sharp turns in the road leading to the laboratory site, part of the building's last journey was across quite rough terrain.



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benches around the edges of the two main rooms; college electricians upgraded the wiring throughout the structure and replaced the "pretty" but inadequate residential lighting with fluorescent fixtures; air-conditioning was added to make it possible to keep animals and humans comfortable during the warm months; and an alarm system was installed to inform college security of intruders or fire. The Field Laboratory now serves as the center of activities on the south half of the farm, the half that has been designated by the board of trustees as an ecological preserve. Two biology classes hold regular meetings there in the early fall and late spring, the data analysis and discussion phases of ecology field trips on the farm take place in the laboratory, and many students who are interested in field biology design and execute independent research projects which rely in some way on the laboratory facilities.

### Educational weigh station

The laboratory will be the site of further metamorphosis in 1983, when we will begin using it and the surrounding fields

and forests as part of a program to expose local school children to natural history. The impetus for this program came from two directions: first from my concern that the college's ecological preserve is now used only for Vassar students, and is underutilized at that, and second from my realization that local public schools offer little or no hands-on science in the first three years.

The project is funded for at least two years of operation by a generous gift from English professor emerita Barbara Swain. It will be small in scope; a little arithmetic explains why. One first grade class typically contains twenty-five children and one or two adults. Two classes a day visiting the farm, 100 days a year, comes to 5400 people tramping around, possibly despoiling the landscape far more severely than the off-track mobile home ever did. At 50 pounds per child, or 120 pounds per adult, that's 149 tons. We expect about 30 tons the first year.

I am particularly enthusiastic about this program because of the contact it will foster between the Vassar and Poughkeepsie communities, and if all goes

... We really had fun out there. . . . We caught fifteen deer in just a week — there must be thousands — and a shrew and a squirrel. That squirrel was really big, really strong. . . . And the raccoons are amazing. They'd go for the peanut butter in the live-traps and get it and rip out the trap inside while they were at it. . . . We were out there one night at midnight, checking the traps by flashlight. Nice! All cold and still and clear. . . . It seems a shame it's not used more."

— Carolyn Hofer '83, Gerald Slipman '83, and Daphne Yenal '83

## A farm of one's own

The following is an excerpt from "An Experiment in Farm Labor," published in *Modern Priscilla* magazine of April 1918.

Can women farm? Can they stand exposure to wet weather and can they bear extreme heat? Are they able to bend over for hours at a time, weeding and thinning, without injury to health? What kinds of farm work are practical for women to attempt? These questions were answered in part by twelve Vassar girls, who spent their last summer's vacation on the Vassar College Farm, working from eight to ten hours a day. The experiment was tried as a patriotic service, a piece of publicity work which should encourage other women to enter the field of agricultural labor. If college girls, straight from the class-room after a year's hard academic work, can make farming successful from a business point of view, surely the average strong young woman can do the same.

Vassar College has had, almost since its founding over fifty years ago, a large farm which supplies much of the food stuffs used at the college. This farm now covers 470 acres of good land, and is well equipped with excellent stock, up-to-date machinery, and good workers. . . . From twenty to thirty men are employed on the farm and in the garden the year around, and in the summer about a dozen extra men are taken on to tide over the busy season. It was to take the place of this extra help that the Vassar girls offered their services. They did not, as the papers put it, raise enough food to keep the college for a year; they worked as regular farm hands, side by side with the men who are employed in the fields and farm the year around, doing their share of the work and learning day by day.

When the experiment was proposed to the Trustees of Vassar, they gave their

*Alice M. Campbell was the manager of the Vassar Farm Unit. According to Carla R. DeLandri '78 who brought this piece to our attention, the Modern Priscilla was published in Boston from 1887 to 1930, and was a Good Housekeeping of its time. "It included everything," Ms. DeLandri writes, "from wartime recipes to sewing your way to a happy home."*



Photos courtesy Vassar Special Collections

sanction to it, provided it could be put on a business basis and made to pay in dollars and cents. This was no year to experiment with the college food supply. So the girls were hired for a minimum of forty-five hours a week at seventeen and a half cents an hour, not a lucrative wage, but one large enough to leave a slight margin over the board rate of five dollars and a half, and only two and a half cents less than the regular wage rate.

The main building of the college is always left open for the work of the executive offices, so the girls lived together in one wing of that hall, sleeping outdoors about five weeks out of the eight.

Despite the fact that the twelve had been chosen from thirty-three volunteers largely on a basis of physical fitness, they will never forget the state of their muscles after the first eight hours of steady hoeing. Nor did those who spent the first day bent double at thinning lettuce fare better.

Blisters, lame backs, sunburn, and poison ivy were the chief crop raised in the first week. Steady work overcame these discomforts in time, however, and by the end of the summer it would have been hard to find a healthier, huskier group of girls. There was not a case of illness all summer more serious than "hives." The recruits learned to rise at four a. m. and put in two hours solid work before breakfast, leaving the heat of the day, from twelve to three, for lunch and rest. This was a measure well worth taking, when the temperature rose to 103 degrees in the shade and the work was in a sunny bean field. . . .

What kind of work did these young women try? Every kind of work that the men tried, with the exception of cleaning the stables — and that exception was not of the girls' making. Clad in middy, bloomers, stout boots, and straw hats, there was no job for which they were too dainty. The Vassar girl farmers were a

... the Field Laboratory was quite a ...  
 ... did a good ... aware of the beautiful land ...  
 ... the only ... fauna are pigeons and cockroaches. I took my  
 ... walk on the ... and she was truly impressed -- but doing field  
 ... together gave the students a sense of cooperation and educational spirit. It  
 ... showed us that the biology we learn in class might really be happening in the real  
 world

— Lea Kessler '83

very different-looking group from most of the feminine devotees to rustic life that have figured on the front page of the New York papers. They were out for business only. A picture of one of them planted firmly astride a three-legged stool between two of the Vassar thoroughbred cows, intent on "getting her dry" in twelve minutes, would reassure the most skeptical on that point. . . .

Any woman who can drive a car and has a reasonable muscle can run a traction plough. . . .

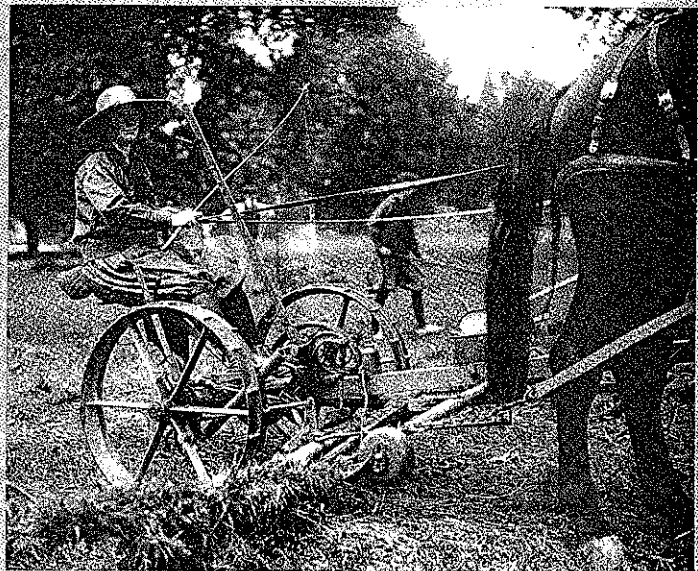
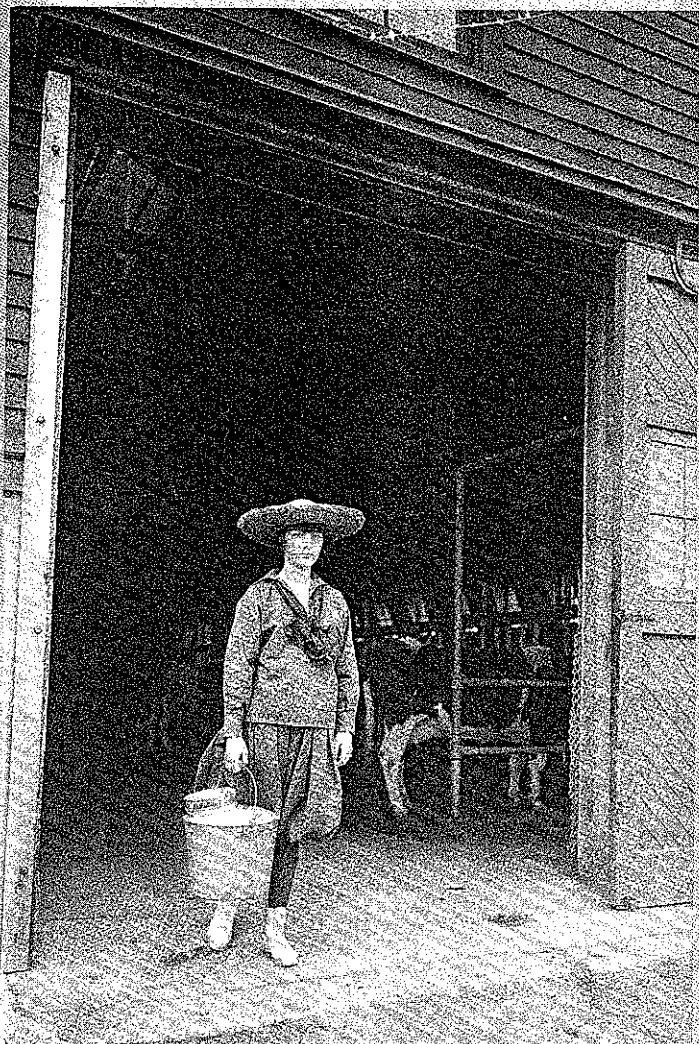
After the summer's work it was determined to give this experiment — which had proved a success in dollars as well as in theories — the utmost publicity. The Eastern States Exposition, an agricultural

fair of ten States, held at Springfield, Massachusetts, was chosen as the best place for this. The Publicity Manager, Mr. William Parcellle, offered to run a "live exhibit" of the Vassar Farm Unit for the ten days of the Exposition, and his offer was accepted by Vassar. Five girls represented the twelve, being excused from college for this purpose. Clad in the middy and bloomer costume they spent several hours a day exhibiting their ability to plough, milk, harrow, and do other farm tasks before crowds of people. One or two hours each day were devoted to talking to crowds from the platform, and it took all the wit a quiet mind could summon up, to answer questions from the audience. The girls made no pretense

to answer technical questions on farming but simply told of their own experiment and what they had proven. . . .

As a piece of publicity the "live exhibit" was a great success. The agricultural colleges are enrolling more women each year and new types of positions are continually opening. To be a farmer it is not necessary to have a farm of one's own. Many women graduates of these colleges are already earning large salaries as managers of estates, farms, and ranches. Surely now, if ever, when the need for farm produce is so great, is the time when women can enter this field with confidence. The twelve Vassar girl farmers wish all success who do!

— Alice M. Campbell



#### Working

The photos here show World War I-era Vassar College "farmerettes" performing some of the college farm chores. "Clad in middy, bloomers, stout boots, and straw hats, there was no job for which they were too dainty."

"It's great being able to get out there, just go out there, dig through weeds and mud and catch invertebrates — really, plants. And where else in campus can you go out in the morning and see a bunch of white-tailed deer? Well, I don't think too many people should go out there — you could spoil it all." — Kip Shustak '83

Ben Williams



Dennis O'Leary

according to plan, the Vassar side of that contact should be fairly broad. Direction and administration will be in the hands of the biology faculty, but much of the field leadership and supervision will be provided by both biology students interested in elementary education and education students interested in natural history.

### Smoothing the rough places

Members of the Vassar community with an interest in natural history (or ecology, or glacial geology, or solitude) can now avail themselves of the Helen Johnson Woodworth Memorial Trail which opened on the farm in April. The trail begins and ends at the west end of the Rugby field, along the fence line that sets off the Ecological Preserve from the rest of the farm. It ascends steeply (the left leg) or shallowly (the right leg) to the 300-foot summit of the farm's only major hill, a drumlin deposited by the Wisconsin glaciation more than 16,000 years ago. Just twenty-five years ago, the hill was pastureland, where the dairy herd which provided milk to Vassar students grazed. When grazing stopped in 1957, succession took over. Now, much of the drumlin is wooded, though open meadows, briar patches, wild grape tangles, and snow-berry thickets indicate the many directions that pastures can take if left to themselves.

Along either leg of the trail are markers calling attention to sites that, from an ecological perspective, are particularly interesting. Geologists, prevented by the trees for twelve years from observing the glacial topography of the Hudson Valley, once again have vistas available to them, vistas important for both their aesthetic and pedagogical value. To the north, for example, one can see the loftier parts of Vassar College — the library, Jewett House, the chapel, and the powerhouse — and further off, the Hudson Valley Psychiatric Center, College Hill, Dutchess Community College, Spy (and Carriage) Hill, and the fringes of Hyde Park. From another clearing, the Hudson Highlands are just visible over a neighboring hill, as is, in winter, the Mid-Hudson Bridge. Looking across the top of the red pine plantation which occupies the eastern slope of the drumlin, the spectator can see Clover and Merry hills nearby, and about six miles further, the

## Farm facts

Vassar Farm became part of the college in two large parcels. The first, the northernmost 200 acres, was sold to the college in 1895 by Vassar Brothers Hospital. Sixteen years later, in 1911, Augustus and May Elton Davies deeded the 300-acre Davies farm (which bordered on "Spuy-kenkill Road") to the college as a gift. These two parcels, together with some smaller pieces of land, were then consolidated as a single, operating farm.

According to the 1918-19 Vassar College catalogue, the farm was "a 675 acre tract utilized both for grazing and cultivation. The equipment includes a model dairy and poultry farm, greenhouses, stables, storage barns and farm houses. . . [It] produces vegetables for the college table, and grain and fodder for the cattle and poultry. The dairy supplies milk and cream for the college from a tested herd of Holstein cattle." "By the time I knew the farm," says Professor Emerita of Biology Margaret Wright, who joined the faculty in 1946, "the cattle were Guernseys and the milk so rich it had to be diluted with Holstein milk to be palatable."

Between 1946 and 1957, the farm had two major roles: the provision of food for

the college table and the provision of field study sites for students of biology and geology. Then, in 1957, the farming operation was shut down, apparently in response to an unproductively-high ratio of costs to benefits. The lands lay fallow, but faculty continued to use the acreage in teaching.

By the early 1970s, Miss Wright had become an ardent proponent of the farm as a valuable teaching and research resource. In 1973, she proposed to then-president Alan Simpson that part of the farm be designated as a field station, to be set aside and preserved from other forms of development. Over the next few years, her campaign, at times quietly patient but always persistent, resulted in trustee-commissioned studies of the farm by the National Audubon Society and by Sasaki Associates. Finally, in 1976, the board of trustees and President Simpson endorsed the Sasaki group's recommendation of a mixed utilization of Vassar Farm, a plan under which approximately half of the land would be designated an ecological preserve. As a result of that forward-looking decision, the farm is now the scene of considerable change. — R.S.

**Facing left: Summer use**

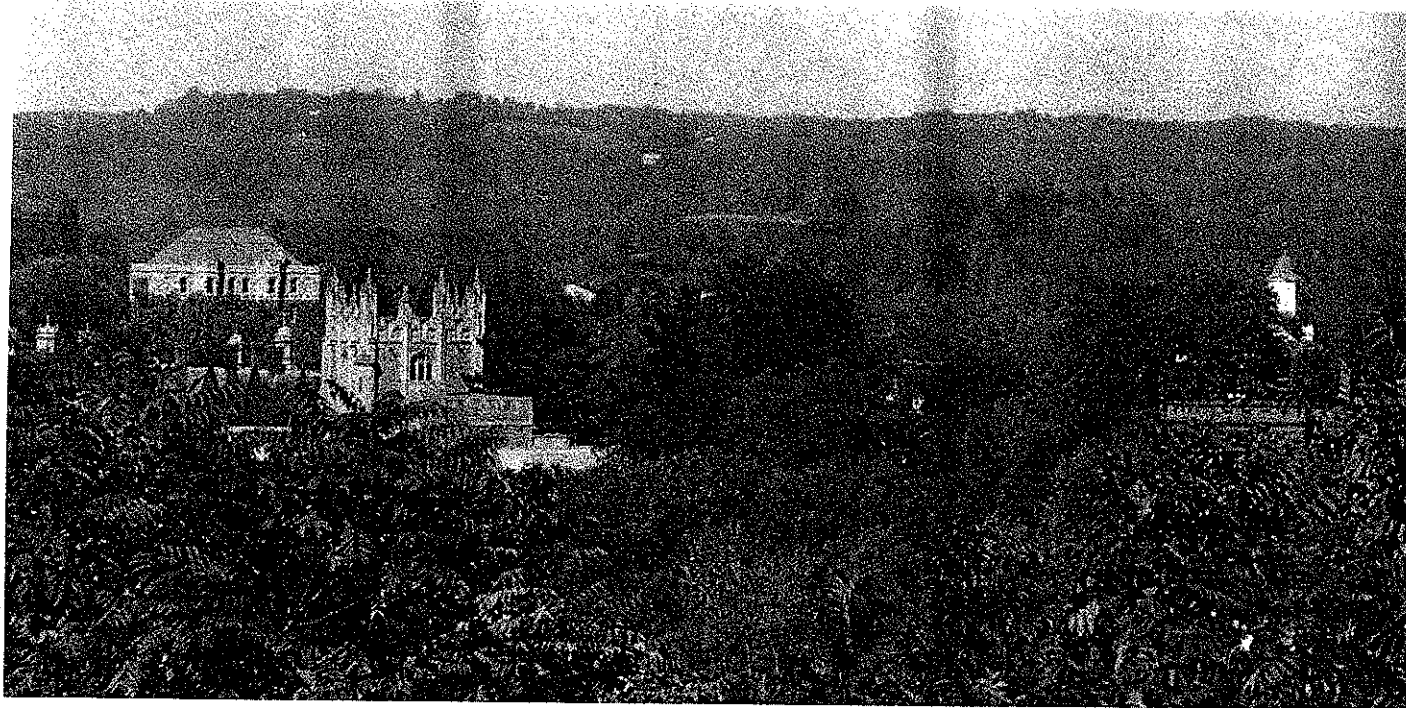
The wide variety of habitat types on Vassar Farm make it particularly useful to ecologists. Here, Harvard undergraduate Barbara Mahon, a participant in the Vassar biology department's 1981 summer research program (sponsored by the National Science Foundation), prepares a pit trap from which she will later collect insects and spiders. Her study with assistant professor

Marlene Palmer dealt with tiger beetle responses to an unpredictable food supply.

**Facing right: A place to rest**  
Boulders, being more natural than wooden benches, are used as seats in a clearing at the top of the farm's one hill. Unfortunately, the glacier which built the hill did not place the boulders quite where they were needed. The author (left) and two of his student work crew, Billy Sprance '85

and Jim Nagle '85, are shown moving one of three "very heavy" boulders. The Helen Johnson Woodworth Memorial Trail leads to the clearing.

**Below: A view from the top**  
Visible from the summit of the drumlin are various of Vassar's high points: (from left to right) Jewett House, Thompson Library, the Chapel, and Students' Building (ACDC).



Robert Suter

800-foot "peaks" surrounding the Taconic Parkway. To be sure, someone accustomed to the fifty-mile views from the Adirondacks may well scoff at these Poughkeepsie panoramas; but the views are indeed impressive after sitting in the library all morning, or after staring at Main from a physics classroom in Saunders all semester.

The construction of the Helen Johnson Woodworth Memorial Trail was sponsored by gifts from classmates of the late Helen Woodworth '53, and from a few others. In proposing the project to two of her classmates last year, Joy Thomas Shaw '53 wrote:

"I see a beautiful opportunity to realize the potential of this special site by utilizing the natural capacity of such an ascending trail and look-out to inspire a series of reflections. . . ."

"This special site potential seems to me wholly in keeping with Helen's instincts and natural talent for helping others over their rough places . . . ."

It is fortunate for the biology and geology departments that a trail whose initial function was to inspire reflection could also serve as a site of curricular enrichment. During the trail's construction, a small but capable student work crew cleared briars, hauled brush, moved 800-pound rocks, dug post holes, mixed

and poured concrete, and erected barriers to motorized vehicles, all while attempting to meet my and others' academic demands. The result is a pathway to considerable natural beauty and to natural history, both ecological and geological: a pathway which, even in the making, provided solitude, relaxation, and some appreciation of nature to those of us who worked on it.

**Leaves of grass**

Like the fields on the drumlin twenty years ago, other fields on the farm will, if left alone, become first impenetrable brush and then forest. That succession can be stopped by periodic mowing, by plowing, or by controlled burning. In fact, to leave the fields untouched makes uncontrolled burning a likely event. So, both to preserve a diversity of habitats and ecotypes on the farm, and to reduce the probability of fire, many of the fields have been mown more or less regularly over the last ten years. In the past, the college has been fortunate to work out an arrangement with various Dutchess County cattle farmers whereby they mowed large acreages in exchange for hay. But as weedy plants moved in, and as the grass, alfalfa, and clover became less dominant, the farm's hay quality dropped, and the farmers became less willing to make the

trade. We are now experimenting, on the part of the farm that is not ecological preserve, with the "rejuvenation" of some fields by plowing them and replanting them with mixed grasses of high quality. If these resown fields continue to support the abundant wildlife that is now characteristic of the farm (from deer mice to deer, and from bobolinks to red-tailed hawks), we may opt for the periodic replanting of fields within the preserve as well, perhaps as often as once every ten years on a staggered schedule.

The farm is not now, nor will it be in the near future, the site of unceasing intellectual endeavor and activity. It will retain most of the bucolic quiet which characterized it while it was being farmed. But there are and will be foci of intense activity there: students and faculty jointly investigating, children simultaneously learning and cavorting, biology and geology classes using the Field Laboratory and the trail, and tractors cutting and baling. And there will be, as there have been in the past, other less formal activities: introspection, birdwatching, walking, jogging, paper writing, procrastinating, necking, etc. The land management people would call all of this "mixed utilization." I prefer to think of it as the proper utilization of an increasingly scarce resource — undeveloped land. 