Human Perspectives in Horticulture

by CHARLES A. LEWIS, *Horticulturist, Morton Arboretum, and Coordinator, American Horticultural Society People-Plant Program.*

ABSTRACT. Gardening produces not only vegetables and flowers, but also social and behavioral benefits. In low-income housing sites in New York, Philadelphia, and Chicago, gardening programs have resulted in reduced vandalism, new neighborliness, cleaned and painted buildings and streets, and other improvements. The human response to plants, and the qualities of plants that encourage this response, are valuable in the production of humanly satisfying environments.

MAN HAS BEEN associated with plants since his beginning. Our progenitors, primitive oxygen-breathing forms of life, evolved in an environment already populated with green plants. Iltis, Loucks, and Andrews *(1970)* suggest that primitive responses to vegetation were acquired during our evolutionary journey and are with us yet, buried deep in our psyches.

PROXIMITY TO PLANTS: EFFECT ON RESPONSE

It is difficult to delineate human responses to plants because plants are integrated into human experience at several levels, each of which produces its own typical response. By discerning the several levels at which people interact with plants, we may be better able to isolate and study the accompanying behavioral responses in a proper perspective.

The hierarchy of integrative levels is influenced by personal and cultural distances between the person and vegetation: the least personal responses occur with the greatest separation. The situation is somewhat analogous to the view of a city from several different heights and the kind of response engendered at each. The distant view, as from an airplane, reveals the gross geometry of the city, a flat structural abstraction of lines and lights. We observe it without personal involvement, except perhaps for trying to find meanings in the distant pattern. An intermediate view is seen looking down from a tall building. We are aware of the three-dimensional aspect: building walls create impressive deep canyons at whose remote base are narrow streets inhabited by tiny slow-moving vehicles and people. From this viewpoint, the city is awesome; we are impressed by its physical grandeur and we respond to it. The minute streets, people, and traffic are less impressive than the physical grandeur. The closest view is at street level, where we see and even become involved in the tangle of people and traffic. No longer observers, we participate intimately in the life fabric of the city. Responses at this level are extremely personal.

And so it is with plants, Distant views of vegetation, such as those from an airplane, reveal gross patterns in various shades of green and brown, interlocked like pieces of a puzzle. We may respond to the green as representing life, but the lack of detail at this scale prevents our discerning specific types of vegetation, such as field or forest, which would evoke a more personal response.

Closer proximity reveals scenic details of vegetation, such as open field, dense forest, or

tree-lined street. As observers, physically separate from the scene, we respond with meanings we read into the scene. Components of verdure, shade, and color carry pleasurable connotations which influence our response. This level of perception can be equated with viewing the city from atop a tall building.

The closest association with plants occurs in gardening, where we are intimately involved with growing one or more plants. We water and fertilize, always watching closely to determine whether the plant is responding properly to our nurturing. This direct involvement with plants is analogous to the street-level experience of the city and evokes the most personal level of response. This association of people and plants in an almost symbiotic relationship is the special interest of the American Horticultural Society's People-Plant Program of which I am coordinator.

GARDENING IN LOW-INCOME AREAS

I first observed these responses while judging the New York City Housing Authority Tenant Garden Contest, which permitted thousands of inner-city dwellers to garden on the grounds of their buildings. A subsequent visit to the Neighborhood Garden Association's window-box program in Philadelphia revealed similar responses *(Lewis 1972, 1973)*.

In both cities the gardeners were almost parental in their pride and protectiveness toward their gardens. They took turns guarding them against vandalism. The garden became a special place where friends met to talk, where wedding and graduation pictures were photographed.

Soon neighbors began to cooperate in activities beyond the garden plots. Streets were cleaned, buildings repaired and painted, vacant lots rehabilitated into playgrounds and miniparks. These activities were spontaneous, not part of the garden contest. Clearly something happened to motivate the gardeners into these nongardening activities.

Similar responses occurred in a garden contest sponsored by the Chicago Housing Authority in 1974, which attracted participants from a wide range of age and ethnic groups. Tenants of high-rise buildings were allowed to garden on plots near their homes, an activity previously possible only for residents of row houses with yards.

Again contestants were very proud of their gardens. They joined together to nurture the gardens, protect them from vandalism, and to share their bounty with neighbors at community harvest dinners. The gardens were considered special places—"holy ground", one tenant called them—and were held in high esteem.

Here too, gardening residents initiated activities outside the garden plots, painting curbs, benches, and chains along walks to harmonize with the garden colors. At the Robert Taylor Homes, an impersonal high-rise complex, the entrance columns and portico trim received the same colorful treatment. Soon large geometric or pictorial murals appeared on walls adjacent to building entrances. The anonymous decorations were exceedingly well designed and carefully executed, notwithstanding C.H.A. rules that forbade painting the buildings.

In public housing, grass around the buildings is considered part of the physical plant, to be maintained by management, and not the concern of residents. However, at Robert Taylor the gardening tenants sowed grass seed and created a large area of lawn on what had been bare ground surrounding their gardens. Would the results have been the same if C.H.A. had asked these tenants to paint the buildings or plant a lawn?

Gardening in low-income areas of Chicago, Philadelphia, and New York, seems to have encouraged residents to improve their physical surroundings. What personal changes are expressed in these activities? In terms of human values, what is the meaning of cleaned streets, reduced vandalism, painted houses, new neighborliness? In what way does the process of gardening, the interaction of person and plant, produce these results?

Lacking data from precise investigations, we have only theories about the qualities of plants and gardening that encourage improved behavior.

BEHAVIORAL RESPONSES TO GARDENING

Dr. Edward Stainbrook *(1973)*, Chairman of the Department of Human Behavior at the

University of Southern California School of Medicine, has written "An environment of ugliness, delapidation, dirtiness, over-built space, and lack of natural surroundings confirms the negative self-appraisal a person may have developed through other contacts with society. Self-esteem is the keystone to emotional well-being; a poor self-appraisal among other factors, determines how one treats his surroundings and how destructive he will be toward himself and others. These factors set up a vicious circle that is difficult to break".

How does the process of gardening enhance self-esteem? The gardener takes on a responsibility when he grows a plant. It is a living entity, and its future is dependent on the gardener's ability to provide conditions for growth. Each day as he tends his garden, the gardener observes new growth of the plant as it responds to his planting, watering and fertilizing. The slow but steady progress from seedling to young plant, then to maturity and flowering, provides the gardener with continuous evidence of his success. New leaves, stems, and flowers are his reward.

With a private garden plot, the gardener's sense of personal domain is extended beyond his apartment walls. Though the garden is a representation of his individuality, it also provides pleasure for all who pass by and see it.

In planting, growing, protecting, and enjoying the garden, the gardener finds opportunities for social contact with neighbors he may not have known before. Neighbors working together in the garden build a sense of community among themselves.

The garden, proof of an ability to change physical surroundings, projects a sense of personal mastery of the environment. His personal attitudes thus enhanced, the gardener goes on to effect changes beyond the garden. A large mural decorating a building entrance, for example, creates a distinct identity, and separates that building from its impersonal replicates. The cleaned streets and painted buildings may be seen as the physical environment upgraded to reflect the change in the gardener's psychological environment.

Dumont *(1971)*, studying the mental health of cities, cites self-esteem, sense of community, and mastery of the environment as unfulfilled needs of the urban ghetto dweller. Urban gardens help to fulfill all of these needs.

These qualities of gardening encourage a positive self-appraisal and help to create self-esteem.

LIFE-ENHANCING QUALITIES OF PLANTS

What intrinsic qualities of plants elicit human responses? Plants are living organisms, with specific requirements for growth which, in the wild, are supplied by the ecological niche in which the plant grows. In a garden, supplying the factors needed for growth becomes the responsibility of the grower. The dependency of cultivated plants on the gardener seems a key element in the interaction.

Plants are nonthreatening and nondiscriminating in a world that is constantly judgmental. Plants respond to the nurturing care they receive, not to the race or the intellectual, social, or physical capacity of the gardener. Plants provide a benevolent setting in which a person with real or imagined handicaps may take the first steps toward self-confidence.

Plants take away some of the anxiety and tension of the immediate. Now by showing us that there are long, enduring patterns in life. It takes time for a cutting to grow roots, for a seed to germinate, for a leaf to open. Plants respond visibly to the sun in its daily course and signal the change of seasons. These intrinsic rhythms were biologically set in the genes of plants by the same forces that set human biological clocks. Plants symbolize enduring qualities: an oak tree has looked like an oak tree for thousands of years. There is a certainty in knowing that a rose is a rose is indeed a rose—at all times and in all places.

These life-enhancing qualities of plants are utilized in horticultural therapy, aiding recovery and rehabilitation in mental hospitals, physical rehabilitation centers, geriatric centers, schools for exceptional children, drug and alcohol rehabilitation centers, and correctional institutions. This work is the focus of the National Council for Therapy and Rehabilitation Through Horticulture, with headquarters in Mount Vernon, Virginia.

From the human perspective, we can see distinct behavioral and social benefits accruing to gardeners in situations of stress. Research by behavioral and social scientists is needed to

identify the factors involved at the people-plant interface. Kaplan's *(1973)* study, "Some Psychological Benefits of Gardening", is a first step in this direction. Ultimately, we will see planners and architects designing environments for habitation that will, by providing opportunities for activities with plants, prevent some of the stress we now are trying to alleviate.

Those of us who work with children should be aware that gardening produces much more than flowers, vegetables, and plants. It can enhance a child's understanding of himself and his world. It can help a child gain self-confidence in a stressful environment.

Walter Hickle sensed the significance of man-plant relationships when he spoke, in 1970, of the need for a personal ecology of the mind and spirit of man. He said "There is a mystery attached to the variety and perfection of nature, a mystery which stirs wonder in a child and gives a grown man perspective. If we help refresh the inner man, we would help begin to answer such real questions as those of the inner city."

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