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ARBORETA: COMMUNICATE OR PERISH¹

by Francis Ching

Today we are celebrating a very insignificant birthday. Give or take a few million years, the earth is five billion years old. Living organisms have been around for maybe two billion years while man has been active for a million years or so. In terms of time, man's presence is insignificant, but when measured against the usage and damage he has wrought to Planet Earth, man's presence becomes overwhelming and very nearly over-bearing.

Forests have been destroyed to build centers of population density. Even the deserts as evidenced by Palm Springs and the many cities in the surrounding area, have grown so fast as to cause environmental concern. Some 40 golf courses have been constructed which have not only drastically raised the humidity level in this desert community but the water level of wells is now down to a depth of 300 feet where glacial water is now being pumped. Along with water and forests, we are rapidly depleting our natural resources of oil and coal as well as sources of food from the oceans—shrimp, fish, lobsters, abalone, etc.

Competitive food plants have been domesticated as have animals, thereby causing a greater use of our natural resources for food purposes. One estimate is that each person is responsible for using 2200 pounds of cereal each year—150 that is actually consumed and the remainder used for livestock feed to raise meat for our consumption.

Not only have we built centers of steel, concrete, and asphalt, but great social and environmental problems have come along as built-ins.

We are all "out on a limb" because it is highly questionable that we are doing enough to equalize the future with our natural resources.

The chances that the problem can be corrected should be in man's favor because since time immemorial, an outstanding feature of man over animals has been the fact that he is able to think his way out of (and into) predicaments and because he can adapt to changes when the need arises—sometimes quickly and sometimes ever so slowly. Changes have been the great enigma of the 20th Century.

Twenty years ago the greatest tourist attraction in Los Angeles was Forest Lawn Cemetery with its nicely landscaped grounds and art collection. However, Forest Lawn has been displaced by amusement parks such as Disneyland, Magic Mountain, Marineland, Knott's Berry Farm, Universal Studios, Lion Country Safari, Busch Gardens, Sea World, etc. This change is but one of many that have been brought about because of people attaining a higher level of living and free time for recreation purposes.

Other important changes have been brought about by the construction of freeways which have made it easier to travel from one point to another so that outlying areas are within easy reach as compared to years ago.

The great influx of people to Southern California has brought about a great number of these changes and in doing so suburbia is rapidly losing to urbanization of concrete, steel, and asphalt and all the problems of urbanization have been exerting themselves.

Many schools no longer carry horticulture or

¹Presented at the 1974 annual meeting, Western Chapter, ISTC, in Monterey, California.

gardening as a necessary study in man's needs as all of this is usually taken for granted. However, because people do have more time, they are becoming acutely aware of their surroundings and would sincerely jump at the chance to better their surroundings.

Being aware of the social and environmental changes another factor needs to be reviewed. Arboreta and botanic gardens had their beginnings with the ancient Greeks and Romans where medicinal gardens served a need. During the ensuing years fantastic gardens were developed by kings, queens, and aristocrats, and although these were not botanical gardens, they nevertheless represented collections of plants for display and aesthetic uses but their presence was most often for prestige and not because of need. In the 19th and 20th centuries, many arboreta and botanic gardens were developed for the showing of spectacular type plants and for the showing of floral displays. Botanical gardens were also developed in conjunction with universities for research and educational purposes. These latter gardens were developed for the staff and for student teaching purposes and not for the general public although people were invited, or tolerated, and this is a basic reason for arboreta and botanic gardens being "out on a limb." In the past arboreta and botanic gardens were not developed to meet the needs of people, which has caused a lack of communication between people and arboreta.

A common dictionary definition of an arboretum is that it is a place where woody plant material is grown (and where research and education is carried out). This definition is not relevant nor applicable for today, especially in Los Angeles where we are undergoing considerable change in our social currents and environmental problems and because there is an important item missing—people.

An arboretum is not all trees and if it were, there would be little reason for the existence of the Los Angeles County Department of Arboreta and Botanic Gardens. People and trees go together. They are enmeshed in cobwebs of togetherness and as history tells us, any time man misuses trees as one of his natural resources, he pays for it in many different ways and for a long time. As

an example, England has started a campaign to stimulate new interest in tree planting by producing millions of stickers, posters, film, and radio commercials and is offering to pay up to 50% of the costs of tree planting in cities, towns, and boroughs. Although it has been estimated that the minimum tree cover needed to take care of present day needs should approximate one-third of the total land area, in England there is just over a 6% tree cover. What needs to be emphasized is the fact that almost 400 years ago there were great forests covering England but they were unmercifully chopped down to give England her great naval armada that ruled the oceans and built an empire.

It is quite significant that people depend upon trees for many of their every day needs and yet, in so doing, they are quite oblivious to the needs of trees, what makes them grow, and why there is a need to conserve and propagate trees. People are really not cognizant of the importance of trees in life—outside of the fact that they look nice or are pretty.

In order for people to become very cognizant of and knowledgeable about the many values of trees, one of our very basic functions is to involve people in the activities of the Arboretum, and by doing so, we hope to accomplish what we have not done before: have people become much more appreciative and knowledgeable of horticulture and botany and about plants and trees so that they, too, will join us to form a formidable force to promote the wider use of plants and trees as urbanization continues to expand at the expense of meadows, woodlands, and open space.

Although some of our schools in recent years have made an attempt to teach the values of plants and trees, it's the same story of too little, too late and don't care, and, as a result, past and present generations know little of the true value of plants and trees and is there any wonder why we are now experiencing environmental problems through man's misuse of his natural resources. We have been "out on a limb" because people have never been considered as a necessary part of an arboretum where they too can learn the values of plants and trees.

Many of you are familiar with the term *publish or perish*. For us, changing times have caused us to readapt this to *communicate or perish*. If we cannot communicate, in one form or another with the people that support us, all the relevant material we have learned and accumulated over the past years, then we are of little or no value to our community of seven million people and perish, we will, sometimes quickly and sometimes through a long agonizing process.

With this realization in mind, it became evident that, as a public-supported institution, if we were to exist and be of any value to the community, we then had to relate directly to people and their needs and thus was concluded our basic objective that "The Arboretum is For People." This means a change in our philosophy and our outlook. Our approach (philosophy) is quite simple. Everything we do is for the people-related purposes.

Since 1970, the main thrust of our Department has been to develop educational, public services, horticultural, and research programs that will be of direct benefit to the people of Los Angeles County in addition to being a mecca for horticulturists, botanists, and others involved in scientific study. New horticultural, public services, and educational programs are designed for people of all ages in which they can enjoy and share the practical knowledge accumulated through the many years of scientific studies. We must serve those that support us rather than serving just ourselves.

As a matter of fact I was unable to attend the first few days of this meeting because of our newest of public service programs initiated this past weekend. Billed as the Spring Extravaganza, a horticultural field day for the home gardener, we hosted a record crowd of 27,000 visitors interested in some aspect of gardening—trees, turf, groundcovers, bonsai, shrubs, herbs, flowers, vegetables, etc. Besides the many displays, information booths and a small plant sale, three lecture sessions were running continuously and concurrently with a full attendance. Can there be any doubt that people are interested and eager to know and to learn?

Public Services

Public Services, our newest division, was formed by recruiting personnel from existing divisions. It is designed to afford the public an up-to-date, face-to-face experience with the many educational and learning features that are available through the Arboretum.

Since 1970 we have communicated by publishing brochures and booklets on various horticultural subjects and have made the following available to the public:

- Poisonous Plants of Southern California
- Home Vegetable Gardening
- A Guide to Pond Ecology
- Insects Around the Home
- Beneficial Insects
- Fire Retardant Plants for Hillside Areas

This is just a start, of course, and there will be many more in years to come.

Public lectures and garden walks are also a means of communication but have never been a regular feature until we tried out this aspect in 1971. With the first presentation, lectures on popular subjects became an immediate success and 12 presentations are now planned for 1974. *How to Start a Vegetable Garden* seems to be the most interesting subject. From a modest beginning, this lecture was given three times this past year, drawing audiences of from 400 to 600 people each time. This is one instance where we have been too successful in terms of our accommodations being too limited.

In 1972, four Sunday Morning Garden Walks were planned. In 1974, 11 are scheduled, which bespeaks the popularity of this new program. Both the lecture series and the garden walks are presented to bring a more intimate educational and meaningful relationship between the gardens and the public.

Other important programs in which we communicate includes guided tours to some 35,000 school children each year on subjects such as California History and Conservation and Plant Science. Guided tours are presented to some 300,000 visitors each year to give them a learning experience on botanical and horticultural values besides providing a nice enjoyable day.

Education

The objectives of the Education Division are to communicate with people by updating present programs and offering new programs relating to our social and environmental changes relevant to the needs of the public.

Our present and new Arbor Day activities are the result of "changing times" and our need to communicate. For many years, Arbor Day was observed at our various gardens with a tree planting ceremony along with speeches, bands, and many children who viewed the activities as another "outing" with frills, pomp, and ceremony but with a minimum of take-home value. This represented communication at its best or so we thought. Our new program, which we initiated for the first time in 1972, takes Arbor Day to the schools and organizations throughout the community, whereas previous observances were reaching only within the immediate proximity of the gardens and thus a very small percentage of people. The new program calls of us to research and accumulate resource material which is then sorted for relevance and put together in a resource packet and sent to participating schools and youth organizations. After studying this material, schools and youth groups are given a special tree in a 5-gallon can container for appropriate Arbor Day observances at their school, park, camp, or any other community location. Though a single tree may appear to be of small significance, this has acted as a catalyst to inspire nurseries and other organizations to contribute additional plants and funds to the growing significance of Arbor Day. In our first year, 464 schools participated with 682 schools participating in the second year. Participating in our Arbor Day program this year were 982 schools and youth organizations, which means that we communicated with up to 500,000 children who learned the true values of Arbor Day in their school and community.

Youth education classes have been conducted within the Department for many years as schools have not kept abreast of changing times and needs and in most cases have regressed rather than providing even adequate classes dealing with horticulturally related subjects. Through

our classes we are attempting to fill the need, and although some 900 children complete classes each year in some phase of horticulture or nature study, this is only a drop in the bucket when you consider that the community of Los Angeles consists of some 7,000,000 people. Plans are now being considered as to how we can "Take The Arboretum to the Schools" and to communicate with more children about botany, horticulture, and gardening. In a pilot program just completed, we communicated with some 3,000 children at schools this year who learned what an Arboretum is. Next year, when the program is fully implemented, we feel we will be communicating with 10,000 children per year.

We well realize that everyone cannot become a botanist or horticulturist, and this is not our intention. We hope to expose our youthful citizens to the values and importance of plant life so as adults they will be able to understand and cope with environmental problems.

Adult education classes have been aimed at popular type gardening classes rather than those giving more technical aspects of horticulture and botany, but we have learned that people want both, as well as workshop-type classes where learning how to do it is just as important as why and where.

Newly programmed mini-courses this past year offering condensed subject matter with individual attention was an overwhelming success and vividly proved that people are willing to pay for individual attention. Seven classes the first year covering gardening-type subjects have been increased to 20 in 1974 including courses in general botany, soils, hydroponics, fertilizers, plant breeding, and a series of lectures on California history.

Research

Meanwhile, whatever happened to research? With new and increased directions, and emphasis on public services and education, research might have been expected to falter or take on a lesser role, but the opposite has taken place. Research is an important and basic foundation of any arboretum and botanic garden and this is true for our institution. However, rather than research for the sake of research—because all re-

search is of scientific value—all studies are directed towards increasing our knowledge towards a better understanding and solution to the environmental problems of our community of 7,000,000 people.

Research projects old and new include:

The effects of smog on plants and even more important, how plants can reduce the effects of air pollutants to human beings.

Studies to determine how plants can reduce the hazards of fire and erosion in hillside residential areas where native vegetation is the most explosive anywhere.

Introduction of plants from all over the world to make a more beautiful and colorful Los Angeles where up to 99% of the plants in the landscape are introduced material.

The study of problems in the recycling of effluent and sludge from sewage treatment plants for horticultural purposes and to determine the possible side effects from heavy metals.

The study of viruses and other plant diseases for a better understanding of their action leading to better preventative and control methods.

The study of newer methods of vegetatively propagating those plants that do not produce viable seeds, do not come true from seed or otherwise are not readily propagated through normal means.

Our herbarium is not a large one with hundreds of thousands of specimens. The collection represents introduced ornamentals, temperate, tropical, and subtropical plants collected from our various gardens. The herbarium is designed to be of functional value to the staff and to horticulturists and botanists interested in the plant collection of the institution.

Of greatest importance is the fact that all new staff members of the Research Division are selected not only for their research competence but also on their ability and desire to communicate and participate in the institution's public services and educational programs of lectures, classes, mini-courses, and also to write popular articles for *LASCA Leaves* and for brochures and booklets aimed at disseminating information to the general public. This entirely new role for the

research staff has given them an active part in the community which is of direct value to the people, the institution, and to themselves.

Gardens

The objectives of the various gardens—the Los Angeles State and County Arboretum, Descanso Gardens, and South Coast Botanic—are to strive for excellence in horticulture and, in addition, to develop aesthetically beautiful grounds and to provide educational and learning experiences through the use of displays and demonstration of the use of plants in a different situations, which is a means of communication. Such developments include:

New demonstration gardens.

A collection of over 60 different groundcovers that can be used for fire prevention purposes, to control erosion, or as lawn substitutes.

A display of over 70 different types of junipers. Displays of orchids, ferns, shade plants, container-type plants, vegetable gardens.

A display of some 20 different types of grasses that can be used for home lawns.

A display of flowering shrubs introduced by the Arboretum.

A collection and display of orchids and begonias.

A display of aquatic plants.

Because California offers an environment whereby we can grow a greater variety of plants than in most other geographic areas, the opportunities available in gardening and landscaping are almost endless. In developing the various gardens, a greater emphasis is now placed on the use of plants and combinations of plants in the landscape and for special landscape features. Forms, shapes, and sizes along with plants from various geographical areas can be used in endless combinations. People rarely come to an arboretum just to see a lot of trees and plants. Purposeful planting through landscaping and plant selection leads not only to aesthetically pleasing gardens but also becomes a means of communicating a learning experience for our visitors.

Summary

The objectives, philosophy, and concepts as related to the Los Angeles County Department of Arboreta and Botanic Gardens have been specifically formulated for one of the greatest metropolitan centers of the United States in which vast environmental and social changes are taking place.

It was only 26 years ago that the Los Angeles State and County Arboretum was started on the premise that Los Angeles was virtually the only major city in the United States without an arboretum and that such an institution would be of great value to the community in many different ways. Through the years we have shown a true concern for the people as evidenced by our

public-oriented programs and their acceptance by the community. The need to serve the general public is greater now than ever before due to social changes affecting our environment.

Last year some 700,000 visitors visited the Arboretum—almost a 20% increase over the previous year. We feel that most of this increase is due to our awareness that "The Arboretum is for People" and that we are communicating with people so that they can learn and enjoy the full values of plant life and become convinced, involved, and committed to help build a better world to live in.

*Los Angeles State and County Arboretum
Los Angeles, California*

ABSTRACT

Trolinger, Jane C. 1975. **Occurrence of *Cristulariella* leaf spot in the Arboretum.** Arboretum Newsletter, West Virginia University, Morgantown, Vol. 22(2): 1-6.

The disease was found to be of rather widespread occurrence on a variety of broadleaved plants. The disease, commonly known as bull's-eye spot or zonate leaf spot, often causes severe spotting of the foliage resulting in premature defoliation of the host plant. Host plant growth can be stunted and plant vigor reduced when the amount of manufactured starches and sugars are decreased. Fruiting structures of the fungus resemble miniature white Christmas trees. The incidence of *C. pyramidalis*, a once relatively obscure pathogen, seems to be increasing. Only limited information on the control is available at the present time.

ABSTRACT

Ito, K., Y. Zinno, and Y. Suto. 1975. ***Dothistroma* needle blight of pines in Japan.** Govt. Forest Expt. Sta. Bul. 272: 123-140. (Tokyo, Japan).

Since 1952, the *Dothistroma* needle blight of pines has been found in several parts of Honshu and Hokkaido of Japan. The causal fungus was morphologically identical with *Dothistroma pini* Hulbarý var. *pini*. Host plants of the fungus hitherto collected in Japan were as follows: *Pinus densiflora*, *P. thunbergii*, *P. elliotii* var. *elliottii* (*P. caribaea*), *P. montana*, *P. jeffereyi*, *P. ponderosa*, and *P. contorta*. In artificial inoculation with the fungus, the infection occurred more severely on pine needles wounded slightly than on those unwounded. Artificial inoculations with the fungus isolated from *Pinus thunbergii* were made to the following pine species: *Pinus densiflora*, *P. thunbergii*, *P. taeda*, *P. elliotii* var. *elliottii*, *P. pinaster*, and *P. radiata*. Results showed that all the species tested were equally susceptible, and the incubation period of the disease was 2-6 months. In Japan, the disease has been generally considered to be a minor obstacle to forest trees, because its damage to the native pine species is still not serious.