

Longwood Program

GUIDELINES FOR THE EFFECTIVE USE
OF TEMPORARY EDUCATIONAL EXHIBITS
IN BOTANIC GARDENS AND ARBORETA

By

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ABSTRACT

In addition to other functions, botanical gardens have a very important educational dimension. Because their financial support comes in part from public money -- tax dollars and gate receipts--they have an obligation to communicate something and offer services worthy of that support.

A popular vehicle of communication is the use of temporary and permanent exhibitions and displays. Visitors are affected more by exhibits and displays than anything else that the garden does. Their use and quality should be given serious consideration to ensure that the garden's messages are being transmitted effectively.

An educational exhibit tells a story through interpretation of ideas and presentation of objects. This is different from a display, which is simply an arrangement of objects with no intended educational message. Exhibits and displays each have their merits in a botanic garden or arboretum. The aesthetic quality of some areas, such as a landscape vista, might be destroyed by on-site

interpretation. In other places, exhibits providing information and ideas are more appropriate than arrangements of plants.

This thesis is written with a conviction that temporary educational exhibits are a tremendously valuable tool for botanical gardens and arboreta to interpret their plant collections and garden functions, and to transmit a love of plants.

The development of an exhibit falls logically into two phases, planning and production. Planning consists of a series of distinct but related steps (developing a theme, writing objectives and a storyline, drawing up a production schedule, doing research, choosing plants and other objects, and carrying out related planning activities) which, when finished, will outline the procedure for the mechanical stages of production, installation, and removal.

An exhibit does not exist in isolation but should be integrated into other programs at the garden. Publicity is needed to inform people that the exhibit is there for their viewing. Special events will reinforce the exhibit theme. The life of a temporary exhibit can be extended with the use of supplementary printed materials. The exhibit can be further extended by showing it at other gardens and museums.

Exhibit evaluation is the means of determining how well the messages have been conveyed, and where the strengths and weaknesses of an exhibit lie. Results of evaluation will provide guidance for future exhibition plans.

CHAPTER I
INTRODUCTION

Gardens

Gardens provide cultivated settings where man can meet nature without fear. More than simply an area where plants are tamed into an artistic or ordered arrangement, a garden is often a quiet place for man to reflect and meditate.

Gardens, be they private or public, are inherently aesthetic, not educational. Public nonprofit gardens, such as botanical gardens and arboreta, do, however, have a very important educational dimension dictated by charter or by the Internal Revenue Service. They have an obligation to give something or communicate something in return for financial support through gate receipts and tax dollars. Therefore, they are involved with the public in two important ways: seduction -- transmitting the love of plants through their physical characteristics; and education -- transmitting institutional and educational messages.

In addition to aesthetic and emotional qualities of a garden, botanic gardens and arboreta have all the typical museum functions: collecting specimens and objects, doing research, and interpreting collections to the public. Although these functions vary considerably in their relative importance and in the details of execution from institution to institution, plant collections remain the common bond among botanical gardens and arboreta.

Botanical gardens, like other museums, emphasize some functions over others. In these days of tight budgets, most of them are spending more time and energy on activities which help assure their survival: fundraising, exhibitions, special events and public relations.

Exhibition as a Museum Function

Exhibitions in particular have been a major factor in increasing the quality of museums as cultural and educational institutions.¹ Art museum administrators, more than botanic garden administrators, have come to realize the importance of exhibitions. Joshua Taylor, the late director of the National Museum of American Art at the Smithsonian Institution, stated in an interview:

Through special exhibitions, art becomes news, and, being newsworthy, gradually becomes a necessary ingredient of the museum's program. In many ways, the art museum over the past two decades has entered the realm of show business.²

More people are affected by the exhibitions and displays that the garden staff produces than any other broad function of the garden. Visitors judge a botanical garden or arboretum by what they see; therefore it is essential that displays and exhibits be of high quality.

Communicating through Exhibits

The purpose of any exhibition is to communicate facts, concepts, or ideas by visual means. Because exhibits can be staged or changed with relative ease, they are flexible communication tools through which the staff can interpret the garden's collections and functions to a great number of people. Unlike other communication media, exhibits deal with real objects, be they artifacts or plants.

Exhibitions are a means of informal education. Their aim is not so much to increase knowledge as to stimulate visitor interest, to give people a greater appreciation of the subject, and to inspire them to learn more. Ex-

hibitions provide enriching experiences by allowing the individual an opportunity to learn through personal discovery.

Two Canadian exhibit designers, Barbara Tyler and Victoria Dickenson, explain that:

Visitors want an overview; it is not necessary to impart every fact known. A good exhibition should not answer all the questions, but should raise some. It should pique the visitors' curiosity, and stimulate them to study further.³

Although many profit and nonprofit organizations have exhibitions, exhibitions are primarily used by museums for transmitting information. This study supports the premise that temporary educational exhibits are valuable in botanical gardens and arboreta as an interpretive technique. Chapters II and III examine characteristics of exhibits and how exhibits have been used in botanical gardens and arboreta. Chapters IV through VIII provide guidelines for developing successful horticultural exhibitions.

Footnotes

1. Hiroshi Daifuku, "Exhibitions in the Technically Underdeveloped Countries," Temporary and Travelling Exhibitions (Düsseldorf, Germany, 1963), p. 44.
2. Luisa Kreisburg, Director of Public Information, Museum of Modern Art, New York, "Museum Boom: America's Hunger for Culture," Sunday News Journal, Family Weekly Section, January 25, 1981.
3. Barbara Tyler and Victoria Dickenson, A Handbook for the Travelling Exhibitionist (Ottawa, 1977), p. 14.

CHAPTER II
THE EXHIBIT REVEALED

Exhibit vs. Display

In dealing with exhibits, the first issue must be to define what is meant by the word exhibit and indicate how it may be distinguished from a display. An exhibit is a presentation of a subject using objects and providing an interpretive message. It attempts to express ideas as much as to show objects.¹ Interpretation is what qualifies an arrangement of "things" as an exhibit. The objects are the bones of an exhibit but interpretation is what gives it life.²

On the other hand, displays are simply presentations of "things" with no intended educational message. Displays often parade under the name of exhibit, and confusion arises from the terms being used interchangeably.

Traditionally there has been a conflict between different cultural institutions as to the proper use of exhibits. In almost every type of museum both displays and exhibits can be found.

In an art museum, one room may contain paintings from the 19th century, each labeled with its date, title, and the painter's name. Another room may be filled with paintings from the 20th century, with labels explaining recurring themes and varying approaches of different artists. The first is a display, valuable for the messages conveyed by each painting and the collective group of paintings. These messages include aesthetic quality, for example, surface texture, use of color, and use of perspective. Some curators in art museums argue that art can only be presented in this way; it must be experienced and does not need interpretation. In the second room is an exhibition, valuable for the same reasons as the first, and for the additional information that is provided.

Exhibits and displays are also presented in history and science museums, even though exhibits are usually preferred. A gallery in a history or science museum might contain cases of surgeons' tools. Without interpretation, this is a display; add recorded information or labels concerning the development of surgery and the display becomes an exhibit.

Botanical gardens and arboreta also make use of displays and educational exhibits. One area in a conservatory may be devoted to an exhibit of tropical plants with interesting ecological adaptations. These adaptations are interpreted by "flip labels," having thought-provoking questions printed on one side and explanations printed on the reverse side. Another area may display brilliant flowers identified by small labels. The aesthetic quality of the plants is important in both situations, but the first area has a greater educational dimension provided by the interpretive labels.

Exhibits and displays each have their merits in a botanical garden or arboretum. The aesthetic quality of some places such as a landscape vista or a floral display might be destroyed by on-site interpretation. In other places, educational exhibits are more appropriate than simple arrangements of plants.

Characteristics of Good Exhibits

Exhibitions have several qualities that separate them from other communication techniques. Plants, unusual objects, or entire ecosystems can be shown and explained to many people. An exhibit can offer the same enjoyment to

one person as to a whole group of people. A visitor can go through an exhibit at his own pace, and is free to wander and select things that pertain to his own interests.

Not all exhibits are good just because they offer interpretive messages. Even among museum experts there is no consensus as to what characteristics are essential for making a good exhibit.³ The following characteristics are mentioned most frequently in reference to plant-related exhibits.

Suitable Theme. People come to a museum expecting to learn about subjects relevant to the museum's title; therefore, the exhibit theme should be suitable to the particular garden. At an institution where genetic research is a priority, an exhibition on plant hybridization techniques would probably be more successful than an exhibition on landscape design.

Broadly Interesting. The exhibit and associated publicity should be able to attract visitors and stimulate their interest. The theme should appeal to a wide variety of people.

Accurate. Information in the exhibit must be absolutely accurate and interesting but not exhaustive in

detail; broad concepts are more appropriate than intricate details. For example, most visitors do not want to know everything about tree ring dating but do want to know how they can tell the age of a tree.

Well-Organized. Organization should be clear, with a major theme and subthemes. This makes the exhibit more "digestible" to visitors, enabling them to skip sections that have no interest to them.

Integrity of Exhibit Elements. Objects, whether plants or other materials, are an important reason for the exhibit. Design and interpretation should not overwhelm the objects but complement them and show them to advantage.

Appropriate to Audience. The physical presentation and interpretive content of the exhibit should be appropriate for the intended audience. If an exhibit is for children, written or verbal interpretation should be adapted to their vocabulary level and attention span. Plants should be clearly visible from a child's height. A "hands-on" approach might be considered, where children can touch things and participate in activities. Botanical exhibitions should involve as many of the visitor's senses as possible.

Make a Change in the Observer. An attempt should be made to elicit some kind of response from visitors to the exhibit, such as exclamations of surprise, a discussion with friends, sketching or note-taking. The exhibition should, in some way, aid in the visitor's understanding and appreciation of the plant world.

Historical Development

Museum exhibits trace their origins to the private collections of wealthy Europeans, particularly those developed during the collecting craze of the seventeenth century, and in the medieval European fair.

Records of private collections of objects date as far back as the Egyptians in the 14th century B.C.⁴ Although almost every culture has records of private collections, it was not until the 1300's and 1400's that "collecting" became a popular pastime. French nobility took a leading role in collecting vast quantities of art work and natural objects, known as "curiosities" since they interested the connoisseur. By the seventeenth century, it became

common to set aside special galleries just for the "cabinets of curiosities."⁵ These galleries were gradually opened to the public. From that time on, an increasing number of private collections were turned over to public museums, and supported at least in part by the government.

The other precedent of the museum exhibit, the European fair, had its beginning in the 800's. Fairs were important marketplaces for exchanging goods and ideas for relatively immobile societies. As towns grew larger, permanent local markets replaced the more diversified fairs.⁶ By the late 1700's fairs became largely agricultural in nature. Museums, opening at that time, helped replace the fair by providing visitors with new visual and intellectual material from foreign places, and a chance to escape from the everyday world.⁷

These fairs developed into national and international exhibitions. Beginning in 1789, the French held a series of national exhibitions with the idea of displaying "objects of industry of the national manufactures."⁸

The first international exhibit, "The Great Exhibition" at the Crystal Palace in London in 1851, followed the tradition set by the French national exhibitions of displaying industrial achievements.

It is interesting to note that part of the profit from this exhibition was used to purchase 87 acres of land in London for a center for the arts and sciences. The Victoria and Albert, Science, Natural History, and Geological Museums now occupy this site.⁹

Even today the primary purpose of international exhibitions is to promote commerce and industry as well as to provide entertainment. Museum exhibitions do not have any commercial aspect; they are chiefly concerned with educating visitors and displaying objects, not with selling products.

Merits of Temporary Exhibits in Botanical Gardens

Although this thesis is concerned only with temporary educational exhibits produced for visitors to the garden, the reader should not be misled into thinking that these are the only type of exhibits that are valuable. Promotional exhibits for professional meetings have merit as do permanent educational exhibits.

In botanical gardens, a permanent exhibit usually exists for one of the following reasons:

1. It is necessary for explaining the nature of the garden, perhaps as an historical overview.

2. The garden's staff accepted a collection (e.g., a collection of palms) with the stipulation that they always be kept on display.
3. For lack of storage space, "things" such as gardening baskets are continually exhibited because the staff cannot think of disposing of them.
4. There is not enough money, time, or interest to revamp existing exhibits.

Even though exhibits may be permanent, they should not be neglected by the institution's employees. Permanent collections must be kept fresh in appearance; their immaculate condition is essential for effective communication. Labels should be periodically updated in terms of content and wording to suit changing tastes and times. Beware the dust and dead leaves!

Temporary exhibits concentrate on a single theme based on objects from the garden's own collections or from other sources. These exhibits often seem more dynamic than permanent exhibits, in part because the ideas and the presentation are fresh.

Although the exhibit should fit within the overall plan of the sponsoring institution, a more experimental approach can be taken with a temporary exhibition. Different production techniques for labels and other components can be

evaluated to see which is the most effective for transmitting information. Various themes can be tried to indicate what ideas are most interesting to the visitors or attract the greatest number of people. The physical structure of the exhibit can be less durable and less costly than for permanent exhibits. "Flashy" graphics may be used even though they become dated quickly. Another benefit of a temporary exhibit is that it can be designed to travel to other botanical gardens or museums. All of these options in the use of temporary exhibits reflect the attitude that the garden staff is interested in visitors and want to provide them with information.

Temporary exhibits probably arose out of a need for change. By providing new information, visitors can be stimulated to return to the garden. (It should be noted however that people usually visit a temporary exhibit only once.¹⁰) There is a danger that in using exhibits primarily for their promotional value, as drawing cards for visitors, emphasis on increasing attendance figures may become more important than attention to other institutional purposes. This issue comes up frequently at art museums with the large traveling shows that are given a tremendous amount of publicity.¹¹

It is a good idea to integrate short term exhibits with more permanent collections. Producing a temporary

exhibit can take just as much time and money as more permanent exhibitions and can easily interfere with the institution's normal activities. In gardens, the winter months are ideal for working on temporary exhibits. Indoor exhibitions draw the most attention in the winter when they do not compete with showy outdoor displays.

Temporary shows should be used to stimulate interest in permanent or year-round displays. They are a good way of integrating interpretive material into a garden without violating the spaces of major display areas or landscape views.

Exhibits are usually organized according to one or several of the following criteria:

1. aesthetic (e.g., photographs of ferns)
2. chronological (e.g., the development of seed catalogues)
3. stylistic (e.g., Victorian garden design)
4. historical context; objects placed in their original setting with other objects (e.g., a Victorian conservatory)
5. thematic or conceptual (e.g., fragrance in plants)

In planning an exhibit program, thought should be given to emphasizing the strengths of existing collections

and related programs, as well as to the questions that visitors might have. Botanic gardens have a wonderful advantage because their collections are living, constantly changing and ideal for sensory experiences.

Footnotes

1. G. Ellis Burcaw, Introduction to Museum Work (Nashville, Tenn., 1975), p. 115.
2. Barbara Tyler and Victoria Dickenson, A Handbook for the Travelling Exhibitionist (Ottawa, 1977), p. 14.
3. Harris H. Shettel, An Evaluation of Existing Criteria for Judging the Quality of Science Exhibits, American Institute for Research in the Behavioral Sciences, (Pittsburgh, November 1965).
4. Douglas and Elizabeth Rigby, Lock, Stock and Barrel: The Story of Collecting (New York, 1944), p. 97.
5. Ibid., pp. 190-191.
6. Monte A. Calvert, "American Technology at World Fairs 1851-1876," (Newark, University of Delaware, 1962), p. 21.
7. Ibid.
8. Ibid., p. 22.
9. John Allwood, The Great Exhibitions (London, 1977), p. 23.
10. H. L. C. Jaffé, "Temporary Exhibitions in Art Museums," Temporary and Travelling Exhibitions (Düsseldorf, Germany, 1963), p. 36.
11. Philippe de Montebello, "Guest Speaker: On Museum Extravaganzas," Architectural Digest 36 (September, 1979); pp. 36-40.

CHAPTER III

EXHIBIT SURVEY: THE STATE OF THE ART OF EXHIBITING IN NONPROFIT HORTICULTURE

Introduction

Exhibits are an important service of most museums, be they art, science, history or technology museums, or zoos and botanical gardens. The first four types of museums, concerned mainly with non-living objects, use exhibitions in a very conscious way. Staff from these institutions publish information concerning their exhibits in periodicals like Curator, Museologist, and Museum News. Sources of information pertaining to plant-related exhibitions are as yet poorly developed.

A questionnaire was mailed in June, 1980 to seventy-nine public gardens located throughout the United States in order to determine the types of exhibits that have been shown at horticultural institutions and how they have been used by those institutions.

The survey was arranged in a two-part format. The purpose of the first section was to look at examples of particularly successful exhibits. Respondents were asked

to answer Part One for a "major exhibit" which they thought was particularly good. The second section was designed to expose the more general "state-of-the-art" of exhibit work in nonprofit horticultural organizations. Here respondents were asked to answer for "exhibits in general" at their institution.

Two questions from a survey done in 1978, by Philip Correll, Botanical Gardens and Arboreta of North America: An Organizational Survey, helped identify those institutions that had been involved in exhibit work. The first question rated the frequency of different educational and cultural activities, including exhibits.¹ The other question asked directors where they would like to increase expenditures -- education, facilities, collections, exhibits, or research.² The directors who indicated that exhibits were an important function of their garden received a copy of my survey. Based on personal visits of the author and newsletters, other institutions that seemed to have an exhibition program were also sent questionnaires. A list of the gardens surveyed is in Appendix III (page 163).

Sixty-four gardens (82%) returned the survey, and fifty-two gardens (65%) completed it. Twelve gardens

returned the questionnaire but did not complete it because they did not have exhibitions.

In the discussion of the survey results presented in this chapter, figures present both the findings for "major exhibits" and "exhibits in general." Percents may not add up to one hundred as more than one answer was possible for each question. Copies of the survey and survey results are in Appendices I and II (pages 139-162).

Discussion of Findings

Instructions to Survey Respondents

In some cases there was confusion with the stated definition of an exhibit as "a display of material and ideas whose primary intent is to present information to the viewer." Several people seemed to answer the questionnaire in terms of display only, without interpretation, such as strictly floral displays. These responses were included in the compiled results (but did not change them significantly) since it was not evident from the surveys whether or not they did include interpretation. The results yielded the following information.

Exhibit Coordinators

People in many kinds of positions are responsible for producing exhibits. In botanic gardens and arboreta exhibit work is rarely the sole responsibility of one person.

Theme

The number and diversity of themes compiled from the surveys indicates the spectrum of topics that can be presented in exhibit format. At the institutions surveyed, there is a heavy bias towards themes concerning history, botanical illustration, and plant care. This is probably because the reference materials are readily available and the themes have broad appeal.

Design and Preparation

As shown in Figure 1, paid staff prepare most exhibits, using the expertise of volunteers and staff. Figure 2 indicates that the most helpful reference sources for preparing exhibits besides garden staff are books and personal or professional contacts at other institutions. The resources of government agencies and outside consultants are rarely used to help in producing exhibits.

STATISTICS FROM 1980 EXHIBIT SURVEY

EXHIBIT PREPARATION
percent of gardens

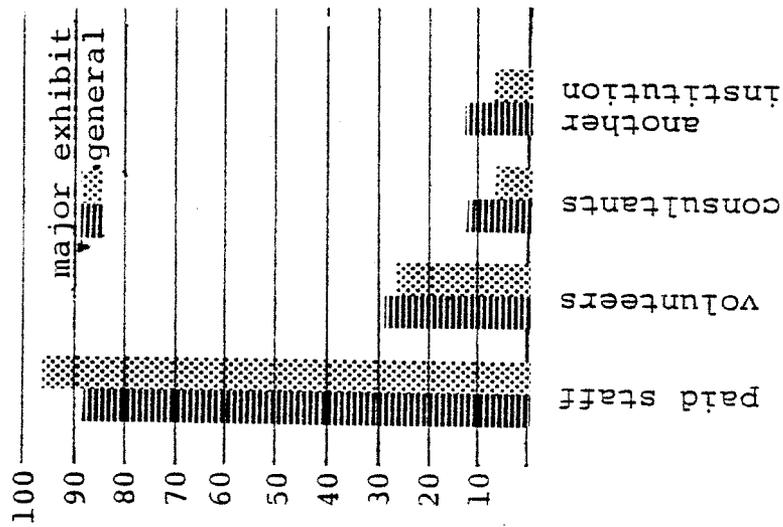


Figure 1. People who prepare exhibits at the botanic gardens surveyed

HELPFUL REFERENCES
percent of gardens

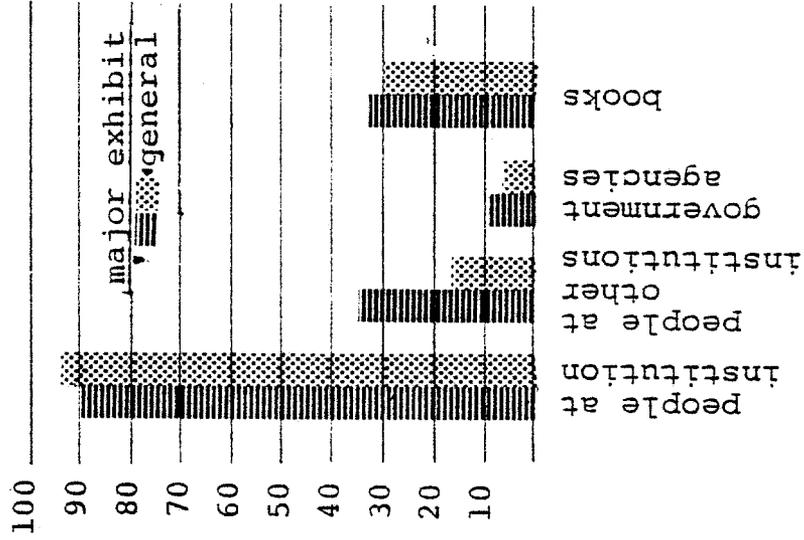


Figure 2. Helpful references for preparing exhibits

Materials, including plants, that are used most often for exhibits come from the garden's own collection. Purchased materials and those loaned from private sources are also used frequently, as is noted in Figure 3.

The survey indicates that most gardens rely on their own resources for expertise and manpower, and utilize materials from their own collection as principal exhibit components. This is ideal for any exhibition program. By keeping a garden's unique collections in the forefront and creating the exhibit internally, it is less easy to stray from institutional goals and needs.

Thematic content naturally dictates the type of exhibit components that are used. Appropriately enough, signs or labels and living plants are major components. Illustrations, photographs, and brochures are also common as can be seen in Figure 4. The majority of gardens produce three-dimensional exhibits containing living plants.

About half of the respondents actively encouraged visitors to explore exhibit material with senses such as smelling, feeling or tasting (the "hands-on" approach). This approach depends on the subject of the exhibition; exhibits on spiny plants or fragile herbarium specimens do not lend themselves to multi-sensory exploration.

STATISTICS FROM 1980 EXHIBIT SURVEY

SOURCES OF MATERIALS
percent of gardens

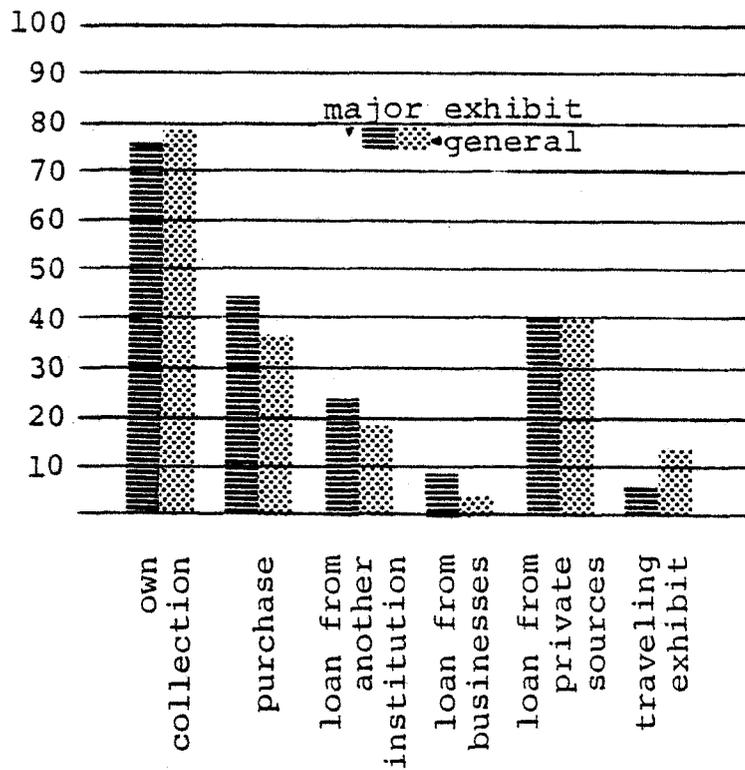


Figure 3. Sources of all exhibit materials used at the gardens surveyed

STATISTICS FROM 1980 EXHIBIT SURVEY

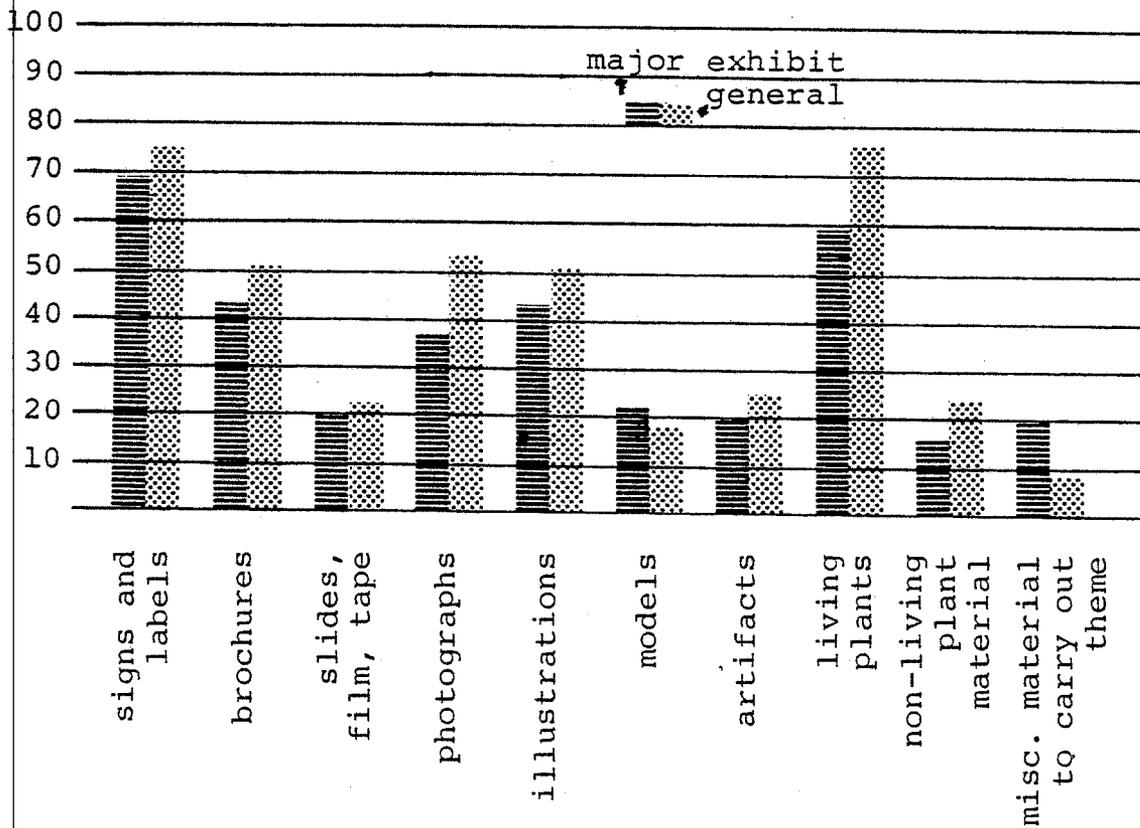
EXHIBIT COMPONENTS
percent of gardens

Figure 4. Principal exhibit components at the gardens surveyed

Figure 5 shows that paid staff members on duty in the exhibit space provide interpretation or security for the exhibit. Volunteers also staff exhibits at 40% of the gardens surveyed. Human interpreters can greatly improve exhibit quality, especially with "hands-on" exhibits.

Fifty-eight percent of the gardens that answered the survey produce printed materials to accompany exhibits. Although brochures, pamphlets and other handouts can be very valuable for their informational content, they often represent an extra cost which may not be justified, especially when the exhibit is open for only a few weeks. Not every exhibit should have or needs additional verbiage though some are greatly enhanced by scholarly or entertaining printed materials that visitors can take home with them.

Audience

Based on the response indicated in Figure 6, exhibits are rarely directed to a particular age group. Although only 26% of the time exhibits are specifically directed toward adults, many other exhibits are probably subconsciously designed for adults. It is difficult to write labels or design an exhibition without some idea of who the visitors

STATISTICS FROM 1980 EXHIBIT SURVEY

STAFFING EXHIBITS
percent of gardens

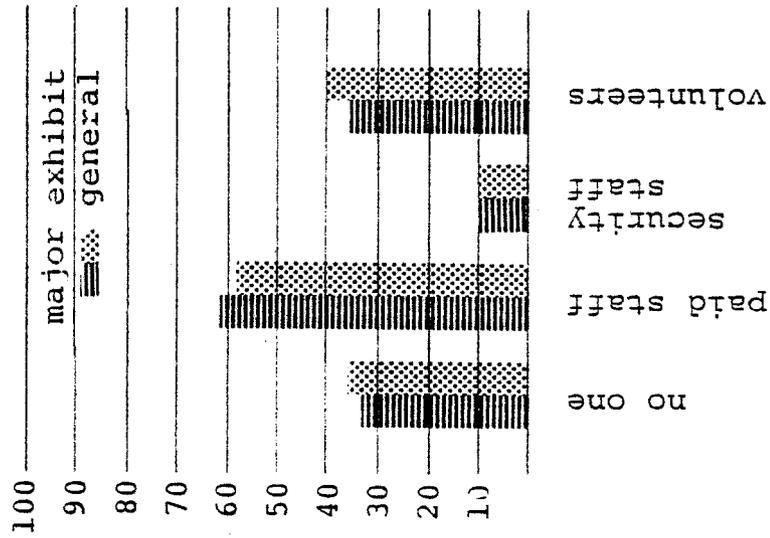


Figure 5. Interpreters and security staff present in the gardens' exhibits

INTENDED AGE GROUP
percent of gardens

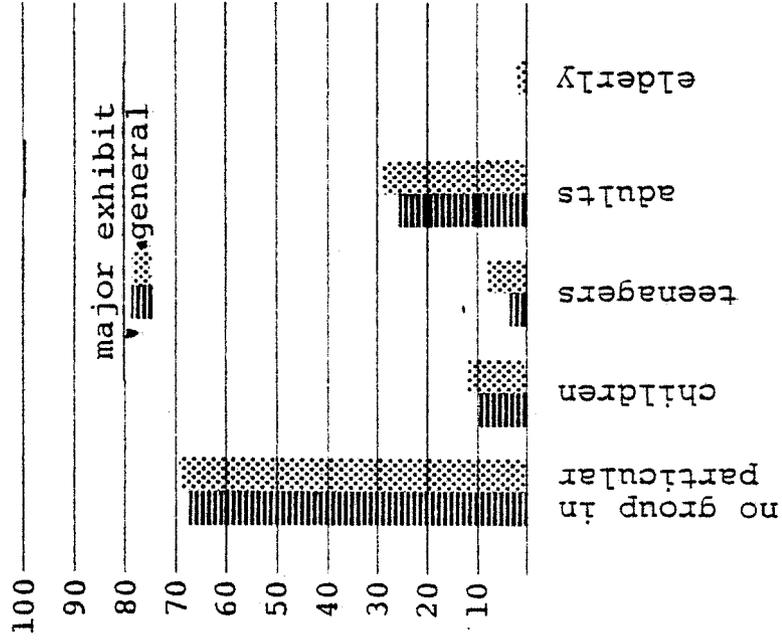


Figure 6. Age groups for which the exhibits are intended at the institutions surveyed.

might be. Figure 7 shows that exhibits in gardens are visited predominately by family groups and individuals. School groups are also frequent visitors. The visitor profile should be kept in mind when designing exhibits.

Ninety percent of the respondents thought that exhibits increase visitor attendance to their institutions, as proved by the number of visitors or the amount of gate receipts. Increased visitor attendance, with added bonuses such as gift shop sales, increased membership, and interest in other programs or aspects of the institution, justifies the time and money spent on exhibits.

Location

Exhibits can be found almost anywhere in the institution, as indicated in Figure 8. Many organizations mentioned that their exhibit locations are not optimal because they are out of the way, too small or too difficult to maintain in top condition. Developing an exhibit in an inhospitable place, such as a former closet, a hallway, or converted barn, is a common challenge.

Size of exhibits varies. It is likely that some people answered the question with their potential, not their actual exhibit space, as it is difficult to imagine one or

STATISTICS FROM 1980 EXHIBIT SURVEY

VISITOR PROFILE
percent of gardens

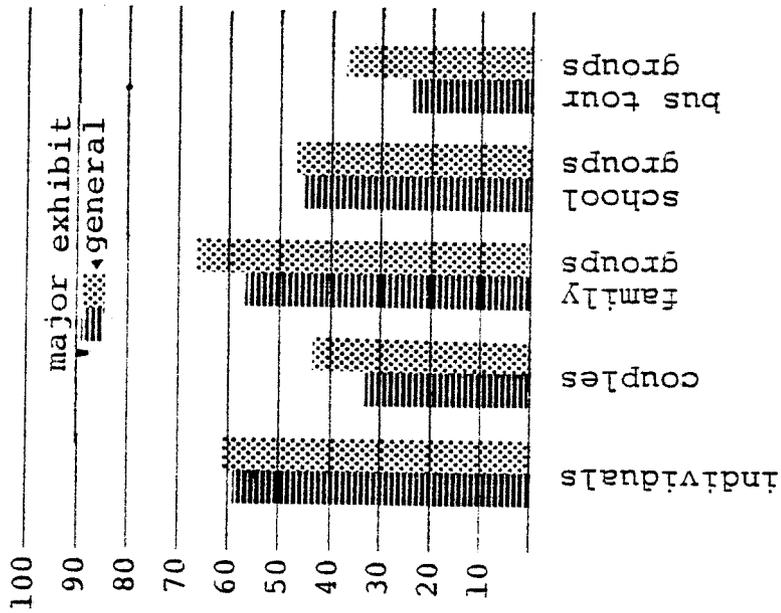


EXHIBIT LOCATION
percent of gardens

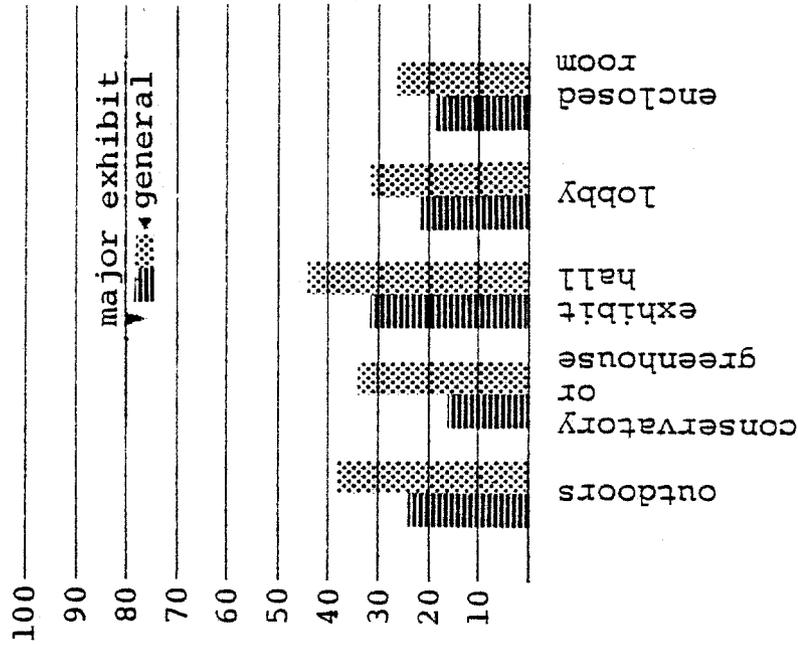


Figure 7. Predominant types of groups that came to exhibits at the gardens surveyed

Figure 8. Exhibit locations at the gardens surveyed

several exhibits covering 100 acres. All the horticultural exhibitions cover considerably more floor space than wall space indicating that they were not "flat" exhibits like some art shows.

As shown in Figure 9, the majority of respondents exhibited elsewhere at some time, primarily at flower shows, fairs, and professional meetings -- all places of high visibility. Most gardens, however, did not display their major exhibit away from the institution.

Duration

On the average, exhibits are open ten to thirteen weeks. Exhibition periods are of three general durations, several days, several months, or permanent shows. The shortest exhibits usually are held at flower shows or are components of large flower shows.

Funding

Most respondents said their exhibits cost under \$500, as shown in Figure 10. The majority of gardens surveyed pay for their exhibits through annual operating budgets, without accounting for the major costs, such as staff time. This suggests little foresight; expenses can mount quickly without adequate planning.

STATISTICS FROM 1980 EXHIBIT SURVEY

WHERE TRAVELING EXHIBITS WERE DISPLAYED
percent of gardens

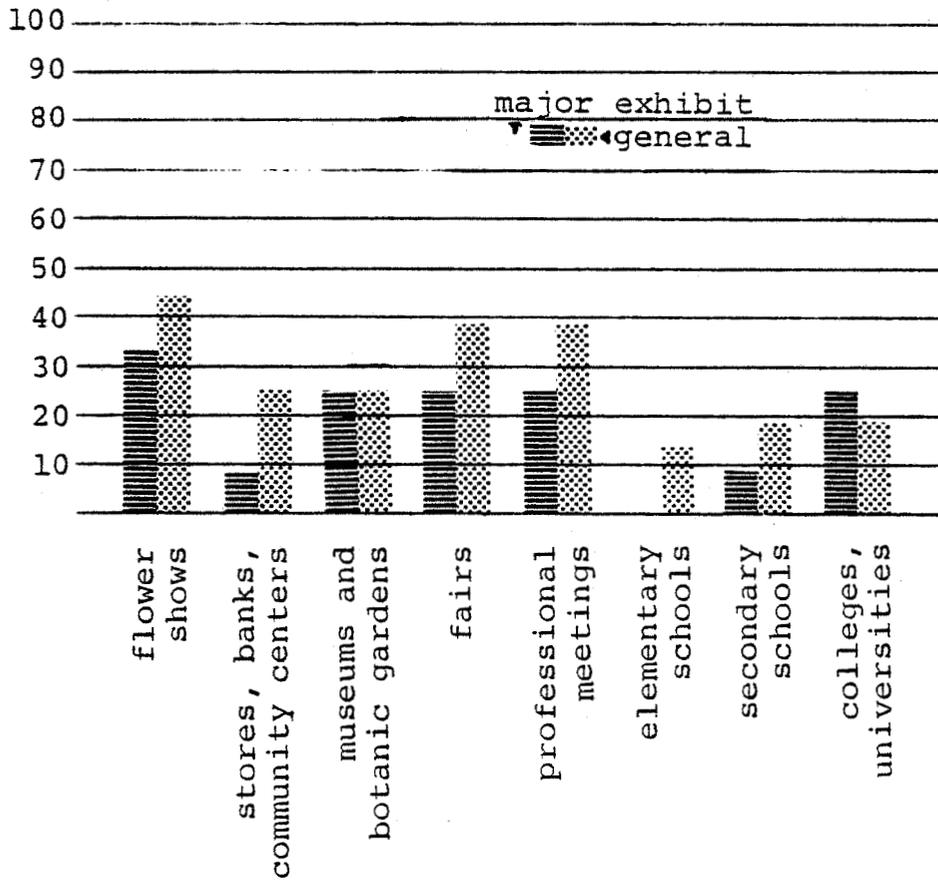


Figure 9. Locations where traveling exhibits are displayed

STATISTICS FROM 1980 EXHIBIT SURVEY

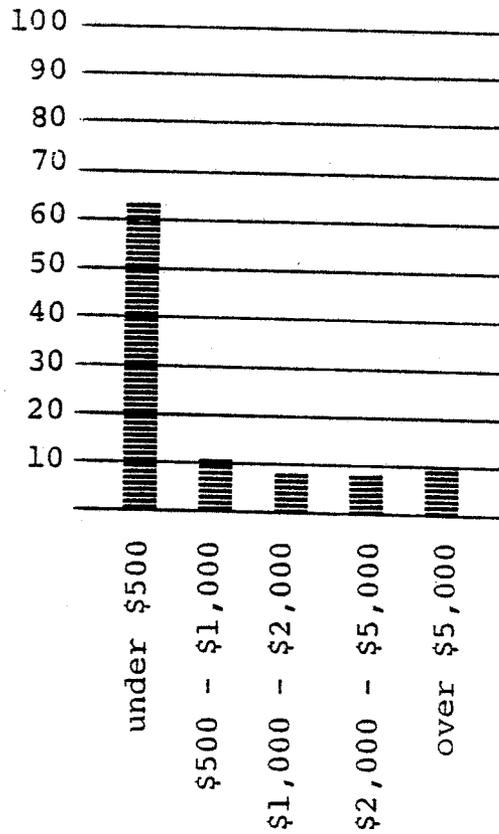
BUDGETS FOR EXHIBITS IN GENERAL
percent of gardens

Figure 10. Typical exhibit budgets at the gardens surveyed

Figure 11 indicates that about 20% of the respondents receive grants from foundations for their exhibitions. Money from private individuals is utilized by 14-18% of the gardens. Federal, state and corporate money is used mainly for costly exhibits which are attractive projects for outside funders. Exhibitions are seen by many people and consequently provide good publicity for the sponsor.

It is surprising to find that 60% of the gardens do not charge any general admission fee. The average fee among those who do is \$2.00. None of the respondents charge a separate fee for their exhibits. This suggests that botanical gardens do not consider special exhibits as a direct source of income.

Evaluation

There is a mixed response concerning exhibit evaluation; however, 68% of the respondents have done some kind of evaluation.

The most common method of evaluation, as indicated in Figure 12, is simply observing visitors. This can be very revealing and can be done at any time during working hours without being at all disruptive to the visitor's

STATISTICS FROM 1980 EXHIBIT SURVEY

SOURCE OF FUNDING
percent of gardens

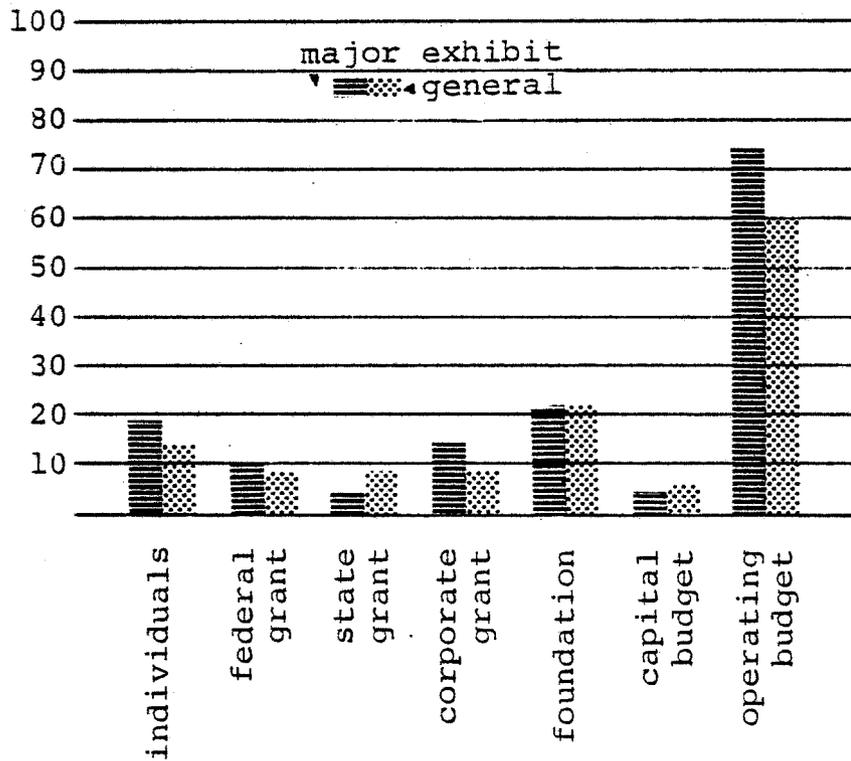


Figure 11. Sources of funding for exhibits at the institutions surveyed

STATISTICS FROM 1980 EXHIBIT SURVEY

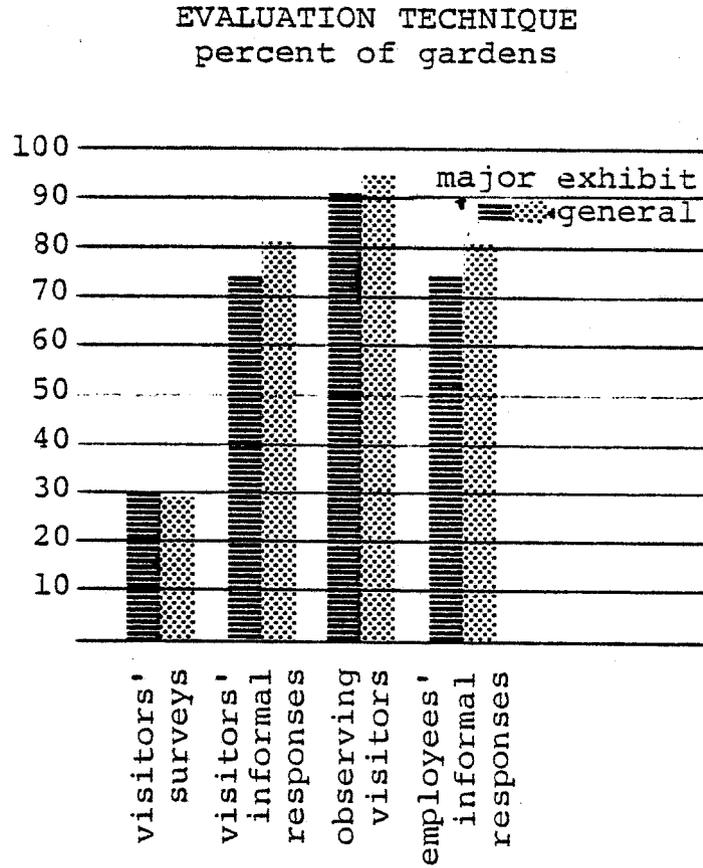


Figure 12. Exhibit evaluation techniques at the gardens surveyed

experience. It is however subject to a wide range of prejudices in the interpretation of results.

Formal visitor surveys are the least popular method of evaluation. This is understandable since they take considerable staff time and thought to prepare. They are useful tools for eliciting certain kinds of information such as visitor demographics and specific knowledge transmitted by the exhibit.

Evaluation is almost always carried out by paid staff, occasionally by volunteers, and almost never by consultants. One danger with evaluation by staff is that staff may be biased by their involvement with the project. Fresh eyes are often better for evaluating exhibits.

The responses on assessing the benefits of exhibition are diverse and quite interesting. (See survey results on p. 161 for the listing.) Ranked in order of importance as shown in Figure 13 the benefits of exhibitions are:

1. they provide good public relations
2. they provide information not available before
3. they increase the number of visitors to the institution

STATISTICS FROM 1980 EXHIBIT SURVEY

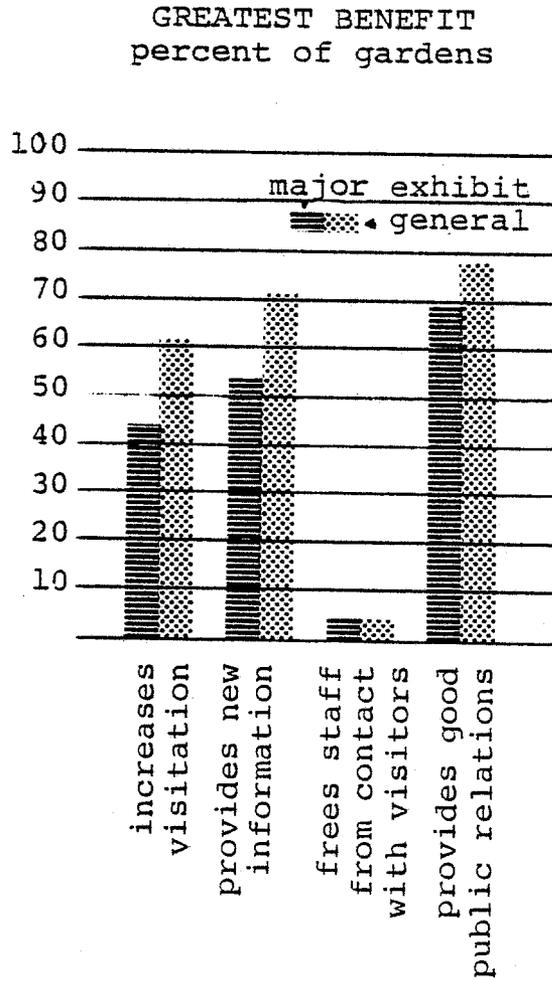


Figure 13. Benefits provided by exhibits at the gardens surveyed

The list of exhibit weaknesses on page 161 is almost as comprehensive as the list of benefits, and it covers every aspect of exhibit work. There are endless pitfalls, discouraging for someone contemplating his first exhibit. Figure 14 points out some of the weaknesses. The most frequent drawback mentioned is that the exhibits need constant maintenance.

Goals

In spite of the potential problems in staging an exhibit, 90% of the respondents believe that educational exhibitions are an important function of their institution. Figure 15 indicates the 56% want to put more emphasis on exhibits, and 40% want to maintain the same emphasis.

Interpretive Techniques

When asked to rate different techniques in terms of educating the public about plants, the respondents chose exhibits as third most effective. Figure 16 shows that classroom instructors and trained tour guides are considered the most effective educators. Audiovisual materials are ranked fourth and library facilities fifth. Tour mobiles which are motorized vehicles with live or recorded interpretation are considered the least effective,

STATISTICS FROM 1980 EXHIBIT SURVEY

GREATEST WEAKNESS
percent of gardens

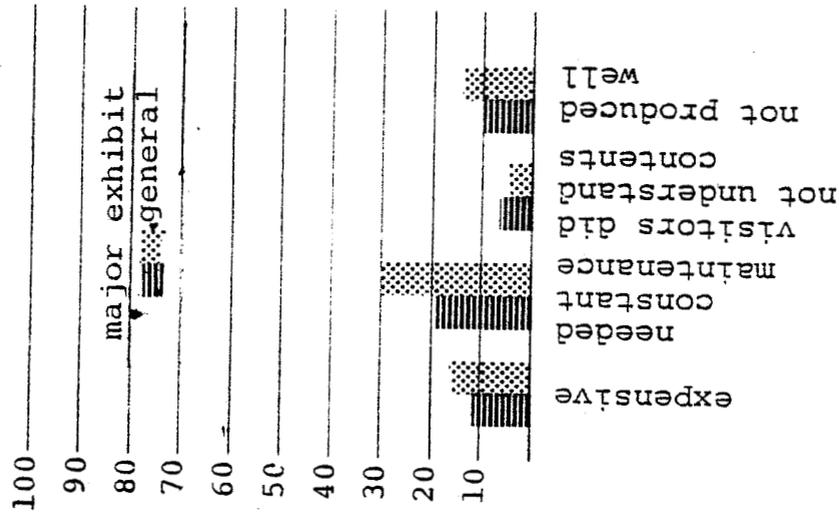


Figure 14. Weaknesses of exhibits at the gardens surveyed

FUTURE PLANS FOR EXHIBITS
percent of gardens

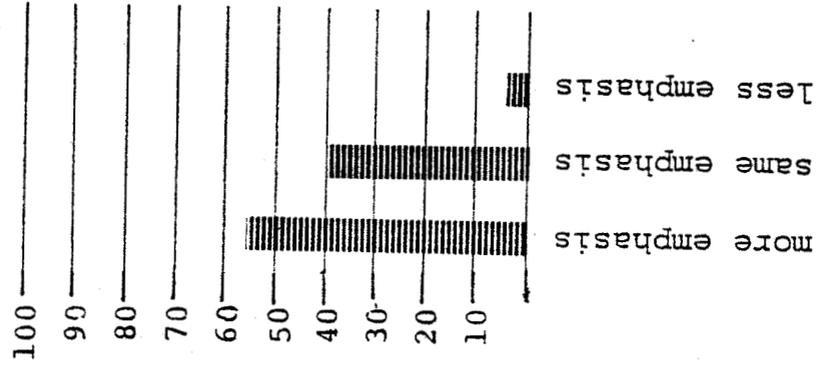


Figure 15. Future plans with regards to exhibits at institutions surveyed

STATISTICS FROM 1980 EXHIBIT SURVEY

EFFECTIVENESS OF INTERPRETIVE DEVICES

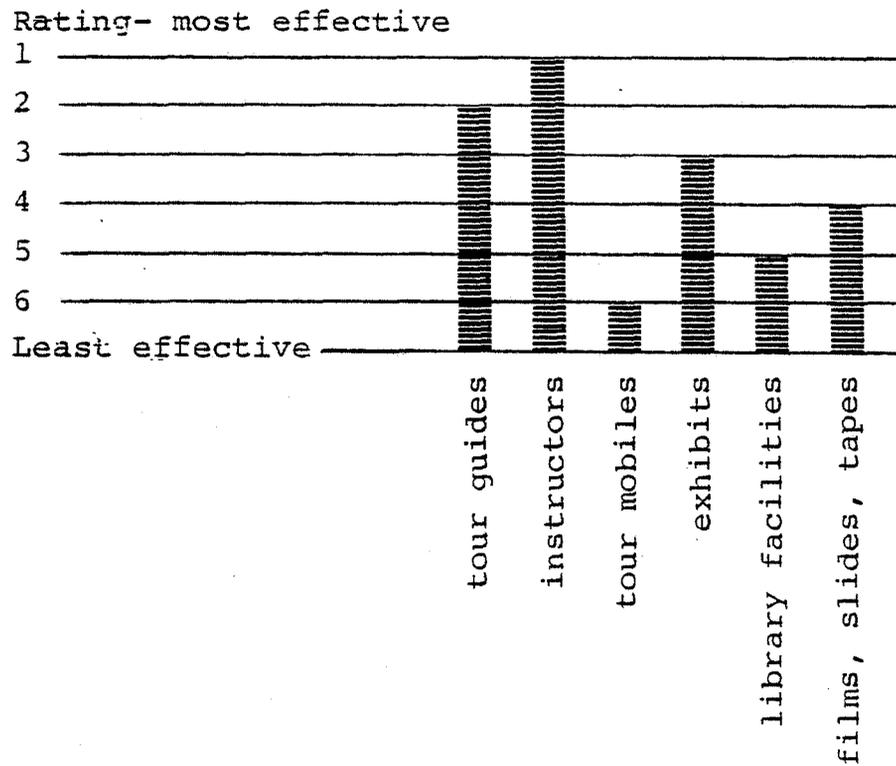


Figure 16. Effectiveness of interpretive devices as rated by the gardens surveyed

in part because many gardens do not have them and they are expensive to maintain. (The garden tram at the Winterthur Museum in Wilmington, Delaware costs approximately \$18,000 to run per year, not including depreciation of the vehicle. This amount is covered by ticket fares at \$1 per ride.³)

Human interpreters, be they instructors or tour guides, if well-trained, are often the best educators, as is evident in Figure 16. They provide a variety of information and can respond immediately to audience interests, changing seasons, and unplanned events.

Audiovisual devices can present information very effectively too. Unfortunately the devices are often misused, material may become dated quickly, and equipment is expensive. Use of audiovisual devices does not require any work from the visitors, they can simply be "sponges" soaking up information as it is presented.

Library facilities, though useful for finding additional information, are not effective as a general interpretive medium. The number of people who can use the library at one time is limited. The visitor must be motivated enough to do all the research by himself.

Exhibits can offer succinct messages, like audio-visual materials, but require visitors to do some work to obtain the message. Exhibits are less flexible than human interpreters in that they are one-way communication systems, sending out messages but giving the visitor no opportunity for feedback.

In the last survey question, 90% of the respondents answered that they do not have an exhibition policy, suggesting that they have not felt the need to formally establish guidelines for what they will exhibit when and to whom.

Footnotes

1. Philip Correll, Botanical Gardens and Arboreta of North America: An Organizational Survey (Los Angeles, 1980), p. 152.
2. Ibid., p. 371.
3. Philip Correll, Gardens Interpreter, Winterthur Museum, Wilmington, Delaware. Telephone interview with author, January 27, 1981.

CHAPTER IV

PLANNING

Introduction

In hopes of making the exhibit process less mysterious, this chapter presents an overview of considerations and identifies the necessary steps for producing an exhibition. Recommendations have been developed from my experience with exhibit work, study of survey results from botanical gardens and arboreta, and research of written material concerning museum exhibitions.

The development of an exhibit falls logically into two phases, planning and production. The key to any successful exhibit lies with proper planning; the more thoroughly planned, the more efficient production will be. Planning consists of a series of distinct but related steps which when finished should describe the more mechanical stages of construction and installation, treated in detail in Chapter V.

The Process

Creating an exhibit involves the following primary activities:

- appointing a coordinator and planning committee
- assessing available resources
- selecting an idea and considering audience
- developing theme
- scheduling activities
- developing a budget and securing funding
- doing research
- writing labels
- choosing plants and other objects
- designing the space and exhibit components
- constructing and installing the exhibit

Figure 17 illustrates the procedure for producing an exhibit. Although explanation of the exhibit process can be presented most clearly by such a chart, in reality it should be envisioned as an interlocking network. The steps although distinct cannot always be followed in a linear fashion, one by another. Some activities are done simultaneously, while others must wait until the previous steps are completed. Some jobs may take only a few hours

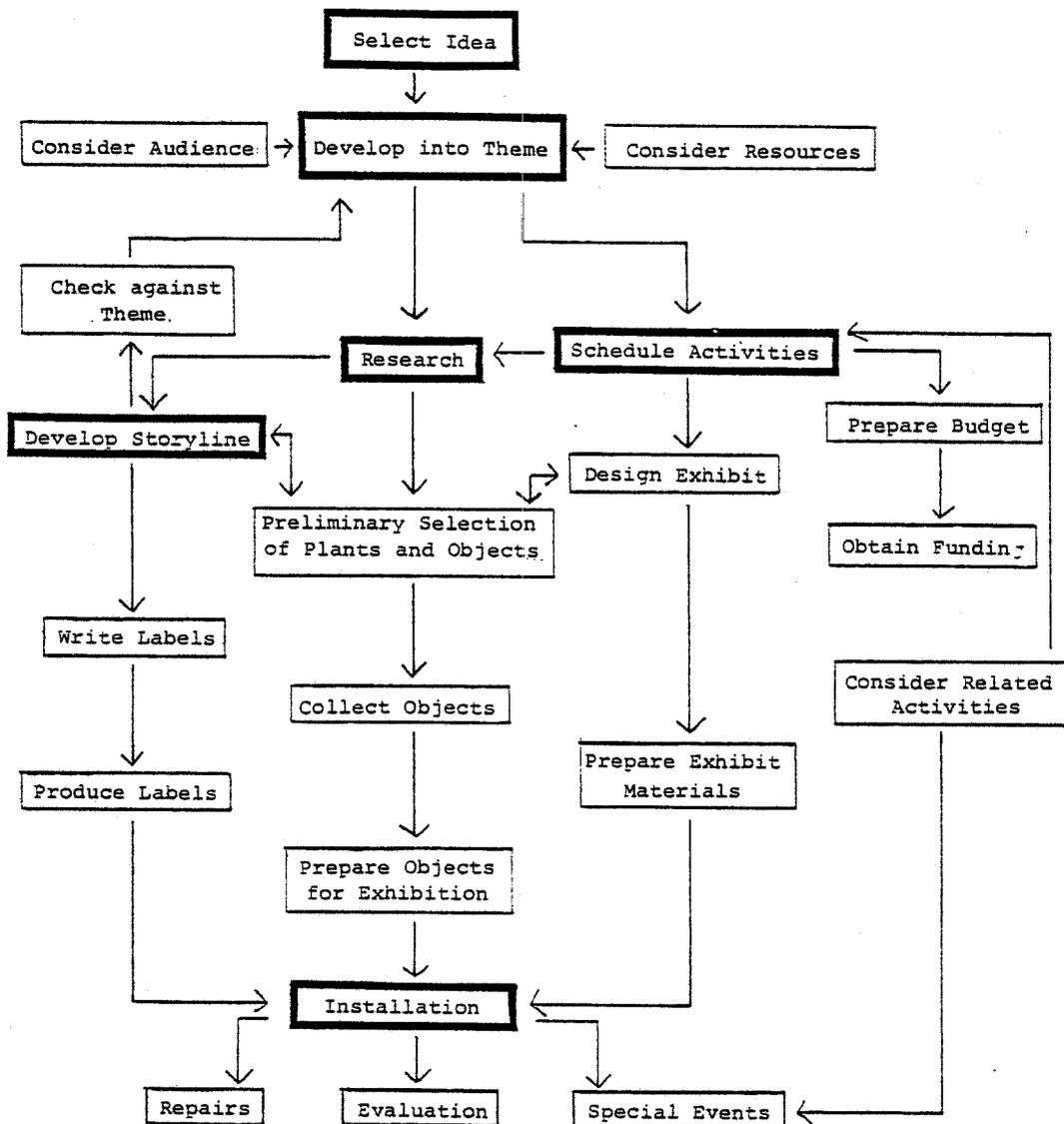


Figure 17. Flowchart of Exhibit Process

to complete while others take months. Exhibit work is a dynamic process, enlisting the help of every employee of the garden, from plant propagator to fundraiser.

Exhibit Coordinator

One person must be in charge of the exhibit process. This person usually has other responsibilities but nevertheless should have the following abilities:¹

- be organized, be able to work with people and coordinate the work of others
- be a good communicator
- know how different departments at the garden function and how the work gets done
- be able to follow through on jobs
- be creative and imaginative
- have a strong background in botany and horticulture, and a broad understanding of related fields, especially communication and education
- BE FLEXIBLE

Planning Committee

The next step is to assemble a planning team. A central core of people, organized by the coordinator, will be responsible for the exhibit and for setting priorities and budgets. Representatives from education, horticulture, maintenance, and research should usually be included.

Every member of the committee must be willing and able to commit time to the project from the very beginning. Each should have a clear understanding of the exhibit and his role in it. Throughout the exhibit process the team must keep in constant communication via checkpoint meetings and memos. Depending on the size and organization of the garden, the exhibit team can work informally or in a highly structured way. Good rapport is absolutely necessary for producing an exhibit effectively.

Assessing Available Resources

Before starting in on an exhibit program, a hard look should be taken at the garden's resources, in terms of people, time, finances, and space. Not every garden has the means to produce good exhibits. The balance of resources will vary from garden to garden. Some organizations have plenty of time but little cash; others may have more money available than staff.

Asking questions is a very good way of evaluating resources. Does the staff have enough expertise or time to take on such a project? Exhibitions will add work to everyone's normal duties and work overload can affect the quality of other programs. Is there a storage space and a work area? Is there money available for supplies? Can money be obtained

from other sources for exhibits? Are the plants and other objects in good condition?

An honest appraisal of existing resources provides the criteria for deciding whether or not the project can be pursued. If not, the alternative of hiring an outside consultant should be considered before rejecting the exhibit completely.

Selecting an Idea

The coordinator should keep a file of all feasible ideas that filter through the garden. Plans and ideas should be worked on continually, even if implementation will be years away.

Timing of exhibit ideas is important. The exhibit will only be successful if the public is ready to receive its message. One year nobody will care about a presentation of the value of jojoba (a desert shrub whose seeds yield a valuable liquid wax) and five years later people may want to know everything about it.

If possible, themes should relate to the lives of each visitor. This can be tested by asking the harsh but useful question, "So what? Do your visitors care?". Inter-

disciplinary themes that rely on seeing plants for understanding are more interesting and appealing than those that don't need plants at all. Ideally, exhibit themes can be extended to other activities and parts of the garden.

Whatever idea is chosen should fit the requirements outlined in the garden's exhibit plan. No one should ever hesitate to reject an idea that would make a good exhibit but has no place at that institution.

The Audience

With an idea in mind, it is then necessary to consider the potential audience. Too frequently, visitors are not considered at all in the development of exhibitions even though the end results are meant specifically for them. Visitors should be very real partners in the exhibit process.² Their interests, backgrounds, physical needs and reactions to the garden should guide the direction of the exhibit. This kind of information can be obtained through surveying and observing visitors.

Developing the Theme

Early on in planning a short description and outline of actual information to be presented will help direct

decisions concerning theme development. As Harris H. Shettel has said, "If you don't know where you're going, you won't know how to get there, nor will you know when you have arrived."³

One useful way to marshal ideas into a cohesive story is to develop a chart similar to the one shown in Figure 18, with subthemes in one column, plants and objects in another column and exhibit techniques in a third column. A fourth column may be added with suggestions for visitor involvement.

The concepts presented through an exhibit are often more valuable than the plants or artifacts shown. By starting with concepts, the exhibit organization is likely to have coherence and focus but can easily get too complex.⁴ A complete story may be developed only to find that no plants could possibly illustrate the theme; the coordinator should be writing a book rather than producing an exhibit. In this case an alternative communication technique such as a series of special lectures might be considered.

Plants too can be the starting point for a theme by drawing on their characteristics. The danger here is that the plants or other objects may not be able to convey a

THEME: Carrots			
SUBTHEME	POSSIBLE OBJECTS	DISPLAY TECHNIQUE	VISITOR INVOLVEMENT
Environmental Adaptation	Model of whole carrot with parts and functions explained Huge carrot	Hanging from ceiling	Sight
Source of Food Around The World	Photographs of different cultures	Mounted on walls	Sight
Genetic Selection	Living examples Preserved examples	Window boxes with glass fronts Preserved in bottles Mounted in cases	Sight
Commercial Growing Techniques	Printed records from local growers	Displayed in cases	Sight
Botanical Relatives	Living examples of other family members	Window boxes with glass fronts to expose roots	Sight Smell

Figure 18. Chart for Theme Development

message by themselves or they may be presented as a display, neglecting interpretation.⁵

If the chart approach is taken, both the interpretive content and the selection of plants will be simultaneously interwoven into one story. Every concept expressed in the theme column and all the plant-related material in the object column should support the main theme and be organized into a clear and logical sequence.

When the planning committee has decided on a particular theme, the exhibit process proceeds in two parallel ways. Administrative functions ensure the realization of the exhibit while the content of the exhibit, including research, label-writing, plant selection and design, continues to be developed.

The next sections discuss scheduling, budgeting, and funding -- the primary administrative aspects of any exhibit -- before returning to content development.

Scheduling

A "plan of action" in the form of a production schedule must then be arranged so that the ideas outlined can be transformed into a physical exhibition. This can only be done by carefully identifying tasks that need to

be completed, allocating time and coordinating activities to produce the exhibit. Regardless of the size of the garden or the project budget, the necessity for careful and accurate scheduling cannot be overemphasized.

The exhibit coordinator should begin by creating a complete list of things that have to be done. (This list will be useful later in drawing up a budget, and is a great aid in taking as much uncertainty out of the process as possible.) Publicity, special events and educational programs that will accompany the exhibit should be included in planning. At this time, the decision must be made as to whether or not a catalog or other printed materials will be produced. A discussion of auxiliary exhibit activities that might be considered is presented in Chapter VII.

Once the list is complete, a time allotment should be assigned to each activity, allowing a certain amount of leeway for the delays that inevitably occur. Usually the best time estimates for a particular task are made by the person responsible for doing that task. The activities are then listed chronologically and given a real calendar time, as shown in Figure 19, with a starting date and a deadline. Depending on the complexity of the exhibit, the entire project may take three months or three years. The opening date should be projected last of all, allowing

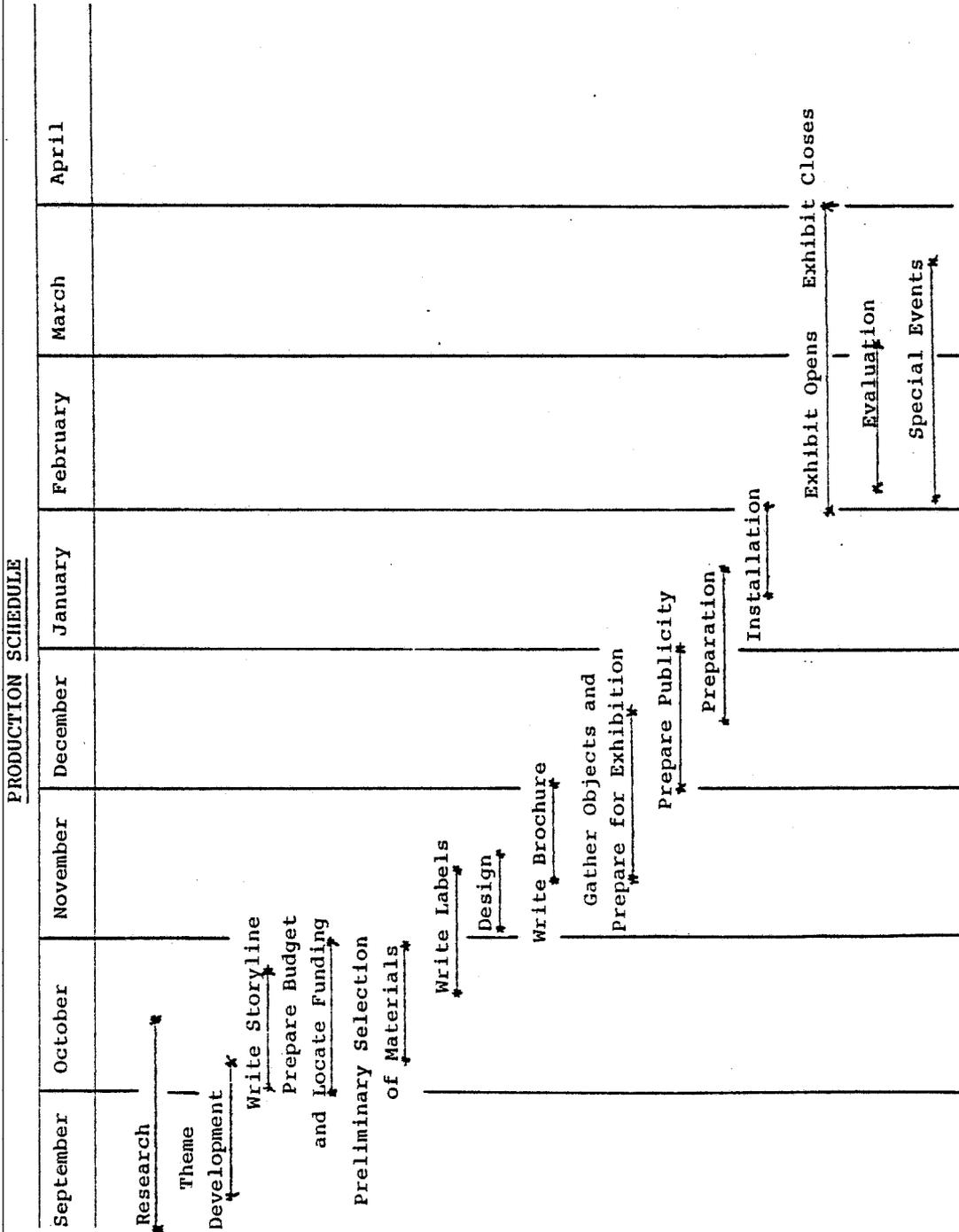


Figure 19. Production Schedule

extra time for the unexpected. In addition to the activities and deadlines indicated on the production schedule, people responsible for each job should be clearly noted. The degree of detail included depends on the amount of control the coordinator needs over the project. With the garden's first exhibition, staff members will need more guidance concerning their respective responsibilities. A copy of the schedule should be sent to everyone involved and revisions made as quickly as possible.

There are many benefits in using a production schedule. It serves as an aid in communication and promotes clear working relationships, helping others understand the nature of their responsibilities within the whole project and the interdependence of each part. The clear establishment of deadlines is another benefit. They are essential when planning related activities such as press announcements and the exhibit opening. Deadlines will also help to avoid cost overruns on large contracted jobs.

A production schedule is of no value however if relegated to the bottom of a stack of papers, never to be seen again. Checks, such as short progress reports or meetings, will guarantee that progress is maintained.

Budget

Another means of control of the exhibit process is the use of a written budget. Producing an exhibit can be a large chunk of any museum's annual budget. Without some method of monitoring exhibit expenses it is easy to overlook costs until a financial crisis arises. The value of a budget is that all aspects of the exhibit, including manpower and time, are reduced to a monetary value as a standard base of reference.

Some museums draw up exhibit budgets somewhat arbitrarily by the square footage of exhibit space, using the following formula:

$$\$80-\$100 \times \text{Number of Square Feet} = \text{Price of the Exhibit}^6$$

Although this formula may be adequate for botanical gardens that are familiar with exhibit work, it does not give a very accurate means of determining line items.

A better approach is the project budget where all itemized costs are directly attributable to one project. Fixed expenses, such as overhead and employees' time, are apportioned to every institutional project, including the exhibit. It is wise to check prices with several sources

since estimates can vary as much as 50%.⁷ When the proposed budget is complete, many museums tack on a 10% contingency to cover inflation and anything that has been overlooked.

As with the production schedule, the budget must be frequently referred to to be of value in controlling expenses. It is a tool to monitor progress and expenses. One person should be in charge of keeping all receipts and time estimates. When the exhibit is finished, an actual budget should be prepared for comparison to the budget estimate. This forces an accounting for all items and is useful for budget planning and looking for outside funding in the future. Government agencies, private foundations or any donor is bound to prefer giving to responsible institutions that demonstrate through careful accounting that they use the financial gifts wisely.

Funding

Before any expenses are incurred, the exhibit team should ask whether the garden can afford the exhibition without jeopardizing other programs and functions. Is money available to cover all requirements? Can funding for the exhibit be coordinated with the institution's

existing cash flow both in terms of amount and timing?⁸

Does the project justify the cost?

Even if the garden is unable to afford an exhibit, it is likely that an outside source of support can be found. Exhibit funding can come from a variety or combination of sources: the institution's operating budget, member organizations, garden clubs, foundations, municipal, county, state or federal grants or donations from individuals or corporations. Exhibits are attractive projects to fund. Since many people see them, the sponsor nearly always realizes good publicity.

There is also the possibility of supplementing the garden's existing funds with donations and loans of materials. Segments of the exhibit can be funded separately; for instance, a donor may be interested in giving the garden a collection of containers for plants or extra track lighting.

Looking for outside funding is another way of ensuring that exhibit ideas are thought out thoroughly. To secure funding entirely from outside the garden, the staff must meet the granting agency's requirements, which usually involve a grant proposal and/or an information packet. Although it is beyond the scope of this thesis

to discuss funding sources in more than a general way, both corporate and government sources should be investigated since they have given substantial support to museum exhibits in recent years. References for further information concerning corporate and government support can be found in Appendix IV (p. 166).

Research

Some types of research will be ongoing at all stages of exhibit development, including researching funding sources, looking for sources of plants and other materials, and investigating exhibit techniques. The most important research however is finding background information that goes into an accurate and interesting theme. Such research should be directed towards the major issues pertinent to the topic, especially the "whys" and "so-whats."

Research is a time-consuming process and there is a tendency to allow research to go on beyond its usefulness. Therefore, it should have a scheduled endpoint. If theme research is comprehensive, it is a good idea to compile a report on findings.⁹ This serves as an organized, readily available reference to answer any questions that may arise, and provides a body of material from which labels or a catalog can be written.

Value and Selection of Plants and Objects

A major component of horticultural exhibits is plants. Plants are ideal for educational exhibits since they are living and constantly changing. While visitors are beguiled by the plants they will absorb the intended messages.

Plants and other objects should be selected for their physical interest and contribution to the overall theme. Ideally, each object used should have its own relevance and its own story-telling abilities. A fossil, a fern, and a single photograph all have qualities that cannot be communicated by words. In addition to their storytelling value, plants can be used to a limited extent for "decoration", to hide an ugly wall or to direct traffic.

Most plants lend themselves well to interpretation in one of the following ways:¹⁰

- as an art object, by itself, in combination with other plants, or in a garden
- as an object significant in the natural world
- as a commodity, including its production and use, significance and function

Visitors tend to enjoy slightly familiar plants and objects most; those plants that are not extremely common or if common are treated in a different context are most enjoyed.

Durability, perishability and maintenance needs are also factors to consider when selecting plants. Back-up material should be planned for. Thought should also be given to visitors' safety; poisonous and thorny plants should be kept out of the visitor's reach.

There is an ethical responsibility in museums with non-living collections which places the safety and care of artifacts above their exhibition value. Although this does not always apply to botanical gardens, it is something to keep in mind when dealing with non-living objects. Humidity is usually high in garden exhibits, so objects should be protected in cases. Local specialists or conservators can be contacted if there is any doubt whether or not an artifact should be exhibited. Replicas can be used if absolutely necessary, as long as visitors are not misled into thinking that the replicas are originals.

Labels

The informational content of an exhibit is usually transmitted through labels because they can be permanently integrated into exhibits and are relatively inexpensive.

Some people think that effective communication in a museum can occur only when visitors understand the non-verbal language of the sculpture, paintings, plants, or animals. The majority of museum staff think that labels and other printed materials can help give a voice to objects, thereby making them more intelligible to visitors.¹¹

Labels have often been accused of "not working" because few people read them. The problem is not with the actual medium but is due to poor writing or poor production. On the other hand, labels sometimes supersede the object as the center of attention. Having read the label, people may think that they have "seen" the plant or artifact without really giving it more than a cursory glance. They then may have lost the ability to recognize or compare the visual quality of similar things.

Creating labels is a procedure requiring writing, rewriting, designing, producing, installing, evaluating,

and redoing if necessary. In this chapter special consideration is given to label writing in an attempt to make the process less mystifying. Production of labels is discussed in Chapter V.

Types of Labels. Labels generally are divided according to function and size into categories of: titles and headlines, caption and specimen labels, and main labels.

Titles clearly identify the subject of the exhibit. Clever and catchy titles may be used as long as they are not confusing or misleading. Headlines or subtitles serve to break the theme into definable sections similar to the arrangement of newspaper articles.

Specimen labels provide specific information concerning a plant or object such as its name, origin, family, age and donor. Interpretive information can also be included, for example, its use, what it is made of or what is produced from it. Every plant or group of similar plants should have a specimen label; if plants are worthy of exhibition, it is worth telling people what they are.

The main labels, intermediate in size between titles and specimen labels, carry the body of the interpretive message. They require the greatest amount of time, thought and patience, often needing to be rewritten many times.

Writing Interpretive Labels. Labels should first answer the basic questions: who, what, why, when, where, how. They should reveal the greater context of the plant, not only what it is but something of its importance economically, ecologically, or for whatever reason it is included in the exhibit. Interpretive labels should be able to answer the question, "So what?"

To satisfy a variety of people, labels should include information at different levels of interest. Labels must be short and concise. Limiting labels to seventy-five words is a good device to make sure that only the most important information is included. Most visitors are standing and are not interested in reading large amounts of text.

Labels should be thought-provoking, hold the visitor's interest, and guide him through the exhibit. They can stimulate the visitor by: asking questions, offering challenges, making comparisons, and promoting observation and involvement of other senses. Adding elements of surprise or humor and using evocative words are also good techniques for maintaining interest. Whenever possible, the active voice should be used. Lively verbs are more effective than nouns or adjectives. Technical jargon should be avoided and Latin names relegated to parentheses.

Introductory and concluding labels are particularly important. Introductory sentences get read by the greatest number of people and serve to lure the viewer further into the exhibit. Concluding sentences should be equally strong, making a statement to tie the whole exhibit together.

Questions are particularly useful tools. Provocative questions at the end of labels can be better than straightforward information. Questions placed right after a section can help maintain the visitor's interest in the exhibit.¹²

Thought should be given to every word used in a label. Is it necessary? Is it understandable? Can it be misunderstood? Do the words say what they are meant to say? It is difficult to be objective about one's own writing so labels should be proofread by at least two other people who are not familiar with the subject.

Readability Tests. The following tests have been developed to predict the reading difficulty of text and to help the writer learn to be more clear and concise. They are useful tools when trying to direct labels to a particular audience and to check for general reader comprehension. Often what seems to be a simple label can be incomprehensible except to a select few.

WRITE Formula

1. Count out a 100 word sample from a label or labels.
2. Count one point for each one-syllable word except "the," "is," "are," "was," "were."
3. Count three points for every sentence.
4. Add the points together. The score should be between 70 and 80 points for general comprehension.¹³

FRY Test

1. Choose a 100 word sample.
2. Count the number of syllables in the sample.
3. Count the number of sentences in the sample.
4. Plot the scores from steps 2 and 3 on the graph in Figure 20 to find the grade level comprehension.¹⁴

CLOZE

1. In a sample label delete every fifth word in the text, replacing each with a standard-sized blank.
2. Ask visitors to fill in the blanks.
3. Tally score by counting the number of correctly filled in words and changing that number to a percentage of the possible correct responses. 57 to 61% is considered full comprehension.¹⁵

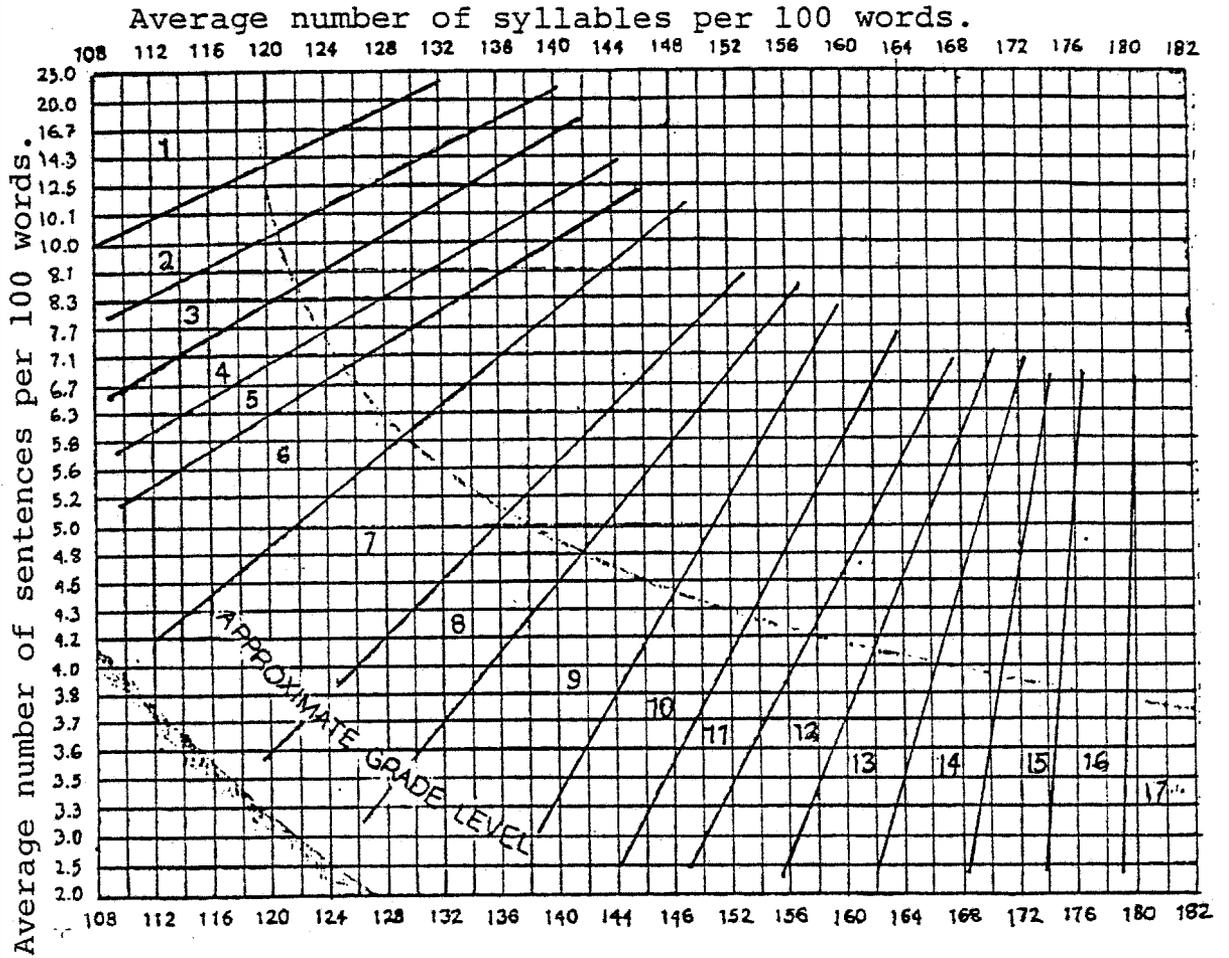


Figure 20. Fry Graph for Estimating Readability

(Source: Edward Fry, "A Readability Formula That Saves Time," Journal of Reading 11, p. 577.)

Design

At the design stage, all aspects of the exhibition begin to come together into a cohesive presentation. The exhibit design determines to a large extent how the exhibition is perceived and understood by visitors. It takes a certain sensitivity to be able to manipulate the design successfully. The designer must be creative, yet be willing to compromise and to attend to many small details.

The actual design can take its cues from the theme, the plants, or the surrounding setting. How an exhibit will be used is another concern. An exhibit that travels is likely to be designed and built in a very different manner from one to be assembled in only one location.

The overall atmosphere has an immediate impact on every visitor. The arrangement should be stimulating and pleasing to the eye, never monotonous, chaotic or in any way confusing. The only exceptions are instances in which those very attributes add to the impact. There are two basic approaches to design which seem to alternate in popularity.

The first is the "cluttered" arrangement where plants are packed in together. The value of this approach is that there will be a sense of discovery and surprise

when exploring the exhibit. The second is the "straight-forward presentation," where spaces are very clearly defined and plants and other objects are not jammed together.

Regardless of approach, it is helpful to the visitor if organization is evident from the entrance. An introductory label or panel can tell the visitor very briefly what the exhibit is about and how it is organized.¹⁶ People must be able to discern the exhibition theme in less than 30 seconds or else they are likely to wander off. Orientation devices such as subtitles and arrows will help guide people through the exhibit. Signs, maps and brochures will also make the visitor feel more comfortable by giving him information about where he is and the relative size of the exhibition.

In designing an exhibit, the visitor's comfort should also be taken into account. Elderly and physically challenged people may need assistance in seeing the exhibition. Organizations that provide information on special audiences are listed in Appendix V (p. 168). Benches and other resting spots should be included in the design.

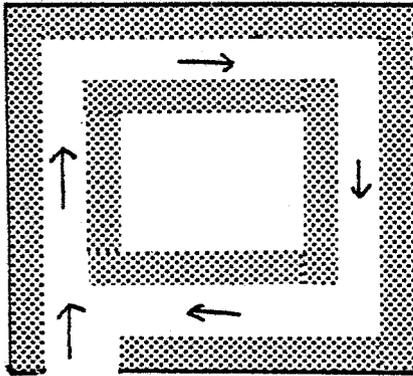
Several circulation patterns are used frequently. Choice of one of these layouts is determined by the theme, the size and shape of the plants or other objects and the physical space where the exhibit will

be mounted. Existing entrances and exits are particularly important in determining circulation patterns.

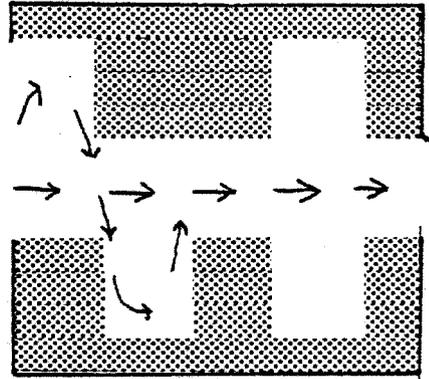
The Royal Ontario Museum, in their publication Communicating with the Museum Visitor, grouped circulation patterns into four categories illustrated in Figure 21.

Layout 1 shows a continuous linear arrangement. Visitors are required to follow the predetermined route through artifacts and labels to reach a "conclusion," and perhaps an exit. Whenever possible, this rigid approach should not be used since some people will not have the time or interest to go methodically through the entire exhibit and are likely to disturb visitors who study every detail. Layout 2 represents a main circulation path with optional side alcoves. Layout 3 illustrates a circulation pattern whereby the visitor comes into a central area and then must decide which alternative to take, returning to the central spot between choices. Layout 4 represents a pattern that is random in that it is determined by the visitor. This may be confusing in having so many choices. Routes should be planned so that bottlenecks and unnecessary backtracking can be avoided.

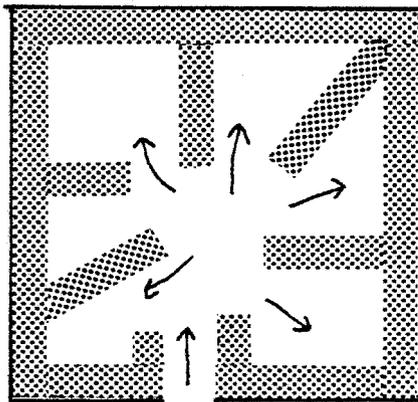
When designing an exhibit, visitor behavior should be kept in mind. Visitors tend to stick to the periphery, avoiding conspicuous open spaces. Americans usually move



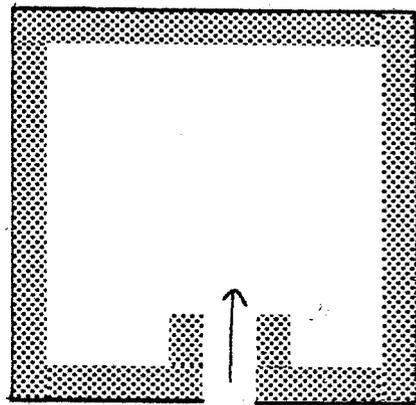
1.



2.



3.



4.

Figure 21. Circulation Paths

(Source: Royal Ontario Museum, Communicating with the Museum Visitor: Guidelines for Planning, p. 109-110.)

from right to left, even though they read from left to right.¹⁷

Viewing ease is just as important as spatial arrangement. Most people spend only 30-45 seconds in front of a given panel or case, and only look into an area that is one foot above eye level to three feet below it. People can read labels easily when they are placed horizontally below eye level on a slight slant to make them perpendicular to the plane of sight.¹⁸ Color and tone play a large part in viewing ease. Eyes move most quickly from dark colors to light colors, slowing with harmonious tones and moving faster with contrasting tones.

Design factors including size, placement, space, color, shape, texture and light should be used carefully, to maintain interest in the exhibit. Techniques should never dominate. People do not come to exhibits in order to admire the institution's wonderful job of lighting. The design should be flexible enough to accommodate changes that inevitably occur at the last minute when the exhibit is being installed, or after it has opened.

Both floorplans and scale models are useful in designing exhibit spaces and for presentations in planning meeting. Three-dimensional scale models with cardboard people can greatly aid in visualizing relationships between exhibit components.

Using Consultants

Another option open to the garden that wants a new viewpoint or lacks the resources to produce an exhibit is to hire a consultant who is experienced with the exhibit process and has expertise in graphics, design and production.

Other museums and public gardens are helpful in recommending good exhibit firms. Some firms will only do design work and others will do both design and production. Several companies should be interviewed and their reputation checked with previous clients.

During selection, the design consultants should become familiar with the garden staff. The staff should be comfortable with the project, understand their responsibilities and know they will enjoy working on it. Garden staff should also understand the consultant's role; otherwise they may resent an "outsider" coming in to do what they may perceive to be one of their jobs. This is the staff's opportunity to learn new skills in addition to receiving the contracted services. Both parties must remember that the consultant is under contract to the garden to carry out the garden's ideas. It is essential that the consultant

and the garden staff maintain a good working relationship since the exhibit typically is a joint effort whereby research, label writing and plant selection is carried out by the garden staff and design and production is done by the consultant.

All consultants' bids must be examined closely, to see that their proposals are in keeping with the garden's image and ideas. When the right consultant is chosen, a contract should be signed by both parties, covering payments, work schedule, deadlines and checkpoint meetings.

Generally any exhibit that is less than 2,000-3,000 dollars is best produced by the garden, since consultants are expensive and often paid on an hourly rate.¹⁹ For large exhibits however, it may be more cost-effective to pay for a consultant's services rather than monopolize the garden's resources.²⁰ Not all consultants are paid however. Volunteers from plant societies or the garden membership may be willing to share their valuable skills.

Footnotes

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11. Minda Borun and Maryanne Miller, "To Label or Not to Label?" Museum News (March/April, 1980), p. 64.
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18. Neal, Exhibits for the Small Museum, p. 137.
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CHAPTER V

PRODUCTION: EXHIBIT COMPONENTS AND INSTALLATION

Introduction

Exhibit production is the enjoyable but purely mechanical activity of transforming all the careful planning into a physical reality. How an exhibit is produced depends on its use, the project budget and many other variables. No two exhibits are likely to be produced in the same way and there are no hard and fast rules regarding exhibit production.

A knowledge of display techniques and materials is best acquired through actual experience, not through books or manuals. Techniques that are practical in art museums may fail miserably in a conservatory or outdoor exhibit. Ideas for display methods can be found anywhere, store window displays, advertisements, zoos, and other museums. Every exhibit designer has his favorite techniques which he is usually very willing to explain to those expressing interest.

Employing too many exhibition techniques is often worse than using too few. There was a period when

technological gimmicks, such as push-button panels and headphones, were popular in museums as a means of attracting attention and conveying information. The exhibition designer's "love affair" with electronic and audiovisual devices has begun to wear off with the realization that these devices are often expensive to maintain and are frequently superfluous to the actual exhibit message.¹

In most botanic gardens, there is no room in the budget for production errors. Therefore, it is helpful to study techniques used elsewhere before trying them for the first time at the garden.

Regardless of theme, there are basic components that are fundamental to almost every exhibit produced in a botanic garden or arboretum. These include: panels, display cases and pedestals, physical barriers, lighting, audiovisual equipment, and labels and signs.

Structural Components

Panels and Walls. Botanic garden exhibits are often mounted in conservatories, exhibit halls, or outdoors -- all large open spaces that may need to be broken up into smaller areas. Permanent walls, temporary panels and plants can all serve this function. Panels made of

foamboard or homosote are perhaps the most versatile, having the following attractive characteristics.²

- Panel units can interlock so their configuration can be adapted to any space.
- The panel units are complete in and of themselves, easy to assemble, move and store.
- They can be used free-standing, elevated on legs, or hung against existing walls.
- Lighting fixtures and lightweight counters can be easily attached to the panels with clamps.
- The surfaces can be treated with paint, fabric or various textures. The best surface is a plastic impregnated fabric that has a slight texture. It can be painted and does not show nail holes.
- Panel cost is moderate since they can be reused many times.
- High quality panels are produced by many commercial exhibit firms that advertise in museum and industry journals.

In a space designated exclusively for exhibits, it probably is worth investing in a more permanent wall treatment. Wooden moulding from which "things" can be hung is frequently mounted eight to ten feet above the floor. A more practical (and more costly) solution can be achieved by attaching plywood panels to existing walls and covering them with a neutral color indoor/outdoor carpeting. This saves wear on the original walls, helps

absorb sound, and is pleasant to look at. Nail holes won't show in the carpet once the exhibit is taken down. The carpet can also be sprayed so it won't harbor insect pests that might eat the exhibit.

Cases, Pedestals and Other Exhibit Furniture. Wall and floor display cases, pedestals, and physical barriers to protect objects are likely to be found in an exhibit. These structures should only set the stage for the exhibit, display objects and direct traffic flow.

Exhibit furniture is often acquired without pre-planning, through donations or municipal cast-offs. When relying on donations from outside sources, it is nearly impossible to obtain ideal materials suitable for many of the garden's functions. Arminta Neal offers several suggestions for constructing display cases and other exhibit furniture in her book, Help! for the Small Museum: A Handbook of Exhibit Ideas and Methods. She advocates building models to use in the development of ideal furniture.³

Exhibit cases should be well-ventilated and easy to maintain and move. There should always be access to the interior, from the top, front or sides. The exterior of the case should be simple, so that it will not detract from whatever is inside. Cases with solid bases are more

stable than those with legs, but the bottom will become scuffed unless it has rubber "toe kicks."⁴ Oil-based paint is recommended for case exteriors, since it can be quickly washed instead of being continually repainted.⁵ Each paint layer must be compatible with the previous layer to avoid peeling. Light reflection from outside the case can be cut down by slanting the glass in the front of cases on a five to thirty degree angle.⁶ Single-weight glass is very fragile and should not be used. Plexiglass can be used instead of glass. It is less breakable but tends to scratch easily and collect dust because of static electricity.

Barriers and Security. At times it is necessary to protect visitors, plants and objects from one another. This can be done by physically isolating one from another or by providing a psychological barrier.

Barriers, such as gates, glass, wire screens and water, restrict visitors' freedom physically, but their use is understood and accepted in most cases. The devices, however, should not be incongruous to their setting. They should visually enhance the exhibit, rather than jar the viewer's eye.

More subtle barriers can also be effective. These include: physical presence of staff members or security guards, placing plants out of reach of the visitors, and

using platforms, rocks, logs or thorny plants in front of displays. A simple change in floor texture from a smooth surface to an irregular one also acts as a deterrent.⁷

The level of security will depend entirely on the value of the exhibit and the attitude garden administrators have toward security. Well-maintained grounds discourage people from littering or damaging plants. Labels or guides can explain visitor impact on an area; people often do not realize their own destructive power. There is no reason not to be creative with security measures. A park in Virginia recently replaced their ineffective "Please Keep Off the Grass" signs with ones that read "Snakes in the Grass".⁸

Security guards are sometimes required to be present in the exhibit area for insurance reasons. In addition to their security function, guards can be very helpful with interpretation and exhibit evaluation.

Lighting

The use of lighting is an often neglected exhibit device. Lighting can strongly influence the mood of the exhibit, be it dark and mysterious or bright and cheery.

Sunlight. Sunlight is the major light source in both outdoor and conservatory exhibits. Its changing quality is difficult to control but it is convincing and realistic.

Artificial Light Sources. Exhibits in dark rooms and those open at night must use artificial light sources. Exhibits containing plants may need additional growing lights to keep them healthy. Recommended brands are "Tru-Bloom" by Verilux⁹ or Growlux.

Many museums use only artificial light because of the greater control this permits. They block out existing windows and lower ambient light levels to focus light on the important exhibits and major walkways.

General lighting is used at entrances, exits and other places where there is a high concentration of visitor traffic. Fluorescent tubes are used most frequently for this purpose.

Spotlights draw attention to small sections of the exhibit. The contrast between spotlights and ambient light makes a great difference in how a plant, or any other object, is seen. A colorful orchid plant in dim light can be transformed into a glittering object when its blooms are highlighted. This technique can be very dramatic in a conservatory setting at night.

Incandescent bulbs used for spotlights produce a warmer light and stronger shadows than fluorescent light.

The staff may want to invest in a good lighting system if the garden is committed to producing exhibits for a long period of time. The system should be as flexible as possible since exhibition needs change. Fixtures that consume a minimum amount of energy for their output should be used.

Track lighting, usually mounted in ceilings, is the most flexible system currently available. Bulbs and track fixtures can be changed very quickly to obtain a variety of effects. It is expensive but may be worth the cost over the long run.

Other aspects of lighting that should be considered are:

- to provide for enough electrical power
- to provide outlets for electricity along the floor and ceiling
- to make switches accessible to the staff but not to the public
- to assure that wiring meets fire and building codes¹⁰
- to insure that bulbs can be easily changed without danger

Archival material, such as books or botanical illustrations, requires special protection from damaging light. Bright light causing fading and heat should be eliminated. Ultraviolet filters that cut out destructive light wavelengths can be placed between the light source and the object. These filters will not alter plant growth significantly. Plants sensitive to light quality are best rotated with replacements.

Audiovisual Equipment

Audiovisual equipment is also misused in exhibitions. Often the equipment itself provides entertainment, offering visitors levers to pull, knobs to turn or buttons to push. Activating the equipment becomes more important than observing the messages it is meant to convey. However, audiovisual equipment can be used well as a tool to carry interpretive messages.

Films are useful for showing processes, something that is difficult to demonstrate through a display of static objects. Audiovisual programs are often used for orientation, located at the entrance to the exhibit. Visitors should always be told in advance what the content of the message is and how long it will last.

Devices, such as cassette tape players, that allow visitors to set their own pace through the exhibit are particularly good in that information can be transmitted without tying people down to a guide. A tape of water flowing or animals snarling can also be used for the background mood.

Several science museums are finding that computers are extremely popular, especially with children.¹¹ With the use of a computer, people can plan their museum visit according to their interests and time. Computers are also used in exhibits to provide educational games related to the exhibition theme. Like all other audiovisual equipment, computers should be used only as an interpretive tool and should not detract from the real substance of the exhibit.

When using audiovisual equipment, care should be taken to abide by the complex copyright laws regarding sound recordings. Commercial recording studios are the most familiar with copyright regulations which are currently being modified.

Selection of equipment depends on the exhibit budget and the equipment's potential use. The equipment should be light, unobtrusive and easily maintained. Sound and visual quality should be high.

Color

Color influences the emotional quality of an exhibit. By means of association, a certain color can evoke the feeling of an architectural period or a particular place. Colors can define themes for certain areas or be used to make an entire exhibition area feel cohesive by tying together areas with a particular color. Perception of color is greatly affected by light and the surrounding materials -- plants, labels and other objects.

People tend to use color in a very intuitive way. Joseph Alber's book, Interaction of Color, is an excellent guide to understanding the principles behind color use.

Graphics

The graphic component of an exhibit determines how the exhibit message is conveyed. Graphics include labels, two dimensional decorative elements, photographs and illustrations. They may be used to help create an atmosphere, show steps in a process, or show changes in a physical environment. They can show a plant in its original setting, or suggest how it was originally used.

The most important graphics are usually signs and lettering.

Labels

As Barbara Tyler and Victoria Dickenson pointed out, "If something is worth saying, it is worth printing in a typeface large enough, and in a position accessible enough, for easy reading."¹²

Typeface. It is often difficult to choose a typeface from the hundreds that are sold. Some styles are easier to find and are available in a greater range of sizes and colors than others. People in advertising, at art supply stores, and at other museums are helpful with selection. Type-style should be dictated by the overall feeling and should be used consistently throughout the exhibit to aid in cohesiveness.

Serif typefaces using both upper and lower cases are the most legible. Bold faces and sans-serif typefaces are fine for headlines or titles but are not easy to read in a text format.

Size. Labels must be large enough to read comfortably when viewed from a distance of three feet. The size of the plants and objects and viewing distance from them will help determine type size. Headlines and titles should be at least two inches high. Lettering on main labels should be at least $\frac{3}{4}$ " high and $\frac{1}{4}$ " high on specimen labels.

Layout and Spacing. A visitor can be enticed to read a label on visual appearance alone. If a symmetrical layout is chosen, all labels should be kept symmetrical. The same holds for an asymmetrical layout.¹³ For up to five lines of type, an odd number of lines is more appealing than an even number. The type should fill the background, making a strong statement.

Spacing between letters and lines will also affect whether or not the labels are read. Lines should be of comfortable reading length, with less than 55 characters per line. It is best not to split words between two lines. Lines of type should be spaced apart slightly more than the height of a capital letter. Lines that are set too tight (too closely together) often result in distracting white "rivers" running vertically through the text. Indented paragraphs also make reading easier.

Color. Black type on a light background is the easiest to read since there is a strong contrast between the background and the letters. Color choice should be derived from the plants to be displayed and from the mood of the exhibit.

Further information on the subject of typeface, size, spacing and color can be found in Pocket Pal by

the International Paper Company, Design with Type by Carl Dair and Type and Lettering by William Longyear.

Production

Choice of the production technique will depend on the budget, staff expertise, durability requirements, visitor needs, and other factors. Use should always be made of the best available method that fits in with the overall exhibit design and is within the budget. The following techniques are the most frequently used for two-dimensional labels that won't come into contact with water.

Two-Dimensional Lettering.

- Hand-lettering can be very beautiful. It is however almost impossible to replace when sections become damaged.
- Stencils are easy to work with and are used primarily for large lettering. They come only in a limited range of sizes and type-styles, but it is possible to create one's own stencils.
- The "Leroy Lettering System" consists of two styluses attached by a central rod. One stylus is pushed along the track of an engraved letter and the other with

an ink tip draws the letter. This requires great precision and is recommended for short labels only.

- Typewritten labels are fast and inexpensive to produce. They may be too small for easy reading but can be photographically enlarged. IBM balls are available in a variety of type-styles.

- Dry transfer lettering is available in a great range of typefaces, sizes and even a few colors. It is expensive but professional-looking. Dry transfer lettering adheres easily to many surfaces and can be removed by scratching or lifting the letters off with masking tape. It should not be stockpiled because it does tend to dry out after a year.

- Phototypesetting is usually the most expensive method of producing labels; however the labels are permanent and professional in appearance.

Any of these labels can be photographically enlarged or reproduced by silkscreening to create a colored image. Images can then be dry-mounted onto cardboard or masonite.

After each label is completed, spray it with Krylon (acrylic spray) to help protect the surface. A test sample made beforehand will ensure that the lettering won't "bleed" onto the background when sprayed.

Because of humidity in exhibits containing plants, printed materials may warp and buckle so should be protected in some way. Plexiglass sheets are often used for this purpose. Many labels in garden exhibits need to be waterproof. They can be made of metalphoto, aluminum, plexiglass or plastic.

- Metalphoto is a patented photographic method of imbedding an image in anodized, photo-sensitized aluminum. Metalphoto labels are very durable and professional-looking. Anything from line art to a continuous tone photograph can be reproduced clearly in a range of colors. They are very expensive to have done out-of-house and few gardens have the equipment necessary to produce metalphoto labels in-house. Further information can be obtained from: Metalphoto Corporation, South Miles Road, Cleveland, Ohio, 44128.

- Aluminum labels are rust and scratchproof. With some preparation, they can be silkscreened in any color and rubbed with car wax once a year for outdoor use.¹⁴

- Plexiglass is suitable for temporary exhibits since it is light and not easily broken. It does discolor in sunlight and scratches easily. Dust sticks to plexiglass labels because of static electricity, making them difficult to clean.

- Engraved plastic labels do not have static electricity like plexiglass but can get scratched, brittle and discolored. They are easy to produce with an "Engravograph" (made by New Hermes) and are available in a variety of laminated colors and weights.

It is advisable to make duplicate labels to replace the original labels when they become dirty or damaged.

Three-Dimensional Lettering. Three-dimensional lettering is effective for titles and is available in cork, cardboard, plastic, wood, plaster and metal. The major disadvantages with these letters is that they tend to get "picked at" or pulled off the wall when within arm's reach of visitors.

Cork and wood letters hold paint well but are recommended only for interior use. Plaster letters chip and break easily, especially in storage. Plastic and metal letters are not as versatile as the others since the materials in themselves are not appropriate to all exhibit themes.

Placement. Visitors should not have to search for the labels. They should be positioned near the plants and artifacts as close to eye level as possible. Placing labels

in a standard location throughout the exhibit will help visitors find them.

Labels can be mounted with small brads, picture hooks and wire, double-sided tape or putty. Double-sided tape may take the paint off the wall and some putty stains painted walls.

Setting Up

Work areas are an absolute necessity for construction and graphic work. Many spaces can be converted into exhibit workshops; old barns, exhibit halls, an annex to an herbarium and garages -- all have been put to use. Whenever possible, the space should be large enough so that entire exhibit elements can be assembled and tested before installation. To avoid contamination from dust and other debris, graphics should be separated from carpentry. The area should be kept as organized and clean as possible.

It is difficult to judge exactly what tools will be necessary when embarking on an exhibit program; however, most botanic gardens in their daily operations have the tools they will need for exhibits. Other tools can be acquired gradually perhaps through donations.

Any institution involved in exhibits will build up a strange collection of assorted materials over time. Careful thought should be given initially to the selection of basic structural components so the materials will be reusable. This is easier to do once the garden staff knows what types of exhibits they will be producing at what locations. When purchasing supplies such as paint and fabric, buy more than is needed since later it is hard to make exact matches for repairs or additions. Source files, including manufacturers' catalogs, and ideas from other museums are valuable for researching specific display products. An inventory with the locations of exhibit components can be helpful in finding remote and little used items.

Installation. Installation should consist only of putting together components that have to wait until the last minute to be completed. Most of the exhibit should be finished before it is hung. Installation should go smoothly with all the work done beforehand. Nonetheless, even with top-notch planning, there may be minor things that need to be changed, lights to be adjusted, cracked flower pots to be replaced, or a new source of water to be found. Ideally, installation should be finished a day before the exhibit officially opens to allow for the details that inevitably crop at the last minute.

The quality of any exhibit depends on careful production and attention to details. Poorly maintained plants and poor construction will be noticed, if only subconsciously.

Footnotes

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5. Ann Brown, Curator of Collections, Brandywine River Museum, Chadds Ford, Pennsylvania. Conversation with author, May 12, 1981.
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CHAPTER VI

EVALUATION

Introduction

There is considerable disagreement among museum professionals as to the learning experience that an exhibit can provide. The primary beneficiaries are those visitors who are already interested in the subject. Some people believe that actual facts must be transmitted by the exhibit, others think that visitors need only to be stimulated to learn more. Probably lasting knowledge is influenced only to a small degree by any one exhibit.¹ Recent Swedish experiments indicated that static exhibitions may not be as effective a teaching medium by themselves as are other media such as video.²

In almost all cases, it is impossible to evaluate the long-term effects of an exhibition on visitors. Short-term effects however, can and should be measured to learn what was effective or ineffective about the exhibit and to determine whether it is useful, practical or necessary to continue with an exhibition program. Results of evaluation can guide future exhibit plans in unforeseen ways.

Until the 1960's, exhibitions were simply the product of one curator produced for other specialists, with no real regard for uninformed visitors. Museums and gardens, now dependent on public support, are becoming much more responsive in their concern for visitors' experiences. One way this concern is manifested is through careful evaluation of their exhibits. Some funding sources are also starting to encourage exhibit evaluation, as a means of being assured that the museum is responsible with their funds and is producing something of value for visitors.

Evaluation is rarely done on a continual basis but is carried out long enough to determine what information is or is not being transmitted. Ideally, evaluation should be done in-house by people not deeply involved in exhibit planning or production so that observations are unbiased. The evaluation respondents should be as diverse as possible, from different backgrounds, educational levels and age groups. Visitors should be told the purpose of evaluation. They usually are glad to help and enjoy being part of the exhibit process.

There are two approaches to evaluation, formative and summative.

Formative Evaluation. Formative techniques test the exhibit before it has been installed in final form. At this stage, the labels may be written on brown paper and construction may consist of cardboard mock-ups. Visitors or staff not familiar with the exhibit are observed and questioned in an attempt to identify problems in the design and text. After evaluation, suggested changes can be made and the exhibit finished.

Formative evaluation is useful primarily for permanent or expensive exhibitions where it is important to catch problems before they become part of a major investment. It has not been used to any degree in public gardens.

Summative Evaluation. Summative evaluation is more common, taking place after the exhibit has been finished. At this point, it may be difficult to make major changes, but helpful information can be gathered for future exhibits. This approach is practical for temporary exhibits and where the number of staff is small. It has a benefit in that staff are usually freer to do evaluation after the exhibit has been completed.

Regardless of when evaluation is done, both formative and summative approaches make use of the same

techniques; tracking and observation, questionnaires or a technique used by the Smithsonian Institution, called Naturalistic Evaluation.

Tracking and Observation

Tracking is a technique whereby a visitor is observed and his pattern of movement and activity -- such as scanning the exhibit, reading labels and stopping -- is recorded by a staff evaluator. Layout and design problems can be identified quickly, then changes made where feasible. No attempt is made to find out what the visitor enjoyed or learned from the subject matter of the exhibit.

The advantage of tracking and observation is that it is simple to do, requiring only copies of the exhibit layout on which to mark paths and write comments. It can be done for any length of time, without intruding on the visitor's experience. For small exhibits, observation can be informal, not even requiring a floorplan. This method is especially worthwhile when planning renovations to large permanent exhibits. It can be used by itself or as a component of other evaluation techniques.

(5)
the fibers originated. Performance will be evaluated
by the extent to which the visitor correctly identifies
at least four plant sources of ten fibers listed.

Each numbered and underlined segment corresponds to the listed objectives.

Verbal Questionnaires. Questions are carefully formulated before the interviews. Staff evaluators ask visitors to answer several questions. Evaluators must be trained so that they do not interrupt visitors or influence their answers. Unfortunately, this frequently happens. In many gardens, verbal questioning may be disturbing to the overall atmosphere and other techniques may be more appropriate. A verbal exchange between staff and visitors works very well where it occurs naturally, such as in a participatory exhibit.

Written Questionnaires. Written questionnaires must also be well thought out, and be quick and easy for the visitor to complete. Multiple choice questionnaires seem to be the most effective. This technique is not inhibiting to visitors since there is no demand for a personal response. It is also beneficial in that less training is needed and there is little opportunity for

evaluators to interpret the data themselves. Written questionnaires can stimulate learning by offering visitors ideas they may not have thought about.

Examples of this type of questionnaire can be found in Measuring the Immeasurable: A Pilot Study of Museum Effectiveness by Minda Borun.

Naturalistic Evaluation

This technique is somewhat different from the others in the results it seeks. The intent is not to focus on a predetermined response, as with the questionnaire approach, but to expose the broad range of perceptions a visitor may have concerning an exhibit.

Once a visitor has seen the exhibit, an evaluator asks him for his perceptions. The conversation is guided by the visitor's statements, not by a predetermined set of questions. If a visitor remarks about a particular plant, the evaluator encourages further conversation. The evaluator notes both visitor behavior and comments, jotting them down after the interview. After many types of people have been interviewed, the notes will expose the merits and shortcomings of the exhibition.

Like verbal questionnaires, this technique works best for participatory exhibits, where visitors are already engaged in "hands-on" activities. Naturalistic evaluation requires trained evaluators who know what to look for, how to guide the conversation and how to record observations without making their own judgements.

Further explanation of naturalistic evaluation can be found in A Preliminary Guide for Conducting Naturalistic Evaluation in Studying Museum Environments by Robert Wolf and Barbara Tymitz.

Exhibit Reviews. Exhibit reviews, similar to book reviews, are becoming more common. Museum professionals publish these reviews in periodicals like History News with the aim of upgrading exhibit quality. Reviews may be of interest in the museum field but cannot be as valuable to the individual garden as the carefully solicited opinions of visitors.

Footnotes

1. Ulla Arnell, Inger Hammer and Göran Nylöf, Going to Exhibitions (Stockholm, Sweden, 1976), p. 55.
2. Ibid, p. 50.
3. Donald J. Cegala, Robert J. Kibler, Larry L. Barker, and David T. Miles, "Writing Behavioral Objectives: A Programmed Article," The Speech Teacher, 21, 1972, pp. 151-168.

CHAPTER VII
EXTENDING THE EXHIBIT

Introduction

An exhibit does not exist in isolation. Publicity is needed to inform people that the exhibit is there for their viewing. In the same way, the experience of visiting an exhibit will be much more valuable for visitors if it is reinforced by other garden activities. Educational programs and special events are one such means of expanding the exhibit theme. Another means of extending the life of an exhibit is through catalogs and printed materials.

Publicity

Publicity does not have to be expensive, but it does take time and some materials. There are various ways botanic gardens and arboreta can promote exhibitions. To make use of these techniques effectively, a working knowledge of different media is needed, combined with proper preparation and appropriate timing. To help with future publicity campaigns, records should be kept on what

information was sent out, to whom it was sent, and where it was finally printed.

Newspapers. Newspapers are the most obvious form of publicity. They usually expect to be provided with a news release or a feature story. News releases should be brief, concise and newsworthy. They are limited to answering the five "W's," who, what, where, when, why. There are a variety of readily available sources which provide guidelines for writing news releases. A good basic guide is found in A Layman's Guide to Successful Publicity by Oscar Leiding.

Feature stories are prepared in addition to the releases. They are not limited to the facts concerning an event but can explain the theme, background information, some of the objects in the exhibition and other things going on at the garden. The subject ideally should appeal to a broad range of people, yet be of local interest.

News releases and feature stories should be sent to the attention of the editor or reporter who has the most interest in the garden and exhibit theme. Whenever possible, good 8"x10" glossy black and white prints should be included in the press materials.

Some journalists prefer to write their own releases and feature stories rather than print the garden's materials. In this case the garden can suggest ideas for feature angles on special exhibits or prepare fact sheets including relevant background information and a copy of the label text. Journalists may appreciate a personal interview and tour behind the scenes but as Barbara Tyler, a Canadian exhibit designer, warned, "not too far behind the scenes or they'll never recover!"¹

Information of statewide interest can be telephoned to the state Associated Press and United Press International wire services that publish information in many papers throughout the state.²

Radio and Television. Free publicity on radio and television comes in a variety of forms; specials, spots, news items, editorials, and public service announcements. It is worth contacting individual stations within a 150 mile radius of the garden to find out what materials they like the garden to prepare. A typewritten text that can be read in 20 - 30 seconds is sufficient for some radio stations. It may also be possible for a staff member to do a short radio interview or make a television appearance.

Other Publicity. There is a wealth of other ways that a botanic garden can get the word out about its exhibit. Local calendars of events, printed by a community center, a university or Chamber of Commerce, often list museum exhibits. Posters and fliers can be hung or sent wherever it is suitable and permissible; however, these often are expensive to produce and require considerable time to distribute. The exhibit should also be publicized at the garden with signs or posters at a central orientation point and other locations.

It is important that the garden cultivate good relationships with local media people, and invite them to exhibit openings and appropriate social occasions. Personal contact is the most important aspect of spreading the word about the garden's activities.

Catalogs

When the exhibit has been packed away or incorporated into different parts of the garden, catalogs, brochures and other printed materials live on. They enhance the exhibit by providing in-depth information that the visitor may carry away with him to read at leisure and use as a reference source. A visitor who is intrigued

by an exhibit can obtain information right at the garden, without having to do time-consuming research elsewhere. A catalog may also serve as a "memory-jogger", especially when photographs and illustrations are included, or as a stimulus to visit the garden. Although not commonly money-makers, catalogs promote the institution's name and image.

Producing a catalog is a useful way of amassing the research that has gone into an exhibit. This is particularly relevant in gardens where producing scholarly publications plays an important role.

A printed catalog has a longer life and a wider circulation than the exhibit, so it should be produced well. The catalog's format and character should be consistent with the actual exhibit. It should be attractive, well written and interesting to read. Catalogs normally include the following.³

- credit to donors and people responsible for the exhibit and catalog
- background information -- including general orientation to topics
- commentary -- an effort should be made to elaborate on the theme, rather than reproducing the labels verbatim
- a list of plants and objects making up the exhibit and the significance of each in terms of historical, aesthetic, functional or scientific value

- bibliography of references and cited literature
- photographs or illustrations of plants and related objects

It is beyond the scope of this thesis to cover all the steps of creating a good catalog but there are several publications that are helpful. These are, A Handbook for the Travelling Exhibitionist by Barbara Tyler and Victoria Dickenson and Research, Writing, and Publishing Local History by Thomas E. Felt.

It should be noted that not every exhibit is improved by an additional publication. The two major drawbacks to producing an exhibit catalog are the time and money required to do a good job. Publications can take as much preparation time and supervision as the exhibit itself. Therefore a careful cost analysis of the steps involved in production (research, writing, editing, photography, printing) should be done before embarking on such a project.

Visitors should never be required to buy a catalog to understand the exhibit. A catalog is merely a supplement to ideas and information presented in the exhibit; it should never be the only interpretation provided.

There are alternatives to catalogs if free or inexpensive handouts are desirable. Brochures, fliers and information sheets are usually small, convenient and more simple in content. They may include directional information, background information, sources, illustrations, and suggested activities of things to look for and observations to make.

Special Events

Special events and educational programs are excellent means of increasing interest in an exhibiton, especially if it is displayed for several months. Since special events are normally one-time occurrences, they help maintain staff interest too. Special programs come in every imaginable form, limited only by the ingenuity of the staff and the garden's resources. In planning these events, it is important to consider the rest of the visitor's experience at the garden or arboretum. The following events are by no means exhaustive but indicate the diversity of approaches that can be taken to extend and enrich an exhibit. Regardless of the ideas chosen, events should be planned thoroughly, far in advance of their scheduled date.

Exhibit Openings. A formal opening serves many useful functions. First of all it commits the staff to an absolute deadline. Last minute touch-ups must be completed and rakes, trowels and paint cans dragged away. An opening is a formal statement that the garden produced something special for its visitors. With proper publicity, this provides the incentive for people to visit. Openings are often treated as special events for a select audience -- garden members, local professionals or members of the press. They also encourage people to become members of the institution in order to receive membership benefits such as invitations to exhibit openings.

Demonstrations. Demonstrations are activities that are explained to visitors as they are being done. There are hundreds of demonstrations that can enhance exhibits: demonstrations of pruning or propagation techniques, seed sprouting, food production from plant to product, essential oil extraction, basket weaving, processing wood products, spinning; the list goes on and on.

By running demonstrations trained staff members, guides and volunteers become a very real part of the exhibit, at least on a temporary basis. Interpreters can help bridge the gaps between the visitors' personal

interests and the exhibit content, thereby facilitating communication.

Visitors should be encouraged to be active participants in an exhibit experience, be it through "hands-on" activities or by stimulating thoughtful verbal exchange with friends or relatives. Demonstrators may help focus activity to this end.

While an interpreter is running demonstrations, he can watch visitor behavior, noting what things they enjoy or do not understand. Interpreters also serve a security function, making sure the exhibit stays intact and visitors are kept out of danger.

Educational Programs. Educational programs also come in a great variety of forms: classes for adults and children, films, lectures, concerts, held right in the exhibit or in a completely different location. Single events, weekend workshops, or entire weeks of programs can revolve around an exhibit theme. Several botanic gardens in the northeast have expanded cultural exhibitions into broader themes relating to their local communities. An exhibit of plants from China inspired an exposition of Chinese culture and an exhibit of vegetables provided the backdrop for a series of programs on discovering crops from around the world.

Cultural groups, such as musicians or dancers, often are looking for places to perform. What could be better than a wind ensemble playing next to or in an exhibition of economically important grasses? These programs can extend the appeal of an exhibit to a larger audience.

Another means of extending an exhibit to a larger audience is by making the actual exhibit travel to different gardens. This is discussed in detail in the following chapter.

Footnotes

1. Barbara Tyler and Victoria Dickenson, A Handbook for the Travelling Exhibitionist (Ottawa, 1977), p. 27.
2. Smithsonian Institution Traveling Exhibition Service, "Publicity Guidelines" (Washington, D.C., 1980), p. 1 (mimeographed).
3. Tyler and Dickenson, Travelling Exhibitionist, p. 24.

CHAPTER VIII
TRAVELING EXHIBITS

Value

Traveling exhibitions bring interpretive messages and special objects to many people in diverse locations. For the borrowing garden, traveling exhibits are a means of enhancing their interpretive services with a minimum of effort. Not only is the host garden able to display new objects, but the research and preparation have been done by another museum. For the exhibit producer, traveling exhibits provide good public relations because the producer's name is directly associated with the exhibit. Production costs can be covered at least in part by rental charges, or by dividing the total cost among borrowing institutions. NEH and other granting agencies prefer to sponsor traveling exhibitions because they reach more people than an exhibit that stays in one place.¹

There are several drawbacks to traveling exhibits however. Very few botanical exhibitions have been designed with the purpose of traveling so tend to show wear quickly.

When an exhibit is prepared by someone else, it is often difficult to revise sections to make it more pertinent to the garden's local audience. A rented exhibition is an unknown quantity, unless it can be seen at another museum.

Blockbusters. A discussion of traveling exhibits would not be complete without mentioning the controversy that art museums in particular face concerning their use of large and expensive traveling shows, nicknamed "blockbusters" because of the huge crowds they draw. These changing exhibitions receive far greater publicity than the permanent collections. In recent years visitors have become accustomed to seeing the special temporary shows rather than the museum's permanent features. This phenomenon is not likely to occur in botanic gardens because the use of temporary educational exhibits is relatively new and the general public does not yet appreciate plants as much as art objects.

Sources of Traveling Exhibits

As the exhibit survey revealed, only a few botanic gardens have produced traveling exhibits other, than purely promotional components, to display at their institution and other gardens. The following are a few examples.

- The National Arboretum has cooperated with other gardens in producing exhibits on Bonsai, Conifers, and Urban Gardening.²
- In 1980, the Matthaei Botanical Gardens produced an exhibit on rare, threatened, and endangered plant species of Michigan entitled "Michigan's Plants in Danger." The series of flat panels traveled to a number of public institutions and gardens.
- The Morris Arboretum is beginning to modify exhibits that were originally designed for the Philadelphia Flower Show, so they can travel to shopping malls, schools and other gardens. Their most recent exhibits are entitled "Pollination" and "Pages From A Forest Log."
- Several gardens in the Philadelphia area are currently working on cooperative exhibits on different styles of gardens, and the institutions that reflect these gardening traditions, that have been developed in the Delaware valley since William Penn's settlement over 300 years ago. One exhibit will open at the Chelsea Flower Show in England, and travel in the British Isles. The other will open at the Philadelphia Flower Show, and will travel to gardens around the United States.

There are two other sources of plant-related exhibits, the Hunt Institute for Botanical Documentation and the Smithsonian Institution Traveling Exhibition Service.

Hunt Institute for Botanical Documentation. The privately funded Hunt Institute has an extensive reference library, archives, a photographic collection of botanists and plants, and an art collection. It is organized in part to create a collection representing the best original

botanical art and illustration produced throughout the world and to preserve it in a controlled museum environment. In addition to maintaining the collections, the staff publishes catalogs and bulletins, produces two major exhibits a year at the Institute and circulates a series of traveling exhibitions.

The traveling exhibits are an attempt to share the art collection with as broad a community as possible.³ Exhibit themes are chosen from materials in the collection that they are willing to let travel. The two-dimensional exhibits are well-prepared, and come ready to hang. Although labels are not provided, label copy is printed in brochures which accompany each exhibit. This gives the exhibitor maximum flexibility in adapting the interpretive component of the exhibit to his own garden. The only stipulation made by the Hunt Institute is that the exhibit be displayed in a secure area protected from exposure to direct sunlight or to unfiltered fluorescent light.⁴ Depending on the size of the show and its value, exhibits can be rented on a monthly basis for \$100 - \$200. The following is a list of plant-related exhibitions in circulation in 1981.

"Shakespeare's Flowers" - Thirty-five of Anne Ophelia Dowden's original sketches for a book of the same name.

- "Plants in Art" - An historical sampling of botanic art and illustration from the 6th century to the present, including woodcuts, watercolors, etchings and lithographs.
- "Roses" - An exhibition of artists of different centuries and artistic styles, indicating the attention and devotion artists have given the rose.
- "Twentieth Century Botanical Prints" - Graphic works by printmakers of America, Europe, and Japan, demonstrate different, individual handlings of traditional and modern techniques.
- "Native Plants of the Redwood Forest" - Twelve watercolor paintings of wild flowers of the California coastal redwood forest by Marion Tatum including over 70 identified species.
- "The Lily" - A sample of lily portraits from the early 17th century to the present chosen for intrinsic appeal; the lily has been second only to the rose in artists' favor.
- "Decorative Flower and Fruit Arrangement" - Watercolors, drawings and prints of decorative flower and/or fruit arrangements representing the period from 1600 to the present.
- "State Flowers by Henry Evans" - A special set of multicolor linocut prints drawn from each state flower.
- "International Exhibition: Contemporary Botanical Art and Illustration" - Produced every five years based on selections from recent acquisitions for the permanent collection.

Smithsonian Institution Traveling Exhibition Service. Probably the best known producer of traveling exhibits in the world is the Smithsonian Institution Traveling Exhibition Service (SITES), which is a branch of the

Smithsonian Institution. This organization is funded by several sources; federal appropriations, grants from foundations and businesses, and contributions from museums, galleries, and foreign governments.⁵

A full-time staff of twenty which draws on the additional expertise and resources of other Smithsonian museums, produce 30 to 40 new exhibits each year covering a range of topics.⁶ At any given time there are about 150 SITES exhibits on the road. After several years in circulation the exhibits are retired. SITES's quarterly newsletter and annual publication called "Update", lists available exhibits. Each year there are several that may be of interest to botanic gardens. Topics of interest in 1981 are listed below.

"Urban Open Spaces" - Explores the various aspects of open space in the urban environment including streets, pedestrian malls, plazas, parks and playgrounds.

"The Tall Grass Prairie: An American Landscape" - Photographs and diverse historical illustrative materials help tell the story of the tall grass prairie. Topics include geological, anthropological and cultural history, the environment, architecture, and preservation.

"Beauties of the Coral Reef" - Over forty color photographs and twenty specimens help explain the importance of the coral reefs in ocean ecology, the relationships within that environment, and the dangers faced by this habitat today.

"Biological Photography" - Fifty photographs give the viewer a glimpse of the world of medicine and a look beneath the microscope. Labels explain the nature of biological photography, its uses, and its techniques.

SITES exhibits are booked for one-month periods with rental fees ranging from \$100 to \$15,000, depending on the exhibit size and content. Once an exhibit is rented, the borrowing museum is provided with clear procedures to follow and descriptions and sizes of each object in the exhibit. SITES does a thorough job of packing and shipping; their crates are almost indestructible.

The quality of SITES exhibits runs the gamut. Although they are produced very professionally, they are often somewhat disappointing in interpretive content. Probably the greatest weakness of SITES exhibitions is their labels. In almost every case the text is too long and is more factual than interpretive. The permanent format of the labels makes it difficult to delete unimportant sections, and add other information of interest to the local audience.

The SITES exhibits should not be considered complete in themselves although they are designed to be complete packages. Additional objects and plants may be used to fill out the primarily two-dimensional shows to make it more suitable to the individual garden.

Despite these weaknesses, the SITES exhibits are well produced and are convenient. They may well prove to be an asset in a botanic garden or arboretum by providing new ideas and services beyond the arboretum's own resources.

Considerations for Making an Exhibit Travel

In the exhibit survey designers mentioned that they would like to produce exhibits that will travel to other institutions after they are displayed at the garden. By making their exhibits travel, their work will be appreciated by a greater number of people and the garden's name will be promoted.

Early in the planning stage the decision must be made as to whether or not an exhibit will travel or stay in one place. Design and fabrication are particularly dependent on how the exhibit will be used. It is almost as much effort to prepare an exhibit for traveling as it is to create the exhibit in the first place. Most of this work is administrative, creating and completing forms for loans, insurance, budgets, scheduling and correspondence. There is no magic formula for making plant-related exhibits travel successfully but there are considerations that are common to every traveling exhibit.

Design and Packing. A traveling exhibit must be designed for all kinds of spaces. Structural components must be easily broken down into portable units, packed in cases that are light enough to be carried by two people and small enough to fit through normal-sized doorways (7'H x 3'W). Boxes and panels should be easily maintained, assembled and dismantled. They must be strong enough to resist damage and abrasion yet be as light as possible. Handles should be provided on the outside of cases, and padding on the inside. The UNESCO publication, Temporary and Travelling Exhibits, has many helpful suggestions concerning construction of packing cases. The cases should be labeled with lists and photographs of objects contained within and instructions included on how to pack and assemble the exhibit.

Plants. Plants that are easily grown and cared for are best for traveling exhibits. To avoid damage in transit, each borrowing institution should grow its own plants.

Loan Agreements. A loan agreement is a legal and binding contract between the lender and the exhibitor. Each party should have a copy of the loan agreement which

may include "booking" arrangements, renter's responsibilities, forms and reports to be made to the sponsor (including condition reports), publicity, issues related to catalogs and sale items, if any, and delineation of actions in case of unforeseen events.⁷ Exhibition services and large art museums may be very helpful in providing information for drawing up appropriate forms. Appendix VI (p. 170) gives several examples of these forms.

Insurance. Many educational exhibits in botanical gardens are not valuable enough to be worth insuring. Traveling exhibits however should always be insured in case of damage or complete loss. Usually the sponsor takes out an insurance policy and the borrowing institutions pay the premiums during the period of loan.

When carrier services are used for transportation, they insist on having insurance to protect themselves since the main risks to any traveling exhibit occur when in transit and in the unpacking and repacking.⁸

Shipment. In the planning stage consideration should be given to the means of shipment which may have some bearing on packing case design. Methods used most frequently are outlined in Appendix VII (p. 175). Means of shipment depends on the distance the exhibit must travel and the contents of the exhibit.

Plants are among the most difficult objects to transport. Whenever possible, they should be grown by each garden, not moved from place to place.

Booking. Adequate time must be allowed between locations for dismantling, packing, traveling, unpacking, and installation. The amount of "flex" time needed depends on a variety of factors such as the size of the exhibit and the time of the year. Reservations should always be confirmed in writing and include information on dates, shipping and insurance arrangements, shared costs, responsibilities, contact people and phone numbers. The renter should be provided with a list of the case contents and an indication of how much space empty crates will occupy.

Care should be taken with booking arrangements to show the exhibit only in appropriate places since people will subconsciously link the lending institution with the place where the exhibition is installed.

The exhibit should be photographed at all of its locations. If any damage occurs, the photographs will help in determining responsibility. Photographs will also aid greatly with future planning of exhibits.

Footnotes

1. Cheryl McLenney, National Endowment for the Humanities, "Understanding and Experiencing Traveling Exhibitions," speech given at the 1980 annual meeting of the American Association of Museums, Boston, Massachusetts, June 11, 1980.
2. National Arboretum, Annual Report, 1979, p. 23.
3. John V. Brindle, Curator of Art, Hunt Institute for Botanical Documentation, Carnegie-Mellon University, Pittsburgh, Pennsylvania. Telephone interview with author, January 10, 1981.
4. Ibid.
5. Smithsonian Institution Traveling Exhibition Service, "Update 1980-1981," p. 4.
6. Ibid.
7. Robert Amory, Jr., "Problems of Corporate Sponsorship of a Museum Exhibition," p. 47-48 (mimeographed).
8. E. G. Osborn, "Insurance," Temporary and Travelling Exhibitions (Düsseldorf, Germany, 1963), p. 105.

CONCLUSIONS

The future of botanic gardens and arboreta depends on their ability to provide services that justify public support. The intrinsic beauty of our public gardens, offering a green refuge in today's noisy and busy world, is not enough. Horticultural institutions must offer educational and interpretive programs as a means of convincing the populace that gardens are not a luxury but a vital part of preserving our national heritage and natural resources. Temporary exhibits have been underused in this educational role. With careful planning and production, they can be effective in promoting enthusiastic community support so necessary to the survival of public gardens.

Increased visitor attendance, with added bonuses such as gift shop sales, increased membership and interest in the institution, justifies the time and money spent on exhibits. Exhibit research and preparation is often welcomed by garden staff as a means of increasing their knowledge. Botanical gardens and arboreta should produce educational exhibits as a means of interpreting their collections to the public.

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- Charles C. Baker, Chief of Exhibits, Tennessee State Museum, Charleston, South Carolina, December 10, 1980.
- John V. Brindle, Curator of Art, Hunt Institute for Botanical Documentation, Pittsburgh, Pennsylvania, January 10, 1981.
- Ann Brown, Curator of Collections, Brandywine River Museum, Chadds Ford, Pennsylvania, May 12, 1981.
- Barbara G. Carson, Consultant, Williamsburg, Charleston, South Carolina, December 8, 1980.
- Philip Correll, Gardens Interpreter, Winterthur Museum, Wilmington, Delaware, January 27, 1981.
- Lucius Fuller Ellsworth, Dean of Arts and Sciences, University of West Florida, Charleston, South Carolina, December 7, 1980.
- Nancy Malan, Archivist, National Archives and Records Service, Charleston, South Carolina, December 9, 1980.
- Cheryl McLenney, National Endowment for the Humanities, Boston, Massachusetts, June 11, 1980.
- John Peele, Exhibit Designer, Longwood Gardens, Kennett Square, Pennsylvania, May 14, 1981.
- Vicki Sands, Director, Interpretive Programming, New York Botanical Garden, Bronx, New York, January 30, 1981.
- Robert Staples and Barbara Charles, Exhibit Consultants, Washington, D.C., April 24, 1981.

APPENDIX I

Exhibit Survey

This survey was sent to seventy-nine botanic gardens.

EXHIBIT SURVEY

Name of Institution _____

Name and title of person most directly involved with exhibits

Instructions: Most questions in this survey are divided into two parts. Part A refers to an exhibit which you feel was particularly successful. (I call it a major exhibit.) Part B refers to exhibits in general at your institution. Check the appropriate spaces and fill in the blanks. You may need to check more than one space. Feel free to add comments.

For the purposes of this study, an exhibit will be defined as: A DISPLAY OF MATERIALS AND IDEAS WHOSE PRIMARY INTENT IS TO PRESENT INFORMATION TO THE VIEWER.

THEME

1. What was the title of one major exhibit at your institution which you feel was particularly successful? _____

2. A. What was the theme of this exhibit? (Use the list below if it will help you.) _____

B. What other theme or themes have been the subject of exhibits at your institution? (Check as many as apply)

- HISTORICAL
 BIOGRAPHICAL
 HERBARIUM
 PLANT CARE
 ECONOMIC USE OF PLANTS FOOD FIBER DYES
 BOTANICAL ILLUSTRATION
OTHER, PLEASE SPECIFY _____

DESIGN AND PREPARATION

3. A. Who was your major exhibit prepared by? (Check as many as apply)

YOUR INSTITUTION
 PAID STAFF
 VOLUNTEERS
 OUTSIDE CONSULTANTS
 ANOTHER INSTITUTION
 OTHER, PLEASE SPECIFY _____

- B. In general, who prepares most exhibits at your institution? (Check as many as apply)

YOUR INSTITUTION
 PAID STAFF
 VOLUNTEERS
 OUTSIDE CONSULTANTS
 ANOTHER INSTITUTION
 OTHER, PLEASE SPECIFY _____

4. A. What reference or references were most helpful in preparing your major exhibit?

PEOPLE AT OWN INSTITUTION
 PEOPLE AT OTHER INSTITUTIONS WHERE WERE THEY FROM? _____

GOVERNMENT AGENCIES WHAT AGENCY(S)? _____

BOOKS PLEASE GIVE THE TITLES _____

OTHER, PLEASE SPECIFY _____

- B. What reference or references are most helpful in preparing most exhibits at your institution?

PEOPLE AT OWN INSTITUTION
 PEOPLE AT OTHER INSTITUTIONS WHERE WERE THEY FROM? _____

GOVERNMENT AGENCIES WHAT AGENCY(S) _____

BOOKS PLEASE GIVE THE TITLES _____

OTHER, PLEASE SPECIFY _____

5. A. Where did you obtain materials for your major exhibit?
(Check as many as apply)

OWN COLLECTION
 PURCHASE
 LOAN FROM ANOTHER INSTITUTION
 LOAN FROM BUSINESSES
 LOAN FROM PRIVATE SOURCES
 TRAVELING EXHIBIT IDENTIFY SOURCE _____

- B. Where do you obtain materials for most exhibits at your
institution? (Check as many as apply)

OWN COLLECTION
 PURCHASE
 LOAN FROM ANOTHER INSTITUTION
 LOAN FROM BUSINESSES
 LOAN FROM PRIVATE SOURCES
 TRAVELING EXHIBIT IDENTIFY SOURCE _____

6. A. What were the principal components of your major exhibit?
(Check as many as apply)

SIGNS/LABELS
 BROCHURES
 SLIDES/FILM/TAPE
 PHOTOGRAPHS
 ILLUSTRATIONS
 MODELS
 ARTIFACTS
 LIVING PLANT MATERIAL
 OTHER PLANT MATERIAL
 OTHER, PLEASE SPECIFY _____

B. What are the principal components of most exhibits at your institution? (Check as many as apply)

- SIGNS/LABELS
 BROCHURES
 SLIDES/FILM/TAPE
 PHOTOGRAPHS
 ILLUSTRATIONS
 MODELS
 ARTIFACTS
 LIVING PLANT MATERIAL
 OTHER PLANT MATERIAL
 OTHER, PLEASE SPECIFY _____

7. A. How was your major exhibit arranged? (Check as many as apply)

- 2-Dimensionally (WITH OBJECTS ARRANGED AGAINST A FLAT SURFACE)
 3-Dimensionally
 OTHER, PLEASE SPECIFY _____

B. In general, how are most exhibits at your institution arranged? (Check as many as apply)

- 2-Dimensionally
 3-Dimensionally
 OTHER, PLEASE SPECIFY _____

8. A. Who staffed your major exhibit? (Check as many as apply)

- NO ONE
 PAID STAFF
 SECURITY STAFF
 VOLUNTEERS
 OTHER, PLEASE SPECIFY _____

B. Who staffs most of the exhibits at your institution? (Check as many as apply)

- NO ONE
 PAID STAFF
 SECURITY STAFF
 VOLUNTEERS
 OTHER, PLEASE SPECIFY _____

9. A. Did you encourage visitors to actively explore exhibit materials with their senses (smell, touch, etc.) in your major exhibit?

YES
 NO

- B. Do you generally encourage visitors to explore exhibit materials with their senses at your institution?

YES
 NO

10. A. Were there any printed materials accompanying your major exhibit for visitors to keep?

YES PLEASE ENCLOSE A COPY
 NO

- B. Do you generally produce printed material to accompany exhibits for visitors to take home?

YES PLEASE ENCLOSE SAMPLE COPIES
 NO

AUDIENCE

11. A. Toward what age group or groups was your major exhibit directed?

NO AGE GROUP WAS IDENTIFIED
 CHILDREN
 TEENAGERS
 ADULTS
 ELDERLY
 OTHER, PLEASE SPECIFY _____

- B. Toward what age group or groups are most of the exhibits at your institution directed?

NO AGE GROUPS ARE IDENTIFIED
 CHILDREN
 TEENAGERS
 ADULTS
 ELDERLY
 OTHER, PLEASE SPECIFY _____

12. A. What was the predominate kind of group that visited the major exhibit?

- INDIVIDUALS
 COUPLES
 FAMILY GROUPS
 SCHOOL GROUPS
 BUS TOUR GROUPS
 OTHER, PLEASE SPECIFY _____

B. What is the predominate kind of group that visits most of the exhibits at your institution?

- INDIVIDUALS
 COUPLES
 FAMILY GROUPS
 SCHOOL GROUPS
 BUS TOUR GROUPS
 OTHER, PLEASE SPECIFY _____

13. A. Did you make special provisions for handicapped visitors to attend your major exhibit?

- NO
 YES PLEASE EXPLAIN YOUR PROVISIONS _____

B. Do you generally make provisions for handicapped visitors to attend exhibits at your institution?

- NO
 YES PLEASE EXPLAIN WHAT STEPS YOU TAKE _____

14. Do you feel that exhibits increase visitor attendance to your institution?

- NO
 YES DO YOU HAVE ANY OBJECTIVE PROOF OF THIS? _____

LOCATION

15. A. Where was your major exhibit located in your institution?

- OUTDOORS
 CONSERVATORY OR GREENHOUSES
 EXHIBIT HALL

- LOBBY
 ENCLOSED ROOM
 OTHER, PLEASE SPECIFY _____

IF POSSIBLE, PLEASE ENCLOSE A MAP OF YOUR INSTITUTION WITH THE EXHIBIT LOCATION MARKED ON IT.

- B. Where are most exhibits at your institution located?
 (Check as many as apply)

- OUTDOORS
 CONSERVATORY OR GREENHOUSES
 EXHIBIT HALL
 LOBBY
 ENCLOSED ROOM
 OTHER, PLEASE SPECIFY _____

16. A. What was the approximate square footage your major exhibit occupied?

- WALL SPACE _____
 FLOOR SPACE _____

- B. What is the average square footage most exhibits at your institution occupy?

- WALL SPACE _____
 FLOOR SPACE _____

17. A. Was your major exhibit also displayed away from the institution?

- YES
 NO IF NO, SKIP TO #19

- B. Does your institution prepare any other exhibits (flower show exhibits, school exhibits) that are displayed away from the institution?

- YES
 NO IF NO, SKIP TO #19

18. A. Where was your major exhibit displayed? (Check as many as apply)

- FLOWER SHOWS
 STOREFRONTS, BANKS, COMMUNITY CENTERS
 OTHER MUSEUMS AND BOTANIC GARDENS
 FAIRS
 PROFESSIONAL MEETINGS

- ELEMENTARY SCHOOLS
- SECONDARY SCHOOLS
- COLLEGES/UNIVERSITIES
- OTHER, PLEASE SPECIFY _____

B. Where were other traveling exhibits displayed? (Check as many as apply)

- FLOWER SHOWS
- STOREFRONTS, BANKS, COMMUNITY CENTERS
- OTHER MUSEUMS AND BOTANIC GARDENS
- FAIRS
- PROFESSIONAL MEETINGS
- ELEMENTARY SCHOOLS
- SECONDARY SCHOOLS
- COLLEGES/UNIVERSITIES
- OTHER, PLEASE SPECIFY _____

DURATION

19. When did your major exhibit open?

DATE _____

20. A. For how long was your major exhibit displayed?

B. For how long are most exhibits at your institution displayed?

FINANCES

21. A. How was your major exhibit funded? (Check as many as apply)

- PRIVATE INDIVIDUALS
- FEDERAL GRANT WHICH AGENCY? _____
- STATE GRANT WHICH AGENCY? _____
- CORPORATE WHAT CORPORATION? _____
- FOUNDATION WHAT FOUNDATION? _____

- SPECIAL CAPITAL BUDGET
 OPERATING BUDGET
 OTHER, PLEASE SPECIFY _____

B. How are most exhibits at your institution funded? (Check as many as apply)

- PRIVATE INDIVIDUALS
 FEDERAL GRANT WHICH AGENCY? _____
 STATE GRANT WHICH AGENCY? _____
 CORPORATE WHAT CORPORATION? _____

FOUNDATION WHAT FOUNDATION? _____

- SPECIAL CAPITAL BUDGET
 OPERATING BUDGET
 OTHER, PLEASE SPECIFY _____

22. A. Was your major exhibit budgeted separately from other organizational activities?

- NO
 YES HOW MUCH WAS BUDGETED FOR THE EXHIBIT? _____

B. What is the budget range for most exhibits at your institution?

- UNDER \$500
 \$500- 1,000
 \$1,000-2,000
 \$2,000-5,000
 OVER \$5,000

23. Do you charge admission to your institution?

- NO
 YES HOW MUCH FOR AN ADULT? _____

24. A. Did you charge a separate admission to your major exhibit?

- NO
 YES HOW MUCH FOR AN ADULT? _____

B. Do you charge a separate admission to most exhibits at your institution?

- NO
 YES APPROXIMATELY HOW MUCH? _____

EVALUATION

25. A. Did you attempt to evaluate the success of your major exhibit?

- YES
 NO IF NO, SKIP TO #28

B. Do you generally attempt to evaluate the success of exhibits at your institution?

- YES
 NO IF NO, SKIP TO #28

26. A. How did you evaluate your major exhibit? (Check as many as apply)

- VISITOR SURVEYS
 VISITOR'S INFORMAL RESPONSES
 OBSERVING VISITORS
 EMPLOYEES' INFORMAL RESPONSES
 OTHER, PLEASE DESCRIBE _____

B. How do you generally evaluate exhibits at your institution? (Check as many as apply)

- VISITOR SURVEYS
 VISITOR'S INFORMAL RESPONSES
 OBSERVING VISITORS
 EMPLOYEES' INFORMAL RESPONSES
 OTHER, PLEASE DESCRIBE _____

27. A. Who was the evaluation of your major exhibit done by?

- PAID STAFF
 CONSULTANTS
 VOLUNTEERS
 OTHER, PLEASE DESCRIBE _____

B. Who is the evaluation of most exhibits done by?

- PAID STAFF
 CONSULTANTS
 VOLUNTEERS
 OTHER, PLEASE DESCRIBE _____

28. A. What was the greatest benefit provided by your major exhibit?

- INCREASED NUMBER OF VISITORS TO THE INSTITUTION
 PROVIDED INFORMATION NOT AVAILABLE BEFORE
 FREED STAFF FROM DIRECT CONTACT WITH VISITORS
 PROVIDED GOOD PUBLIC RELATIONS
 OTHER, PLEASE SPECIFY _____

B. In general, what are the benefits of having exhibits at your institution?

- INCREASES NUMBER OF VISITORS TO THE INSTITUTION
 PROVIDES INFORMATION NOT AVAILABLE BEFORE
 FREES STAFF FROM DIRECT CONTACT WITH VISITORS
 PROVIDES GOOD PUBLIC RELATIONS
 OTHER, PLEASE SPECIFY _____

29. A. If you had to pick one weakness of your major exhibit, what would it be?

- EXHIBIT WAS EXPENSIVE TO PRODUCE
 NEEDED CONSTANT MAINTENANCE
 VISITORS DID NOT UNDERSTAND CONTENT OF THE EXHIBIT
 EXHIBIT WAS NOT PRODUCED WELL
 OTHER, PLEASE SPECIFY _____

B. What were the main weaknesses of other exhibits at your institution? (Check as many as apply)

- EXHIBIT WAS EXPENSIVE TO PRODUCE
 NEEDED CONSTANT MAINTENANCE
 VISITORS DID NOT UNDERSTAND CONTENT OF THE EXHIBIT
 EXHIBIT WAS NOT PRODUCED WELL
 OTHER, PLEASE SPECIFY _____

GOALS

30. Do you feel that exhibiting is an important function in your institution?

- NO
 YES

31. What are your future plans with regard to exhibits?

- MORE EMPHASIS
 SAME EMPHASIS
 LESS EMPHASIS

32. How would you rate the following list of devices in terms of their effectiveness in educating the public about plants? (Please rate on a scale of 1-6, where 1 is most effective.)

TRAINED TOUR GUIDES _____
 INSTRUCTORS _____
 TOUR MOBILES _____
 EXHIBITS _____
 LIBRARY FACILITIES _____
 FILMS/SLIDES/TAPES _____

33. Do you have a written exhibition policy?

- NO
 YES IF YES, COULD YOU PLEASE INCLUDE A COPY WHEN YOU RETURN THIS SURVEY

34. Would you like a summary of the completed survey results?

- YES
 NO

Thanks for your help. Please return the completed survey to:

Pamela Goff
 Longwood Program
 157 Agricultural Hall
 University of Delaware
 Newark, DE 19711

APPENDIX II

Exhibit Survey Results

This questionnaire was completed by fifty-two exhibit coordinators in botanic gardens. Their replies have been compiled for each question.

January 13, 1981

Dear

Several months ago you completed an exhibit survey. Here is a summary of the survey results. I hope you will glean some ideas from these pages for your own exhibit program. A complete report will be available on loan from the Longwood Program.

Once again, thank you for your contribution to this study.

Yours sincerely,

Pamela Goff
Longwood Graduate Fellow

SUMMARY OF EXHIBIT SURVEY RESULTS

NOTE: Multiple answers were possible for many questions so percents may not add up to 100.

THEME

1. What was the title and theme of one major exhibit at your institution?

Annual Cacti and Succulent Show and Exhibit

Annual Chrysanthemum Display- artistic display of mums and other background plants

Annual Flower Show- All-American selections, turf exhibits, tours
Arts and Crafts Show

Automatic Tour of the Arboretum- botanical illustration of arboretum through the seasons

Autumn Splendor- annual chrysanthemum show

Balcony Gardens- gardening on balconies for someone living in an apartment or similar dwelling

Baskets- their use around the world

Botanical Illustration and Fantasy

Botanical Print Show- botanical illustration: prints and originals
1556-1977

- Botanical Prints from James J. White Collection (1635-1925)-
study of botanical illustration
- Chinese Brush Painting- florals, birds, landscapes
- Chocolate- production and products
- Chrysanthemum Show- natural scene with waterfall
- City Gardens for Wildlife- the city dweller can attract animals
and birds to the garden by using plants
- Demonstration Beehive- bees of importance to horticulture
- Demonstration Desert Garden- to demonstrate practical landscape
uses of native plants for residential
pleasure
- 1978 Fall Show: Yellow Brick Road- American literature, Wizard of
Fern Festival and Bromeliad Show- competitive plant entries
- First Annual Flower Day- exhibits of All-American selections,
variety trials, turf demonstrations
- Fungi Display
- Grocery Store Botany- relationship between packaged foods and
plant sources
- Guides to the Garden- a display of new guides to nature and
history trail
- Illinois Judges Flower Show
- Insects- common garden insects of this area
- Japan Today- Japanese calligraphy, pottery, floral arts, dolls
and old ceremonial garments
- Morton Arboretum- A-Collection of Trees- tree collection,
history of Morton and its services and collection
- Native Plants Used by the Iroquois
- Natural Dyeing- dyeing with plants in Michigan, methods, examples
- Nature Trail Guide- nature garden
- Nebraska Statewide Arboretum- state fair exhibit, public aware-
ness about NSA
- Old Nursery Catalogs
- Pharmaceutical Plant Portraits- economic plants and botanical
illustrations
- Plant Pigments- their existence and function in the plant
- Plants and Traveling Exhibit for School Administrators Meeting-
introducing institution for educational purposes
- Plants of the Good Earth- the Chinese Influence- influence of
China on plants, gardening and culture -
in the western world
- Plants of the Planet Earth- giving children the opportunity to
view flowers and leaves and make
specimens
- Planting Fields-Past and Present- historical and geographical
from glacial era, Indian use
to present day arboretum.
- Pre-historic and Jungle Gardens- evolution of plants
- Production of Maple Syrup- historical and economic use of plants
and production
- Pruning Practices- proper and improper pruning and tree care
- Pruning- types, tools, method, objectives
- Secret Arboretum- facilities at the arboretum
- Seven Environmental Works- installation of outdoor sculpture on
grounds by seven artists through juried
competition
- Solar Greenhouse- solar assisted specially designed greenhouse
- Something for Everyone- sources and facilities at the garden
which are available to the public
- Stained Glass Exhibit- combinations of flowering and foliage
plants with stained glass
- Tall Grass Prairie
- The Westburys-Looking Back- bicentennial exhibit, a look at two
villages
- 13 Sinister Plants- A Halloween Bouquet- historical plant lore
for Halloween
- Wonderful World of Nature at Clyburn Preserve- from cultured garden
to naturalized forest
- Young Americans- Fiber/Wood/Plastic/Leather- crafts

2. What other theme or themes have been the subject of exhibits at your institution?

56% HISTORICAL
 20% BIOGRAPHICAL
 24% HERBARIUM
 46% PLANT CARE
 12% ECONOMIC USE OF PLANTS 28% FOOD 24% FIBER 30%YES
 50% BOTANICAL ILLUSTRATION

OTHER, PLEASE SPECIFY

Survey of a genus or family (palms, bamboo, orchids)
 Nature related arts and crafts (ceramics, painting, sculpture)
 Photographs
 Books (rare or otherwise)
 Holiday displays
 Endangered species, unusual plants
 Native flora
 Wildflowers
 Herbs, aromatic plants
 Medicinal plants
 Beverage plants
 Poisonous plants
 Flower arranging (Ikebana)
 Bonsai
 Plant geography
 Ecology (habitats, arboretum communities, climate)
 Zoological (birds, bird nests, local wildlife)
 Plant growth and anatomy
 Houseplants
 Trees
 Dried plants
 Hardy Ornamentals
 Plants for energy propagation, fuel
 Flower show
 Landscapes
 Philosophy
 Pioneer garden
 Galls
 Scanning electron microscope
 Terrariums
 Fruits and seeds
 Rocks and minerals
 Plant collections
 Fundraising

DESIGN AND PREPARATION

3. A. Who was your major exhibit prepared by? (Check as many as apply)

YOUR INSTITUTION

88% PAID STAFF
 29% VOLUNTEERS
 12% OUTSIDE CONSULTANTS
 12% ANOTHER INSTITUTION

OTHER, PLEASE SPECIFY plant societies, landscape division of the Parks Department, vocational school, university, chocolate company

- B. In general, who prepares most exhibits at your institution?
(Check as many as apply)

YOUR INSTITUTION

- 96% PAID STAFF
27% VOLUNTEERS
7% OUTSIDE CONSULTANTS
7% ANOTHER INSTITUTION
OTHER, PLEASE SPECIFY plant societies and organizations,
Parks Department

4. A. What reference or references were most helpful in preparing your major exhibit?

- 80% PEOPLE AT OWN INSTITUTION
35% PEOPLE AT OTHER INSTITUTIONS WHERE WERE THEY FROM? Hunt, Smithsonian, universities, museums
9% GOVERNMENT AGENCIES
33% BOOKS many, brochures from other gardens
OTHER, PLEASE SPECIFY garden library, plant societies, private corporations, Parks Department, National Wildlife Federation

- B. What reference or references are most helpful in preparing most exhibits at your institution?

- 94% PEOPLE AT OWN INSTITUTION
16% PEOPLE AT OTHER INSTITUTIONS
6% GOVERNMENT AGENCIES
30% BOOKS
OTHER, PLEASE SPECIFY garden libraries, plant societies

5. A. Where did you obtain materials for your major exhibit?
(Check as many as apply)

- 76% OWN COLLECTION
45% PURCHASE
24% LOAN FROM ANOTHER INSTITUTION
8% LOAN FROM BUSINESSES
40% LOAN FROM PRIVATE SOURCES
6% TRAVELING EXHIBIT

- B. Where do you obtain materials for most exhibits at your institution? (Check as many as apply)

- 78% OWN COLLECTION
37% PURCHASE
18% LOAN FROM ANOTHER INSTITUTION
4% LOAN FROM BUSINESSES
40% LOAN FROM PRIVATE SOURCES
14% TRAVELING EXHIBIT IDENTIFY SOURCE plant organizations, Smithsonian

6. A. What were the principal components of your major exhibit?
(Check as many as apply)

69% SIGNS/LABELS
 43% BROCHURES
 20% SLIDES/FILM/TAPE
 37% PHOTOGRAPHS
 43% ILLUSTRATIONS
 22% MODELS
 20% ARTIFACTS
 59% LIVING PLANT MATERIAL
 16% OTHER PLANT MATERIAL
 20% OTHER, PLEASE SPECIFY in all cases materials to carry out
 selected themes

- B. What are the principal components of most exhibits at
 your institution? (Check as many as apply)

75% SIGNS/LABELS
 51% BROCHURES
 22% SLIDES/FILM/TAPE
 53% PHOTOGRAPHS
 51% ILLUSTRATIONS
 18% MODELS
 25% ARTIFACTS
 76% LIVING PLANT MATERIAL
 24% OTHER PLANT MATERIAL
 8% OTHER, PLEASE SPECIFY materials to carry out selected
 themes

7. A. How was your major exhibit arranged? (Check as many as apply)

39% 2-Dimensionally (WITH OBJECTS ARRANGED AGAINST A FLAT
 SURFACE)
 73% 3-Dimensionally

- B. In general, how are most exhibits at your institution
 arranged? (Check as many as apply)

43% 2-Dimensionally
 76% 3-Dimensionally

8. A. Who staffed your major exhibit? (Check as many as apply)

34% NO ONE
 62% PAID STAFF
 10% SECURITY STAFF
 36% VOLUNTEERS
 OTHER, PLEASE SPECIFY plant societies

- B. Who staffs most of the exhibits at your institution?
 (Check as many as apply)

36% NO ONE
 58% PAID STAFF
 10% SECURITY STAFF
 40% VOLUNTEERS

9. A. Did you encourage visitors to actively explore exhibit materials with their senses (smell, touch, etc.) in your major exhibit?

36% YES
64% NO

- B. Do you generally encourage visitors to explore exhibit materials with their senses at your institution?

50% YES
50% NO

10. A. Were there any printed materials accompanying your major exhibit for visitors to keep?

58% YES
42% NO

- B. Do you generally produce printed material to accompany exhibits for visitors to take home?

49% YES
51% NO

AUDIENCE

11. A. Toward what age group or groups was your major exhibit directed?

68% NO AGE GROUP WAS IDENTIFIED
10% CHILDREN
4% TEENAGERS
26% ADULTS
0 ELDERLY

- B. Toward what age group or groups are most of the exhibits at your institution directed?

69% NO AGE GROUPS ARE IDENTIFIED
12% CHILDREN
8% TEENAGERS
29% ADULTS
2% ELDERLY

12. A. What was the predominate kind of group that visited the major exhibit?

59% INDIVIDUALS
33% COUPLES
57% FAMILY GROUPS
45% SCHOOL GROUPS
24% BUS TOUR GROUPS
OTHER, PLEASE SPECIFY garden clubs, college students

B. What is the predominate kind of group that visits most of the exhibits at your institution?

61% INDIVIDUALS
 43% COUPLES
 67% FAMILY GROUPS
 47% SCHOOL GROUPS
 37% BUS TOUR GROUPS

13. A. Did you make special provisions for handicapped visitors to attend your major exhibit?

59% NO
 41% YES

B. Do you generally make provisions for handicapped visitors to attend exhibits at your institution?

44% NO
 56% YES

14. Do you feel that exhibits increase visitor attendance to your institution?

10% NO
 90% YES

LOCATION

15. A. Where was your major exhibit located in your institution?

24% OUTDOORS
 16% CONSERVATORY OR GREENHOUSES
 32% EXHIBIT HALL
 22% LOBBY
 18% ENCLOSED ROOM
 OTHER, PLEASE SPECIFY throughout museum, school auditorium, visitors center, state fair

B. Where are most exhibits at your institution located?
 (Check as many as apply)

38% OUTDOORS
 34% CONSERVATORY OR GREENHOUSES
 44% EXHIBIT HALL
 32% LOBBY
 26% ENCLOSED ROOM
 OTHER, PLEASE SPECIFY nature center

16. A. What was the approximate square footage your major exhibit occupied?

61% WALL SPACE Average 1,038 Greatest 12,500 Least 12
 80% FLOOR SPACE Average 2,648 Greatest 40,000 Least 9

B. What is the average square footage most exhibits at your institution occupy?

65% WALL SPACE Average 261 Greatest 2,500 Least 12
77% FLOOR SPACE Average 4,011 Greatest 40,656 Least 15

17. A. Was your major exhibit also displayed away from the institution?

24% YES
76% NO IF NO, SKIP TO #19

B. Does your institution prepare any other exhibits (flower show exhibits, school exhibits) that are displayed away from the institution?

65% YES
35% NO IF NO, SKIP TO #19

18. A. Where was your major exhibit displayed? (Check as many as apply)

33% FLOWER SHOWS
8% STOREFRONTS, BANKS, COMMUNITY CENTERS
25% OTHER MUSEUMS AND BOTANIC GARDENS
25% FAIRS
25% PROFESSIONAL MEETINGS
0 ELEMENTARY SCHOOLS
8% SECONDARY SCHOOLS
25% COLLEGES/UNIVERSITIES
OTHER, PLEASE SPECIFY parks, garden shows, conferences, civic center

B. Where were other traveling exhibits displayed? (Check as many as apply)

44% FLOWER SHOWS
25% STOREFRONTS, BANKS, COMMUNITY CENTERS
25% OTHER MUSEUMS AND BOTANIC GARDENS
38% FAIRS
38% PROFESSIONAL MEETINGS
13% ELEMENTARY SCHOOLS
19% SECONDARY SCHOOLS
19% COLLEGES/UNIVERSITIES
OTHER, PLEASE SPECIFY garden clubs, rotary club organizations

DURATION

19. When did your major exhibit open?

DATE Average 1978 Most recent 1980 Oldest 1962

20. A. For how long was your major exhibit displayed?

Average-10 weeks Shortest-1 day Longest-permanent

B. For how long are most exhibits at your institution displayed?

Average-13 weeks Shortest-1 day Longest-permanent

FINANCES

21. A. How was your major exhibit funded? (Check as many as apply)

18% PRIVATE INDIVIDUALS
 10% FEDERAL GRANT
 4% STATE GRANT
 14% CORPORATE
 22% FOUNDATION
 4% SPECIAL CAPITAL BUDGET
 74% OPERATING BUDGET
 OTHER, PLEASE SPECIFY magazine

B. How are most exhibits at your institution funded? (Check as many as apply)

14% PRIVATE INDIVIDUALS
 8% FEDERAL GRANT
 8% STATE GRANT
 8% CORPORATE
 22% FOUNDATION
 6% SPECIAL CAPITAL BUDGET
 60% OPERATING BUDGET

22. A. Was your major exhibit budgeted separately from other organizational activities?

77% NO
 23% YES HOW MUCH WAS BUDGETED FOR THE EXHIBIT? Average \$10,144
 Greatest \$40,000 Least \$200

B. What is the budget range for most exhibits at your institution?

63% UNDER \$500
 11% \$500- 1,000
 8% \$1,000-2,000
 8% \$2,000-5,000
 10% OVER \$5,000

23. Do you charge admission to your institution?

60% NO
 40% YES HOW MUCH FOR AN ADULT? Average \$2 Greatest \$4 Least \$1

24. A. Did you charge a separate admission to your major exhibit?

100%NO
 0 YES

B. Do you charge a separate admission to most exhibits at your institution?

100%NO
 0 YES

EVALUATION

25. A. Did you attempt to evaluate the success of your major exhibit?

46% YES
54% NO IF NO, SKIP TO #28

B. Do you generally attempt to evaluate the success of exhibits at your institution?

68% YES
32% NO IF NO, SKIP TO #28

26. A. How did you evaluate your major exhibit? (Check as many as apply)

30% VISITOR SURVEYS
74% VISITOR'S INFORMAL RESPONSES
91% OBSERVING VISITORS
74% EMPLOYEES' INFORMAL RESPONSES
OTHER, PLEASE DESCRIBE attendance, television and press coverage, number of letters and phone calls, new members, committee evaluation

B. How do you generally evaluate exhibits at your institution? (Check as many as apply)

29% VISITOR SURVEYS
81% VISITOR'S INFORMAL RESPONSES
95% OBSERVING VISITORS
81% EMPLOYEES' INFORMAL RESPONSES

27. A. Who was the evaluation of your major exhibit done by?

96% PAID STAFF
4% CONSULTANTS
17% VOLUNTEERS
OTHER, PLEASE DESCRIBE Horticultural Advisory Committee

B. Who is the evaluation of most exhibits done by?

96% PAID STAFF
4% CONSULTANTS
22% VOLUNTEERS
OTHER, PLEASE DESCRIBE Bureau of Cultural Affairs

28. A. What was the greatest benefit provided by your major exhibit?

43% INCREASED NUMBER OF VISITORS TO THE INSTITUTION
53% PROVIDED INFORMATION NOT AVAILABLE BEFORE
4% FREED STAFF FROM DIRECT CONTACT WITH VISITORS
69% PROVIDED GOOD PUBLIC RELATIONS

B. In general, what are the benefits of having exhibits at your institution?

- 62% INCREASES NUMBER OF VISITORS TO THE INSTITUTION
- 72% PROVIDES INFORMATION NOT AVAILABLE BEFORE
- 4% FREES STAFF FROM DIRECT CONTACT WITH VISITORS
- 78% PROVIDES GOOD PUBLIC RELATIONS

OTHER, PLEASE SPECIFY visitors can see things they would not normally see, brings interested people to the institution who might not otherwise visit, passive recreation, publicity, fulfills purposes of institution, frees staff to meet visitors, cultural outlet, diversity for tours and regular visitors, concepts can be taught through an understandable medium, broadens approach to the study of various topics and often covers a special interest of some visitors

29. A. If you had to pick one weakness of your major exhibit, what would it be?

- 12% EXHIBIT WAS EXPENSIVE TO PRODUCE
- 19% NEEDED CONSTANT MAINTENANCE
- 7% VISITORS DID NOT UNDERSTAND CONTENT OF THE EXHIBIT
- 10% EXHIBIT WAS NOT PRODUCED WELL

B. What were the main weaknesses of other exhibits at your institution? (Check as many as apply)

- 16% EXHIBIT WAS EXPENSIVE TO PRODUCE
- 30% NEEDED CONSTANT MAINTENANCE
- 5% VISITORS DID NOT UNDERSTAND CONTENT OF THE EXHIBIT
- 14% EXHIBIT WAS NOT PRODUCED WELL

OTHER, PLEASE SPECIFY mechanical devices didn't work, publicity not well timed or executed, poor attendance, too fragile, difficult to transport, more visual aids needed, botanical art just considered pretty pictures, too visual, not enough interpretation, not enough entries, needed to be more comprehensive, text too long, not exciting, someone needed to man the exhibit at all times, not enough space, money or staff, run out of ideas, didn't attract attention, more experienced guides needed, unrealistic location, lack of coordination in producing exhibits, no evaluation done, committees change with each exhibit, display facilities limited, 2D, no moving parts, conceptual framework not followed through

GOALS

30. Do you feel that exhibiting is an important function in your institution?

- 10% NO
- 90% YES

31. What are your future plans with regards to exhibits?

- 56% MORE EMPHASIS
- 40% SAME EMPHASIS
- 4% LESS EMPHASIS

32. How would you rate the following list of devices in terms of their effectiveness in educating the public about plants?
(Please rate on a scale of 1-6, where 1 is most effective.)

TRAINED TOUR GUIDES	2-	1.85%
INSTRUCTORS	1-	1.84%
TOUR MOBILES	6-	4.75%
EXHIBITS	3-	2.70%
LIBRARY FACILITIES	5-	4.21%
FILMS/SLIDES/TAPES	4-	3.54%

33. Do you have a written exhibition policy?

90% NO
10% YES

APPENDIX III

List of Gardens to Which the Survey Was Sent

1. Alfred L. Boerner Botanical Gardens, WI
2. Arbor Lodge State Historical Park Arboretum, NE
3. Arizona-Sonora Desert Museum, AZ
4. Arnold Arboretum, MA
5. Arthur Hoyt Scott Horticultural Foundation, PA
6. Awbury Arboretum, PA
7. Barnwell Center, LA
8. Bayard Cutting Arboretum, NY
9. Berkshire Garden Center, MA
10. Biltmore House and Gardens, NC
11. Birmingham Botanical Gardens, AL
12. Bowman's Hill Wildflower Preserve, PA
13. Brooklyn Botanic Garden, NY
14. Brookside Gardens, MD
15. Callaway Gardens, GA
16. Cary Arboretum, NY
17. Chicago Horticultural Society, IL
18. Clyburn Museum, MD
19. Como Park Conservatory, MN
20. Cox Arboretum, OH
21. Dawes Arboretum, OH
22. Denver Botanic Garden, CO
23. Descanso Gardens, CA
24. Desert Botanical Garden, AZ
25. Fairchild Tropical Garden, FL

/continued

(List of Gardens to Which the Survey Was Sent)

26. Fernbank Science Center, GA
27. Fernwood, MI
28. Garden-In-The-Woods, MA
29. Gardenview Horticultural Park, OH
30. Garfield Park Conservatory, IL
31. Glen Oak Botanic Garden, IL
32. Goethe Arboretum, CA
33. Hayes Regional Arboretum, IN
34. Holden Arboretum, OH
35. Horticultural Gardens of Clemson University, SC
36. Houston Botanical Society, TX
37. Huntington Botanical Gardens, CA
38. Huntington College Botanical Garden and
Arboretum, IN
39. Jerry Clegg Botanical Garden, IN
40. John A. Finch Arboretum, WA
41. John J. Tyler Arboretum, PA
42. Kingwood Center, OH
43. Lincoln Park Conservatory, IL
44. Living Desert State Park, NM
45. Londontown Publick House, MD
46. Longwood Gardens, PA
47. Los Angeles State and County Arboretum, CA
48. Marie Selby Botanical Gardens, FL
49. Matthaei Botanic Garden, MI
50. Missouri Botanical Garden, MO
51. Mitchell Park Conservatory, WI
52. Morris Arboretum, PA
53. Morton Arboretum, IL
54. National Park Service, VA

/continued

(List of Gardens to Which the Survey Was Sent)

55. Nebraska Statewide Arboretum, NE
56. New York Botanical Garden, NY
57. Norfolk Botanical Garden, VA
58. Old Westbury Gardens, NY
59. Paine Art Center and Arboretum, WI
60. Pennsylvania Horticultural Society, PA
61. Phipps Conservatory, PA
62. Planting Fields Arboretum, NY
63. R. S. Barnwell Memorial Garden, RI
64. Reynolda Gardens, NC
65. Robert R. McCormick Gardens, IL
66. Santa Barbara Botanic Garden, CA
67. Secrest Arboretum, OH
68. Smith College Botanical Garden, MA
69. South Coast Botanic Garden, CA
70. Tennessee Botanical Garden, TN
71. The Cornell Plantations, NY
72. Tilden Regional Park, CA
73. U.S. Botanic Garden, DC
74. U.S. National Arboretum, DC
75. University of British Columbia, BC
76. University of Georgia Botanical Garden, GA
77. University of Minnesota, MN
78. University of Tennessee Botanical Gardens and
Arboretum, TN
79. Wave Hill Center for Environmental Studies, NY

APPENDIX IV

Corporate and Government Support of Exhibitions

Corporate Support. Corporations are allowed to give away up to five percent of their taxable income every year. This money frequently helps support educational television programs, dance companies, and large museum exhibits. Support of cultural events provides the company with good public relations and media attention, linking its commercial products to the cultural "products" and suggesting its generous nature.

Corporations usually fund exhibitions through their foundations. The best sources of information concerning corporate foundations and private foundations are:

- A Guide to Corporate Giving in the Arts
- Corporate Foundation Profiles
- Foundation Directory
- Foundation Center Source Book Profiles
- Foundations Grants Index
- Tax Returns, Forms 990-PF and 990-AR.

Government Support. Government agencies, especially at the state level, have funded museum exhibitions on a fairly regular basis. It is difficult to know how federal money will be appropriated in the coming years, but the following is a list of agencies which are most likely to fund exhibitions at botanic gardens and arboreta.

Federal Agencies

- Department of Education - Institute of Museum Services
- National Endowment for the Arts - Architecture and Environmental Arts Program; Museum Program; Special Projects
- National Endowment for the Humanities - Cultural Institutions Grants, Museums and Historical Organizations Program; Special Projects

State Agencies

- State Humanities Forums - money comes from NEH
- State Arts Councils - money comes from NEA

The best reference sources concerning federal agencies are:

- Cultural Directory
- Catalog of Federal Domestic Assistance
- Funding Sources and Technical Assistance for Museums and Historical Agencies
- "Federal Assistance Programs for Public Gardens"

APPENDIX V

Resource Organizations for Information
Concerning Special Audiences and Their Needs

American Foundation for the Blind
15 West 16th Street
New York, New York 10011

Arts and Special Constituencies Project (general)
National Endowment for the Arts
2401 E Street, N.W.
Washington, D.C. 20506

Educational Resource Information Center
Handicapped and Gifted Council for Exceptional
Children
1920 Association Drive
Reston, Virginia 22091

Clearinghouse on the Handicapped
Office for Handicapped Individuals
388-D South Portal Building
Washington, D.C. 20201

MAPS: Museum Access Planning Sources
Skye Pictures, Inc.
225 Floyd Avenue
Richmond, Virginia 23220

National Association for Retarded Citizens
254 West 31st Street
New York, New York 10001

National Center for a Barrier-Free Environment
7th and Florida Street, N.E.
Washington, D.C. 20015

National Information Center for the Handicapped
Closer Look
P. O. Box 1492
Washington, D.C. 20013

/continued

(Resource Organizations for Information Concerning Special Audiences and Their Needs)

Office of Civil Rights for the Handicapped
Room 3460-N, HEW
330 Independence Avenue, S.W.
Washington, D.C. 20201

National Committee: Arts for the Handicapped
Room 2611, ROB 3
7th and D Streets, S.W.
Washington, D.C. 20210

Source: Peter S. LaPaglia, "Interpreting the Humanities through Museum Exhibits," AASLH Southeast Regional Workshop, December 1980 (mimeographed).

APPENDIX VI
Rental Agreement Forms

Matthaei Botanical Gardens
1800 N. Dixboro
Ann Arbor, Michigan 48105

Telephone
313-764-1168

RENTAL AGREEMENT

date _____

(borrowing institution) _____

hereby applies for the exhibition: _____

for the period: _____

lent by the Matthaei Botanical Gardens, and agrees to accept said loan subject to the conditions on the reverse of this page.

The borrower further agrees to pay a rental fee of \$ _____ plus shipping costs and an insurance fee of _____ in accordance with the Conditions of Rental, by the following method:

Prepaid outgoing shipping cost in full to the next designated location which is

_____ name of institution _____ address of institution _____ tel. no.

_____ contact person. Please make delivery arrangements at least one

week in advance of _____ date.

Please forward purchase order with signed contract if you need it included on invoice.

William S. Benninghoff

For the Matthaei Botanical Gardens _____ Director

This agreement can not be processed until all requested information is provided.
(Please print or type)

Ship to: _____ Bill to: _____

_____ name of borrowing institution _____ name of borrowing institution

_____ street _____ street

_____ city, state, zip _____ city, state, zip

_____ name & title of contact person _____ name & title of contact person

_____ phone number (include area code) _____ phone number (include area code)

Important: Read conditions on reverse

I have read and agreed to the provisions of this Rental Agreement, including the Rental Conditions on the reverse side thereof.

For the borrowing institution: _____ Signature of Contracting Officer

_____ name & title of Contracting Officer _____ date

Return 2 copies to the Matthaei Botanical Gardens immediately and keep 1 copy for your file. MBG will hold this booking for you for one month from the date that it receives this Rental Agreement from you, provided that the Agreement has been returned in a timely fashion under the applicable Rental Condition on the reverse side of this Agreement.

CONDITIONS OF RENTAL

1. Purpose. The Matthaei Botanical Gardens of the University of Michigan (MBG) traveling exhibit may be used for educational purposes only. No commercial use may be made of the exhibit. Without prior written permission from the MBG, no special fee (other than museum general admission) may be charged and no fund-raising event may be held.
2. Use of Exhibit Works. The borrowing institution acknowledges that the ownership of the exhibit works is entirely in MBG and that no use of such works, other than for the exhibit purposes specified above, may be made without the written permission of MBG.
3. Bookings. Bookings are valid only when made through MBG. This rental agreement must be completely filled in, signed by the Contracting Officer, of the borrowing institution, and returned to MBG promptly. If this signed Rental Agreement is not returned to MBG within one month after it is mailed to the borrowing institution, the booking period will be opened to others unless MBG otherwise agrees in writing. MBG must know exactly where an exhibit is at all times. Prior written permission must be obtained if the borrower is showing an exhibit at more than one location, and list of complete addresses and applicable dates must be furnished to MBG.
4. Insurance and Protection. The borrowing institution will pay a fee which includes the premium on insurance for the exhibit works both during display and while in transit to the next institution. The borrower agrees to notify the MBG immediately of any theft or damage occurring while the exhibit is in its possession. The borrower agrees to provide all fire precautions according to local fire department regulations; handling, unpacking, and repacking of the exhibit under professional supervision; and strict protection against theft. The borrower will provide guard or staff supervision while the exhibit is being shown and will take all reasonable precautions for its protection. The exhibit will not be displayed in open air or temporary structures.
5. Fees. The borrowing institution will pay a rental fee on the exhibit works; the fee is \$100.00 for one month or any fraction thereof.
In addition, the borrowing institution will pay a fee of \$10.00 to cover insurance on the exhibit works for one month or any fraction thereof.
6. Cancellations. Cancellations are only valid when made in writing and may be made by either the borrower or MBG. The borrowing institution shall pay any expenses reasonably incurred by MBG because of such cancellation.
7. Handling and Transportation.
 - a Receipt
If an exhibit has not arrived 2 days in advance of the opening date, the borrower must call MBG immediately.
Since incoming shipments are to be prepaid, the borrower should contact MBG and/or the previous exhibitor before accepting collect shipments.
The borrower must examine the exhibit upon receipt, report its condition on the form provided by MBG, and mail said report within 48 hours of unpacking. If damage is noted, contact MBG immediately. Repairs may not be undertaken without prior explicit permission from MBG. The borrower must provide at least one installation photograph so MBG may have a permanent visual record of each installation.
 - b Dispatch
The borrower agrees to arrange 'door-to-door' transportation of the exhibit to the location designated, on the date specified, and in accordance with conditions set forth in shipping instructions received. If such instructions have not been received one week prior to scheduled closing of the exhibition, the borrower agrees to notify the MBG. The 'Notification of Shipment' card included with the shipping instructions is to be completed and mailed promptly to MBG.
 - c Cost
The exhibit is to be shipped prepaid only or delivered personally to the next institution. MBG will deliver the exhibit to the first borrowing institution.
8. Publicity and Credit. MBG will provide the borrower with publicity material. The borrower agrees to give credit to MBG as well as to sponsors of the exhibit in all acknowledgments, printed material, publicity, press releases, and catalogs. The borrower agrees to send MBG press clippings.
9. MBG makes every effort to assure delivery of each exhibition on time. However, MBG will not be responsible for damages arising from delays or cancellations of exhibits.

MICHIGAN'S PLANTS IN DANGER

Exhibit Arrival Report

Fill in and return immediately to:

Matthaei Botanical Gardens
1800 N. Dixboro Road
Ann Arbor, Michigan 48105

1. Date received: _____

2. Number of Boxes: _____

(a) Were boxes in good condition? _____

(b) If repairs are needed, can they be made during time exhibit is on view? _____

3. List items not received: (Inventory list included in rental packet)

(Number)	(Title)
_____	_____
_____	_____
_____	_____

4. List items damaged when received: (Give nature of damage and your opinion as to cause)

5. In case of damage, see section 6a of the Conditions of Rental.

6. Have you initiated investigation with the transportation company concerning damage? _____

Date of report: _____

Institution name: _____ Phone: _____

Mailing address _____ (street, city, state) _____ (zip)

Person in charge: _____ Title: _____
(Name typewritten)

(Signature)



Smithsonian Institution Traveling Exhibition Service Washington DC 20560

Telephone 202-381-6631 Cable SMITHSONIA Telex 89495

Rental Agreement

date _____

(borrowing institution) _____

hereby applies for the exhibition: _____

for the period: _____ lent by the Smithsonian Institution Traveling Exhibition Service, and agrees to accept said loan subject to the conditions on the reverse of this page.

The borrower further agrees to pay a rental fee of \$ _____ and shipping costs, in accordance with condition 5 on the reverse, by the following method:

Prepaid outgoing shipping cost in full to the next designated location. Said shipping costs (will be _____) (will not be _____) prorated as per condition 6c on the reverse.

Other Conditions: Since the shipping distance from _____ is greater than average, the borrower also agrees to reimburse the previous exhibiting institution for: (____ one-third) (____ one-half) of incoming shipping cost.

For the Smithsonian Institution: _____

SITES Contracting Officer

This form, when signed below, will constitute a binding agreement between the Smithsonian Institution and the borrowing institution

This agreement cannot be processed until all requested information is provided. (please print or type)

Ship To: name of exhibiting institution street city, state, zip name & title of contact person phone number (include area code) Bill To: name of borrowing institution street city, state, zip name & title of contact person phone number (include area code)

Important: Read conditions on reverse I have read and agree to the conditions of this rental agreement

For the borrowing institution: name & title of Authorized Representative Signature of Authorized Representative date

Return white copy to SITES immediately and keep yellow copy for your file. SITES will hold this booking for you for one (1) month; after which time, if the signed agreement is not returned, we will consider the period indicated above as an open booking period.

BORROWER'S COPY

SI-1925 Rev. 10-16-78 OGC

Conditions of Rental

- 1 **Purpose.** The Smithsonian's traveling exhibitions may be used for educational purposes only. *No commercial use may be made of SITES exhibitions.* Without prior permission from the Smithsonian Institution Traveling Exhibition Service, no special fee (other than museum general admission) may be charged and no fund-raising event may be held. Access to SITES exhibitions shall not be denied to anyone on the basis of race, color, national origin, handicap, or age.
- 2 **Bookings** are valid only when made through SITES. Agreement forms must be completely filled in, signed by the Authorized Representative of the borrowing institution, and returned to SITES promptly. If the signed agreement form is not returned to SITES within one month, the booking period will be considered open. If the borrower cannot return the signed agreement within a month, SITES should be advised in writing when it will be returned. SITES must know exactly where an exhibition is at all times. Prior permission must be obtained if the borrower is showing an exhibition at more than one location, and a list of complete addresses and applicable dates must be furnished to SITES.
- 3 **Rental Fee.** The exhibitor will be billed the rental fee the first of the month that the exhibition opens. The opening date is the one indicated on this contract. If the exhibition is prorated in advance, the shipping costs will be included with this billing.
- 4 **Insurance and Protection.** SITES will provide \$50 deductible insurance coverage for all its exhibitions during both transit and display. The borrower is responsible for the \$50 deductible for each occurrence. The borrower further agrees to notify SITES immediately of any theft or damage occurring while the exhibition is in its possession. The borrower assumes responsibility for any SITES' liability which may arise because of borrower's failure to give such notice. The borrower agrees to provide: all fire precautions according to local fire department regulations; handling, unpacking, and repacking of the exhibition under professional supervision; and strict protection against theft. The borrower will provide guards when original material is shown and will provide at least staff supervision when only non-original material is shown. Small items will be displayed in locked glass cases. Unless otherwise noted the exhibition will not be exhibited in open air or temporary structures. The borrower agrees to take all reasonable precautions for the protection of the exhibitions and failure to do so may result in borrower liability.
- 5 **Cancellations** should be made in writing, and may be made by either the borrower or SITES. SITES represents to the borrower that the rental fee has been established by apportioning all direct and indirect expenses of assembling, managing, and maintaining this exhibition over its tour. Therefore, in the event the borrower cancels its booking of this exhibition, the borrower shall nonetheless be required to pay to SITES the full rental fee, and expenses arising out of and related to the cancellation. In the event of a timely, written cancellation by the borrower SITES will use its best efforts to obtain an alternate booking for the exhibition. If this happens, SITES shall apply the rental fee received from the alternate borrower to reduce the amounts due from the original borrower as set forth above.
- 6 **Handling and Transportation**
 - a **Receipt**
An exhibition has not arrived *four days* in advance of the opening date, the borrower must wire or call SITES immediately. Since incoming shipments are to be *prepaid*, the borrower should contact SITES and/or the previous exhibitor before accepting collect shipments. The borrower must examine the exhibition upon receipt, report its condition on the form provided by SITES, and mail said report within 48 hours of unpacking. If damage is noted, contact SITES immediately. Frames may not be opened nor may repairs to art works be undertaken without prior explicit permission from SITES. The borrower must provide at least one installation photograph so SITES may have a permanent visual record of each installation.
 - b **Dispatch**
The borrower agrees to arrange 'door-to-door' transportation of the exhibition to the location designated, on the date specified, and in accordance with conditions set forth in shipping instructions received from SITES. Transit arrangements for selected exhibitions are made by SITES, and the exhibitor must comply with these. The 'Notification of Shipment' postcards included with the shipping instructions are to be completed and mailed promptly. If such instructions have not been received one week prior to scheduled closing of the exhibition, the borrower agrees to notify SITES.
 - c **Cost**
Exhibitions are shipped *prepaid* only. Each exhibitor pays *outgoing* shipping costs. For prorated exhibitions, SITES averages the shipping expenses at the end of the tour as reported by exhibitors on the proration form provided, and either reimburses or bills when the average differs from the individual exhibitors' cost in excess of \$50.00, more or less. For new prorated exhibitions, the shipping costs will be estimated at the beginning of the tour and will be billed with the rental fee. Exhibitors not complying with SITES' shipping instructions are required to pay the costs arising from any consequent delay to the subsequent exhibitor. Exhibitors in foreign countries are required to pay charges for customs clearance of exhibitions leaving and re-entering the United States.
- 7 **Publicity and Credit.** SITES will provide the borrower with publicity material. The borrower agrees to give credit to SITES as well as to designated lenders, and/or sponsors of the exhibition in all acknowledgments, printed material, publicity, press releases, and catalogs. The borrower agrees to send SITES press clippings for forwarding to lenders.
- 8 **Sales of Objects.** Works included in the exhibition that are offered for sale may not be removed from the exhibition until completion of the tour. SITES and/or its employees are not allowed to collect any commission or gratuity from such sales. Works purchased will be shipped to the buyer at his/her expense.
- 9 **SITES** makes every effort to assure delivery of each exhibition on time. However, SITES will not be responsible for damages arising from delays or cancellations of exhibitions.

APPENDIX VII

Summary of Transportation Methods Used by
Traveling Exhibition Services

How exhibitions are shipped:

Plane	11
Truck	10
Moving van	6
Own car	3
Car	1
Train	0

Who is used for shipping exhibitions:

Emery Air Freight
Aero Mayflower
Allied Van Lines
Collage Leased Equipment
Consolidated Carriers
Delta Air Lines
Garrett
Global Van Lines
O-N-C Freight Systems
Ollenday Truck Service
Profit by Air Inc.
Red Star
Santini Brothers Inc.
Security Storage of Wash.
WITS Air Freight Inc.

Source: Victor J. Danilov, Traveling Exhibitions, (Washington, D.C.: Association of Science-Technology Centers, 1978), p. 15.