What was the apple like that Julius Caesar ate? What were the roses like that bloomed at Agincourt to delight King Henry V? What did the first cob of corn look like to the harvesting Mayan? Answers to these and similar questions are available now to Garden visitors in the Elvenia J. Slosson Garden of Plants for Mankind.

On an acre and a half of hillside with a western exposure is evolving a unique display of woody and herbaceous plants. The area illustrates the working of horticulture through adjacent plantings of unaltered species with hybrids and selected forms derived from them. At a glance, the visitor can see stages in the evolution of familiar garden plants.

to man's economic survival, particularly in the temperate zones. There are plants that provide fibre for clothing, for rope, for shelter; beverages for nourishment and cheer; dyes for ornamentation and art; and medicines for wounds and for internal distress.

On the hill above are planted a variety of trees: cork oak, two kinds of mulberry—Morus alba which is still used in the Old World as plant food for silk worms, and Morus nigra, which is delicious eaten fresh or made into a preserve of distinctive flavor. Strolling by the orchard, one sees fig, carob, pomegranate, walnut, filbert, macadamia, avocado, and a variety of citrus trees, olive, apple and cherry. Vine

At the base of the hill is a vegetable garden unlike any other. For in it grow the parent plants from which have come today's beetroots and chard and onions and more. But the garden stresses not only those plants which nourish man, but those which have contributed--and in many cases still do--producing the fruit that give man the famous chardonnay and pinot noir wines have been started. Finally, there is the Jojoba shrub from the American Southwest whose nut produces an oil similar to whale oil and is used as a substitute for it.
Begun four years ago with a grant from the University's Elvenia J. Slosson Endowment Fund for Ornamental Horticulture, the garden is still young. At present, the trees are not permitted to bear fruit for two reasons: first, their growth will be encouraged if they do not concentrate on fruit production, and second, without the attraction of edible parts, the young trees are protected to some extent from the animals living in and around the Garden.

At present, the Garden is seeking funds to complete the area. The projected additions would complement the existing collection by placing emphasis upon plants of ornamental value. Siting the ornamental plantings above the existing economic section would, through landscaping features, form a focus for the entire 1/2 acres. The upper section would be crowned with a small redwood pergola providing visitors with a shaded area from which to view the entire Slosson Garden.

Surrounding the pergola would be an historical rose collection containing roses whose genetic backgrounds were used to produce the modern hybrid tea roses. Radiating out from this central focus of rose beds will be terraced displays of other important flowering plants. The Garden's collection of plants is sufficient to display the species that gave rise to the modern fuchsias, cosmos, and other cultivars, such as Delphiniums, Dianthus, and a variety of bulbs. Recent collecting in Mexico has provided the Garden with the species from which the modern Dahlias were derived. Many of the plants, including the roses, have been deliberately collected over several years in the hope of putting together just such a garden as this.

The Botanical Garden has a formidable list of plants for display in a uniquely historical-educational manner. Visitors will be able to see the development of modern horticultural ornamentals in terms of evolutionary principles, plant breeding principles, and genetic characteristics such as genetically-linked color selection and development. The reasons for such a plant reservoir of wild collected species can be justified to the visitor by displaying in the Slosson Garden groups that illustrate the importance of genetic selection and the necessity of preserving a genetic pool of wild species from which to draw in the future. More and more botanical gardens are finding themselves in the role of conservators of plant species as natural environments around the world disappear.

The Garden of Plants for Mankind as it presently exists is well worth repeated visits since many of the plants are annuals and must be sown from seed each year, and because times of maturation vary from species to species. Tours of this area have been added to the Garden's list of specialty tours, for which tour leaders are specially trained from the Garden's many volunteer docents.

How does our garden grow!

Too much shade is one thing that will prevent a Rhododendron from blooming, remarks David Leach in his Rhododendrons of the World. And judging by the color and vigor of the Garden's early blooming Rhododendrons, the tree-trimming done last summer in the Rhododendron Dell bears out the truth of this observation. Certainly the most spectacular spring color in any garden is provided by Rhododendrons, and the Garden Dell, with its hundreds of species, gives promise of an exceptional year.

Last summer the Garden staff, together with volunteers, devoted several weeks to thinning the trees in the Rhododendron Dell to improve light quality. Along with the thinning went a feeding of well-balanced granularized fertilizer in June. The plants responded by producing richer green leaves and vigorous growth. To enhance this trend, the staff will start this spring with Leach's recommendation of a spring application of cottonseed meal or any similar fertilizer that features a low amount of slow-release nitrogen in ammonium form. Toward the end of June another fertilizer may be introduced, perhaps of a stronger Rhododendron, Camellia, Azalea type.

In view of our own experience, we suggest that you be sure your own Rhododendrons have adequate light and feeding. Remember, the care you give your Rhododendrons this spring and summer will bring its rewards in color and flower next year.
The Friends of the Botanical Garden in conjunction with the Strybing Arboretum Society invite you to join A Grand Tour of the National Parks of the West, September 13-30, 1981. The tour will make a wide circle through Colorado, Wyoming, and Utah visiting many of the famous sites of the area.

Mrs. Gladys Smith, botanist, lecturer, traveller, and author will serve as tour escort. She has made botanical trips to all of the Scandinavian countries, Great Britain, Northern Caucasus, New Zealand, and the arctic regions of Spitsbergen and Iceland. She has taught tundra ecology at Hudson's Bay and has traveled extensively in the U.S. and Canada. For the past 16 years, she has been instructor at the University of California Berkeley Extension and is the author of Tahoe Basin Flora, National Park flower guide books, and many articles. Mrs. Smith was the 1979 recipient of the prestigious Garden Club of America Award.

Departure on Sunday, September 13, is from San Francisco Airport on United Airlines to Denver with a welcome dinner at the Brown Palace Hotel. The following day is devoted to a special tour of the Denver Botanic Gardens.

Tuesday the tour begins by motor coach through the Garden of the Gods to Colorado Springs. From there, it continues from Pike's Peak to the Royal Gorge of the Arkansas River, then west across the Continental Divide and the Colorado Rockies to the mesa country of the west slope to Montrose. The next day the journey proceeds to Red Mountain and the active mining towns of Ouray and Silverton, then on through the "River of Lost Souls" Gorge in the San Juan Mountains on the Denver and Rio Grande narrow gauge train to Durango.

Friday is spent visiting Mesa Verde National Park and the cliff dwellings and pit houses of the Pueblo Indians.

The desert terrain of Monument Valley is the feature of Saturday, then on the next day to the north rim of the Grand Canyon. The early part of the week is devoted to Grand Canyon, Bryce, and Zion National Parks.

Thursday is a brief return to urban life with a visit to the State Arboretum in Salt Lake City. The tour concludes with visits to the Grand Tetons, with the option of a Snake River raft trip, Casper, Wyoming, Estes Park and Denver. The return flight to San Francisco leaves Denver on Wednesday afternoon, September 30.

Comfortable accommodations are provided for each overnight stop and include a large number of meals. Cost for the 18-day tour is $2,550 (based on 15 participants) or $2,250 (based on 25 participants)—double occupancy. Included in the tour price is a $250 tax-deductible honorarium to either the Friends of the Botanical Garden or the Strybing Arboretum Society.

For more detailed information, please refer to the enclosed brochure or call the Garden Education Program at (415) 642-3352.
FRIENDS ANNUAL SPRING PLANT SALE

Whether you are planning major alterations to your garden or are looking for a rare plant or two to fill some bare spots, SATURDAY, MAY 9th, 1981, is a date you should enter on your calendar right now. For that is the day of the Friends of the Botanical Garden Annual Spring Plant Sale, scheduled to be held from 9 a.m. to 3 p.m. at the Lawrence Hall of Science Plaza on Centennial Drive.

As always, the collection of plants offered is outstanding both in its variety and its uniqueness. Plants answering to every garden need from trees to rare rock garden specimens will be available. The spring sale offers the one opportunity in the Bay Area to obtain specimens of rare plants propagated from stock of the UC Botanical Garden.

Attention is called to ONE SIGNIFICANT CHANGE in the Plant Sale format: Instead of the usual two-day event, this year's sales—both the Preview Sale for Friends and the general public sale—will be held on the same day. The Preview Sale is from 9 a.m. to 10:30 a.m. only. The Sale will be open to the general public from 10:30 a.m. to 3 p.m. The change was necessary due to the logistics of transporting large numbers of plants to the LHS Plaza and the volunteer staffing required. However, both available parking and ease of transferring plants from the Sale to your cars are benefits to all.

Admission to the Preview Sale is by current membership card only. All membership cards with dates of May 1981 or earlier must be renewed prior to entering the sale area. Since there is only an hour and a half allocated to the preview sale, members are urged to renew early so no time is lost. Memberships may be renewed by mail to the Friends of the Botanical Garden, University of California, Berkeley, CA 94720, or by visiting the Garden Information Center or Main Office. Call the Garden's Main Office at 642-3343 (week-days) regarding membership questions.

Further plant sale information, as well as a more detailed listing of plant species to be offered, will be mailed to all Friends members in late March. Any Friends member interested in assisting during the sale, or with the preparations, is encouraged to contact the Education Program immediately at 642-3352.

Among the plants available this year for the first time are selections propagated from the Garden's unique collection of succulents housed in its Cactus and Succulent House.

Collectors will find 74 genera of perennials and 23 genera of bulbs and rare and choice plants grown from seed, propagated from the Garden, and some collected from private gardens. There are selections of bearded iris—both standard and dwarf-bearded plants from Ruth Bancroft's collection—and 20 different species and varieties of non-bearded iris. Plants suitable for ponds and/or water edge are among the offerings.

Sixty-five genera of Rock Garden plants (in addition to Perennials) are on sale this year. The plants have come from the gardens of such well-known Bay Area collectors as Betty Rollins, Wayne Roderick, and Lillian Henningsen.
This year's collection of Orchids and Bromeliads is exceptional. In addition to the Orchids propagated by volunteers is a large collection of lovely hybrids, including Paphiopedilums, recently obtained by the Friends from an estate. The Bromeliads include many specimens from the Garden's collection.

Twenty-two varieties of species Fuchsias, including F. triphylla, have been propagated from plants collected in Mexico, the West Indies, Guatemala, and South America during the past few years. A number of hybrids propagated from the Garden's collection are also available.

California natives, including species collected from the Channel Islands, feature perennials (a large collection of native iris), flowering shrubs, succulents, conifers (Pinus aristata), and ferns.

In addition, Herbs, Houseplants, Vines, Shrubs--rare plants grown in the Botanical Garden--Trees, Fruits (both citrus and a number of horticulturally attractive wild species of northeastern Prunus), Ferns (tropical and hardy forms as well as water and climbing varieties), and Cactus (including epiphytics) will be offered for sale.
In late summer and fall of last year, I had the great privilege to participate in the 1980 Sino-American Botanical Expedition to western Hubei Province of the People's Republic of China. This expedition was the first field expedition of its kind in over thirty years, and, it is hoped, will be just the beginning of expanded opportunities for field work to be conducted in China by American botanists. The expedition was organized under the auspices of the Botanical Society of America and the Chinese Academy of Sciences. Funding of the U.S. team was made through a grant to the Garden from the National Geographic Society. My expedition companions were David Boufford from the Carnegie Museum Herbarium, Theodore Dudley from the U.S. National Arboretum, James Luteyn from the New York Botanical Garden, and Steven Spongberg from the Arnold Arboretum of Harvard University. The Chinese team included members of the botanical institutes of Beijing, Wuhan, Jiangsu and Kunming as well as Wuhan University. In addition to the five Americans and the eight Chinese botanists, there was a support staff of technicians, translators, drivers, cooks, etc., which brought the total number of people on the expedition to over twenty-five.

Preparations for the expedition took more than a year and involved a considerable amount of work in both America and China, but even with all this preparation, there were still many details we only learned about on our arrival in Beijing in mid-August, 1980. We knew, before arriving in Beijing, that the expedition would be primarily in the Shennongjia Forest District in the extreme western Hubei Province. We also knew that there was a chance that we might be able to visit the native home of the Metasequoia (dawn redwood) in Lichuan County of Hubei Province. 

In Beijing we were met by some of the Chinese botanists who would be on the expedition, including Professor Tang Yancheng, the leader of the Chinese team, and Professor Sun Siang-chung, deputy leader of the expedition and the person responsible for all logistic arrangements. We also learned that permission had been granted for us to visit the Metasequoia area at the end of the expedition. We would be the first foreigners permitted into this area since Chaney, Silverman and, slightly later, Gressitt, who visited there in 1948. 

From Beijing we flew to Wuhan, the capital of Hubei Province, where the rest of the Chinese team had already assembled. The main logistic arrangements for the expedition were handled through the Wuhan Institute of Botany, and its director, Professor Sun Siang-chung, was the overall leader of the expedition. I had met Professor Sun two years before when I visited China as a member of the Botanical Society of America delegation. Professor Sun's advanced years (he is in his seventies) permitted him to join us only at the very beginning and end of the expedition.

After a short stay in Wuhan we started out in a convoy of vehicles for Yichang at the lower end of the Yangtze gorges that separate Hubei from Sichuan provinces. After staying the night in Yichang we left for Xingshan and the following day for Jiujiaoping in the Shennongjia Forest district which would be our main base of operations for the next five weeks. Although we had spent much time discussing collection procedures with our Chinese colleagues, it was not until we arrived at Jiujiaoping that we were able to put these discussions into practice.

Skilled marksmen shot down out-of-reach specimens for our collection.
The first day or two of collecting were in a sense trial runs where we worked out many of the details. In order to cover as much territory as possible, we tried to divide both the American and Chinese teams in such a way so that each day we could collect in two different localities. Our object was to collect as many different plants as possible as well as enough material from each collection to make twelve duplicate herbarium specimens. We also planned to collect seeds or other propagation material in order to grow plants in botanical gardens both in the U.S. and China.

Since Jiujiaping is in the center of the Shennongjia district, we were able to cover a considerable area by jeep on one-day excursions. This allowed us an altitudinal range from about 3200 to 9800 feet in areas of both the Han River drainage to the north and the Yangtze drainage to the south. In order to reach more out-of-the-way areas, we moved our base camp a number of times, but even in these more remote camps we were able to have pressed specimens transported back to Jiujiaping for drying and sorting.

Much of our collecting had to be done in the rain since the climate of Shennongjia is monsoonal with most of the precipitation falling between May and October. There is considerable variation in vegetation with evergreen-broadleaved forests dominated by oak and laurel families below 4800 feet. Above this, between 4800 and 7000 feet, there are deciduous broad-leaved and mixed coniferous forests dominated by the birch, oak, walnut and maple families as well as Pinus armandii and Abies chensiensis. At the higher elevations above 7000 feet, there are coniferous forests of Abies fargesii and finally subalpine meadows and bamboo thickets of Sinarundinaria nitida.

Although earlier population pressures resulted in some deforestation in Shennongjia, the forests remain well-developed in many areas. However, during the past few years, Shennongjia has become a major source of forest products for Hubei Province. Unless some preserves are soon established, the forests of Shennongjia will be gone in the next five to ten years. The Chinese government is considering the establishment of several biological preserves in Shennongjia, but final decisions are yet to be made.

At the end of September we returned by jeep to Yichang, and then traveled by boat up the Yangtze River through the Three Gorges to Wanxian in Sichuan Province. From there we went by minibus and jeep back into Hubei Province to the town of Lichuan. In 1948 the trip from Wanxian to Lichuan took three days by foot; we accomplished it in about 3 to 4 hours, even stopping about half way between for lunch at the town of Modaoqi where the first Metasequoia was discovered. In 1948 this town was in Sichuan Province, but with the redrawing of provincial lines, it is now in Hubei Province. The type tree of Metasequoia is still in good condition, but the small temple and shed that stood next to it in 1948 have been removed.
Metasequoia trees in Shuisaba have been counted and numbered 5,426 trees with a diameter over 8 inches. The trees are completely protected and even small ones cannot be cut. However, the vegetation on the sides of the Metasequoia valley above the valley floor has been extensively deforested. This deforestation was noted in 1948 but appears to have increased in recent years. It is hoped that in addition to preserving the Metasequoia trees it will be possible to preserve some of the associated vegetation although this has not yet been done.

After leaving Lichuan we returned to Wanxian and then back to Wuhan by boat. All the material collected on the expedition will be divided between Chinese and American institutions, and it is hoped that over the next few years many of the plants grown from seeds that we collected will be added to the Asian Area at the U.C. Botanical Garden.

CAN YOU HELP US?

Probably no botanical garden has ever felt that its budget was adequate. The U.C. Botanical Garden is no exception. Each year, because of lack of funds, items are reluctantly cut from the Garden's list of prospective purchases, improvements, and programs.

We will note such items in forthcoming issues of the News Letter in the hope that Friends of the Garden and other readers may wish to help us acquire some of what we otherwise cannot afford. Of course, contributions toward this end are tax-deductible, and donors would receive the gratitude of staff, visitors, volunteers, and others who use the Garden and its collection for research and education.

Two Rain Gauges accurate to 1/100ths of an inch and with a maximum capacity of five inches. Heavy-duty plastic, non-breakable. The Garden would like to upgrade the quality and accuracy of its weather equipment. Two gauges, placed in different spots in the Garden, would give some idea of micro-climatic differences.

Cost each gauge: $39.95 plus tax

Max Tapener Garden Tie Machine. Much labor and time in supporting plants by tying them to stakes in both the nursery and the Garden would be saved by this machine. It comes with staples and tape for tying.

Cost: $65.00 plus tax


This comprehensive work to be published one volume at a time, represents twelve years work by Thomas H. Everett, an eminent New York Botanical Garden horticulturist. Volume I ("Aaron's beard" through "bead tree") is now available. This Encyclopedia is a serious reference tool for gardeners and will be useful to Garden staff and volunteers as well as to visitors or callers seeking information regarding care, propagation, and use of specific plants. The Encyclopedia is not available through stores and must be ordered directly from the publisher. Subsequent volumes are planned for release at six-week intervals.

Cost: $52.50 per volume or $525.00 per set

Selected plants from the propagation collection are being sold at the Information Center as they come into bloom before the Plant Sale. The Information Center is open 12N - 3:30 p.m. weekdays and 10 a.m. - 4:30 p.m. weekends and holidays.
Education Botanist Christopher Byal has been working extensively to evaluate and revise many long established Education programs, with a special emphasis on improving the appearance and content of many of the written materials available to visitors to the Garden.

The first project, a photographic display of Curator Bruce Bartholomew's collecting trip to China, was well received. In the next few weeks an exhibit of excerpts from the 17th-century Gerard's Herbal will be installed in the display case next to the Tropical House, and an exhibit of microphotography is being assembled by Garden staff member Chalmers Luckhart to replace the China exhibit.

A Garden Highlights map, to replace the quarterly Self-Guided Tour leaflets, will be available in April. This will provide a more timely and thorough bi-monthly review of particularly interesting Garden plantings. Several respondents to last Fall's Volunteer Interest Survey are involved in creating this new venture along with the staff. Watch for the Garden Highlights in the new map cases, to be available in several locations in the Garden with a suggested donation of 25¢ per copy.

Another project is the preparation of display-size Garden maps, embossed on wood panels to be located at several strategic pathway intersections throughout the Garden. Both of these new programs are intended to respond to visitors' needs to know where Garden collections are located and what is of particular interest.

Volunteer Interest Survey

Our thanks to each of you who returned a copy of this survey. We are planning to get all these welcome volunteers active in projects here, especially with the propagation efforts and in the tour guide program. Others of these volunteers are busy preparing Garden displays and pamphlets, and have assisted with the mailing of this Newsletter.

If you would like to join any of the varied activities at the Garden, additional copies of the Interest Survey are available at the Information Center and Main Office and by calling the Education Program at 642-3352.

ACQUISITIONS

During the past months many new plants have been added to various areas of the Garden. Near the parking lot is a new planting of South American Fuchsia species which we received during 1979 and 1980. With the addition of plants from Ecuador, Peru, Columbia, Venezuela and Chile, the Garden may well have the largest collection of Fuchsia species of known and documented wild origin in the world. As they come into bloom this summer, visitors will have the opportunity to see the variety of form and color offered by wild Fuchsia.

Of particular interest is the new Pacific Island bed in the Australasian Area. Including plants from Hawaii, New Caledonia, and New Guinea, the bed contains the Silver Sword relative Wilkesia gymnochium, the primitive Hernandia ovigera, the rare Hawaiian Brighamia cintrina var. napaliensis, the Hawaiian Ohia Tehua (Metrosideros collina) and the Cinquefoil Potentilla papuana from montane New Guinea.

Several portions of the California Native Area have been reworked to upgrade the landscaping and the quality of the plantings. The alpine bed was redressed with granite chippings and planted with Lewisia leana, Skyrocket Gilia (Impomopsis aggregata), Calyptridium umbellatum, Penstemon purpusii, and Raillardella arglutea.

A planting of North Coast conifers adjacent to Mather Grove adds another community to the California collection. However, the area will not have access paths until late in the year. Existing Douglas Firs (Pseudotsuga menziesii) have recently been interplanted with Sitka Spruce (Picea sitchensis), Canoe Cedar (Thuja plicata), and Port Orford Cedar (Chamaecyparis lawsoniana). Understory plantings will be added as the trees mature.

A number of plants collected by the Garden's staff in 1979 from the Santa Cruz Island have now been planted in the California Area's Channel Island beds. The red-flowered Mimulus flemingii is already in bloom and should soon be followed by Haplopappus detonsus, a shrub of the Narrowleaf Golden Bush variety, Dudleya nesiotica, and in the fall by Jepsonia malvifolia.

Each spring the Vernal Pool is replanted with annuals, and from May on through the summer should be very colorful. Among the plantings look for Bell Flowers (Downingia), Goldfields (Lasthenia) and Meadow Foam (Limnanthes).
CALENDAR OF EVENTS

MAY 9, 1981 - SATURDAY - ANNUAL SPRING PLANT SALE - Lawrence Hall of Science
Plaza, Centennial Drive, Berkeley
Preview Sale - Friends Members only - 9 - 10:30 a.m.
Public Sale - 10:30 a.m. - 3 p.m.

JUNE 20, 1981 - SATURDAY - FRIENDS OF THE BOTANICAL GARDEN ANNUAL MEMBERSHIP
MEETING - Botanical Garden Meeting Room,
University of California
Berkeley
10 a.m. - 1 p.m.

SEPTEMBER 13-30, 1981 - NATIONAL PARKS TOUR - See article this Newsletter and
enclosed Brochure.

MEMBERSHIP APPLICATION

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All contributions are tax-deductible

Make checks payable to: FRIENDS OF THE BOTANICAL GARDEN

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