

The

OCTOBER 1976

Boxwood Bulletin

A QUARTERLY DEVOTED TO MAN'S OLDEST GARDEN ORNAMENTAL

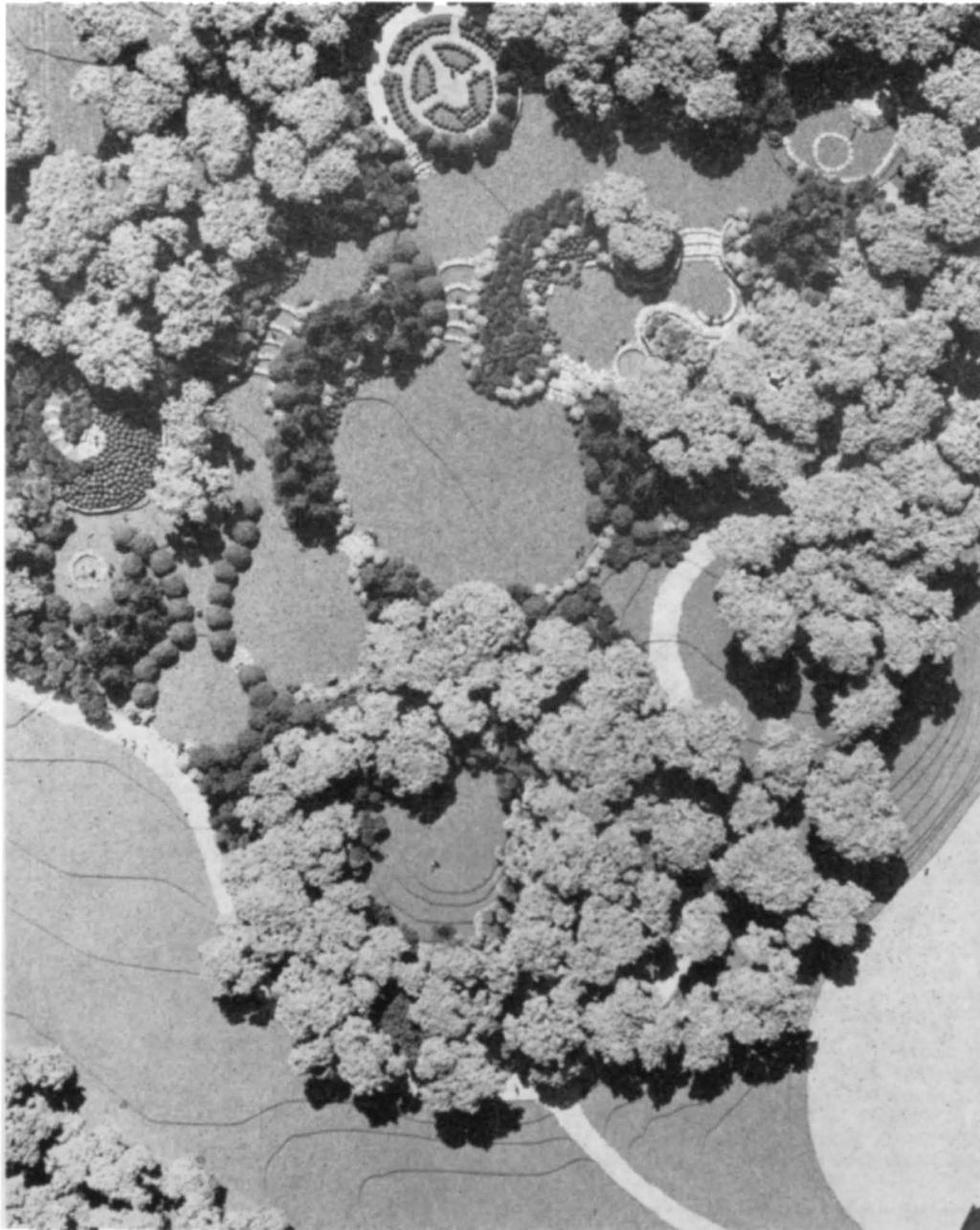


Photo by Arthur Witman

*Edgar Anderson Memorial Boxwood Garden
in Missouri Botanical Boxwood Garden
St. Louis, Missouri*

Edited Under The Direction Of
THE AMERICAN BOXWOOD SOCIETY

President ----- Rear Adm. Neill Phillips
 Vice President ----- Prof. A. S. Beecher
 2nd Vice President ----- Mr. Alden Eaton
 Executive Secretary & Treasurer
 ----- Mrs. Andrew C. Kirby

DIRECTORS

	Term Began	Term Ends
Dr. Henry T. Skinner -----	1973	1976
Prof. A. S. Beecher -----	1973	1976
Dr. Ralph Singleton -----	1975	1978
Mrs. E. M. Whiting -----	1975	1978
Mr. Charles Otey -----	1975	1978
Mr. Richard Mahone -----	1975	1978

Ex officio, Mr. Thomas E. Ewert, Director Blandy
 Experimental Farm.

Address: The American Boxwood Society,
 Box 85, Boyce, Virginia 22620

Incorporated under the laws of the State of Virginia, December 14, 1967. Exempt for Federal Income Tax. Contributions deductible by donors. Ref. IRS District Director, Richmond, Va.; Letter 430/GBS dated Dec. 4, 1968.

The Boxwood Bulletin is published four times a year by the American Boxwood Society in the quarters beginning with October, January, April, and July.

A subscription to the Boxwood Bulletin is included as one of the benefits of membership in the American Boxwood Society.

The Bulletin is \$5.00 per annum to non-members in the United States and Canada; single numbers are \$1.50 each.

Please address all communications, including manuscripts and change of address to the Boxwood Bulletin, Boyce, Va.

Reprints will be supplied to members and authors at cost but should be ordered at the time of an article's acceptance for publication.

Make cheques payable to the American Boxwood Society.

Except for material copyrighted by the author, or that used by permission of the original copyright holder, all articles and photographs in the Boxwood Bulletin are copyrighted by The American Boxwood Society.

The Editors solicit and will welcome contributions of articles, news notes, photographs suitable for reproduction, of boxwood specimens, gardens, and plantings, and other items of probable interest to readers. While every effort always will be made for the protection of all material submitted for publication, the Editors cannot assume responsibility for loss or injury.

Entered as second-class mail matter at Post Office
 Boyce, Virginia
 Copyright 1976 by the
 American Boxwood Society
 Printed in U. S. A. by
 Carr Publishing Co., Inc., Boyce, Va.

The Boxwood Bulletin

OCTOBER 1976

Vol. 16 No. 2

EDITOR — MRS. EDGAR M. WHITING

INDEX

Boxwood Society of the Midwest -----	17
A Garden For Learning and Enjoyment ----- Mary A. Gamble	18
A Missouri Boxwood Garden of Particular Grace ----- Mary A. Gamble	21
Scarcity of True Boxwood ----- Scientific American	24
An Old Friend in New Dress ----- Scientific American	25
How To Grow Boxwoods in Cold Countries ----- E. Bradford Clements	28
Boxwood ----- Elizabeth M. C. McClure	29
Boxwood Diseases-Problems and Progress ----- R. C. Lambe and W. H. Wills	32
Summary of Comments ----- R. C. Lambe	33
Plant Disease Information Requested -----	33
How to Collect and Ship Boxwood Plants for Disease Identification -----	34
Mulching and Composting ----- Neill Phillips	34
New Members Sept. 1976-Oct. 1976 -----	36

ILLUSTRATIONS

Buxus Plants for the Anderson Garden ----- Arthur Wittman	17
Mrs. Stratford Lee Morton's Garden ----- J. C. Horner	20
Views of Morton Garden ----- J. C. Horner	21
Old brick pillar and lead urn ----- J. C. Horner	22
A View Across Garden ----- J. C. Horner	23
Front Cover: Edwar Anderson Memorial Garden, St. Louis, Mo. Arthur Wittman	

BOXWOOD SOCIETY OF THE MIDWEST BEING FORMED

The Boxwood Society of the Midwest has been formed. Membership is open to anyone interested in learning more about the plant and how to grow it in the Midwest.

Headquarters of the new society are at the Missouri Botanical Garden, 2315 Tower Grove Avenue, St. Louis, Mo. 63110. Many of its activities will be associated with the Edgar Anderson Memorial Boxwood Garden to be installed at the Garden with planting scheduled to begin in 1976.

The society's first meeting was held at the Missouri Botanical Garden in early March of 1976. At this meeting the organization, purpose and begin-

ning plans of the society will be outlined. The representative program will include a presentation of the comprehensive plan of the Edgar Anderson Memorial Boxwood Garden which was designed by Karl Pettit III of Eugene Mackey and Associates in consultation with Mrs. Harriet R. Bakewell, landscape architect.

Anyone interested in learning more about the society and in receiving a notice of the founding meeting may write to either of the following: Mrs. D. Goodrich Gamble, 23 Bon-Price Terraces, St. Louis, Mo. 63132 or Mrs. George E. Penhale, 316 Carson Road, Ferguson, Mo. 63135.



Photo by Arthur Witman

Mary A. Gamble, President of the Boxwood Society of the Midwest, stands with Karl Pettit III and Harriet Rodes Bakewell, designers of the Anderson Boxwood Garden, in the boxwood nursery at the Missouri Botanical Garden in St. Louis, Mo. Their smiles reflect their delight that many of the Buxus plants surrounding them are scheduled to be in situ in the Anderson Garden in Spring 1976. The plants were propagated by members of the Boxwood Study Group of the St. Louis Herb Society, parent group of the new Boxwood Society of the Midwest.

A Garden For Enjoyment and Learning

The Edgar Anderson Memorial Boxwood Garden lies in the northeast quadrant of the Missouri Botanical Garden in St. Louis, Missouri. It is situated between the Annie L. Lehmann Rose Garden and the Japanese Garden and forms an orderly, interesting and harmonious transition between the two. It covers three and one-half acres. Originally, this site was flat, and vacant. It once was described as "the worst possible location for a boxwood garden"; but that has all changed.

The Boxwood Garden's designers, with great imagination, sensitivity and skill, have transformed the once flat tract into a contoured landscape of mounds and terraces. Here the horticultural needs of boxwood can be met as the plant is displayed in a broad range of its individuality, versatility and distinction. The boxwoods will represent a full selection of the Midwest-hardy cultivars in which Edgar Anderson was so deeply interested. Intermingled with the boxwoods will be supportive plantings of appropriate trees and shrubs. The whole will create a garden which invites exploration and delights the eye. It will be a garden in which the boxwood enthusiast — whether amateur or serious student — can learn about *Buxus* as he appreciates its presence; and where the casual visitor can gain a new understanding of the Midwestern role of the plant which is called "man's oldest garden ornamental".

The designers of the Anderson Boxwood Garden were architect Karl Pettit III of the St. Louis firm of Eugene J. Mackey and Associates, and Harriet Rodes Bakewell, landscape architect, also of St. Louis. Both have been involved with renovation projects at the Missouri Botanical Garden since the fall of 1973 and they collaborated closely on the planning of the Boxwood Garden.

"The 'ground sculpture' of the Boxwood Garden site was developed," they told us, "using the excess earth from the formation of the lake in the adjacent Japanese Garden." And, they pointed out, "the changes of elevation by terraces and earth mounds add immeasurably to the opportunities for the element of surprise as well as for a much wider use of the many boxwood varieties than might otherwise have been possible." This latter opportunity is of major importance in this botanical garden where beauty, as a matter of course, rests upon a solid foundation of knowledge.

A garden is composed of many elements, both seen and unseen. Among the latter is the garden philosophy of the designer. As a prelude to a physical exploration of the Anderson Garden design, the following summation by Karl Pettit of his garden philosophy seems pertinent. He says:

"For an effective, evocative and coordinated design one should consider approaching and shaping a garden's design as a sculpture — an integrated sequence of three dimensional space. Varieties in space, size and texture have varying psychological effects upon man. It is an inherent part of man's existence to respond to space. Man subconsciously breaks down complex patterns of solids and voids into a simplified series of spatial elements.

"These elements can be defined as paths, goals, edges, domains, gates and places. They can be expressed by nature as well as by hard-edged architectural forms. Man subconsciously interprets his spatial experiences in order to establish a sense of where he is and to define the structure and limits of his territory.

"It becomes the task of the designer to develop a plan which cunningly and intriguingly lures people through a total experience of the garden by making use of the traditional spatial elements. These elements should be used and designed in proper sequence and with a sensitivity to human scale.

"The designer should be selective and creative when providing a view or framing an architectural structure. Also, he should insure that specific subgardens provide a proper setting for their display. Healthy input can be drawn from tradition. The designer must guard against the garden becoming a simple chain of isolated and unrelated events, each designed unto itself as if a penny arcade or animal zoo."

The Anderson Boxwood Garden is organized along a primary axis which flows from southeast to northwest. The axis runs down through a succession of terraces which vary in scale and which form a series of garden "rooms" or subgardens in which the hardy boxwoods will be displayed in orderly or in some cases mixed groups.

A secondary axis runs parallel to the primary axis and leads the visitor to more intimate garden rooms as well as to an intriguing planted earth mound which will be crowned with a small kiosk shelter. The kiosk will be reached by a path which spirals up the edge of the mound. At the top, the visitor is rewarded with a beautiful overview of the Boxwood Garden. The spiral mound will remind the garden historian of the "fair mounts" which so often were a part of the gardens which nestled close to castle or monastery walls in the Middle Ages. From the top of such a mound the garden visitors, especially the fair ladies, could catch a glimpse of the countryside which was much too dangerous for a casual stroll. The mound is a charming example of "healthy input" drawn from tradition.

Undoubtedly, many visitors will enter the Boxwood Garden from the southeast walk. Immediately, they will discover a small pond engaged with the entrance terrace. "This pond", notes Karl Pettit, "is the water source for a small woodland stream which becomes the waterfall in the Japanese Garden. Thus, through this water event, the two major gardens are subtly linked."

As the visitor continues down the primary axis he enters the Balkan room where the boxwood which resulted from Edgar Anderson's 1934 exploratory trip to the Balkans will be assembled. This subgarden is strongly defined to the south by a serpentine fieldstone wall along which a fountain will play, and to the north by a kidney-shaped mound.

From the Balkan room the visitor moves onto the grand terrace from which he has a long, dramatic view of the teahouse in the Japanese Garden. "This view," says Karl Pettit, "once again links the neighboring gardens with designed intent."

The grand terrace is embraced by conifers and a judicious mixture of boxwood cultivars selected specifically to display variety in color and texture. A handsome specimen beech (*Fagus sylvatica cuprea*) tree will preside over this terrace on the west.

As he continues down the primary axis the visitor passes through two increasingly smaller terraces which will be embraced by massive *Buxus sempervirens* cultivars. "The design intent of this sequence," says Karl Pettit, "is to impress dramatically upon the visitor the mass capabilities of boxwood." The dense foliage and serene beauty of these plants will contribute to the "hint of mystery" which designer Harriet Bakewell says must be a part of every boxwood garden.

The secondary axis leads the interested visitor to a secret parterre garden, an Asian room where the hardy cultivars of *Buxus microphylla* will be assembled, and to the spiral mound.

The parterre garden is the only formal planting in the Anderson Garden. The visitor will come upon it as a delightful surprise as he rounds a great holly (*Ilex opaca*) hedge which shields it from immediate view. In this garden the designers have adapted to the modern scale and manner the historic concept of the *par terre*, so popular in the grand gardens of the Renaissance. Here, again, tribute is paid to tradition.

Focal point of the parterre garden is an oval bed which measures 30 feet at its widest point. An all-weather path will make the bed accessible to visitors whether they walk or travel by wheel chair, as Henry Shaw, founder of the Missouri Botanical Garden, wanted his garden to be.

Courses of mellowed brick divide the bed into quadrants in which flowers or herbs will bloom in season. East of the bed a serpentine wall will create privacy. In due time, the Boxwood Society of the Midwest hopes to place boxwood topiary in each of the wall's four bays.

Planting of the boxwoods is scheduled to begin in Spring 1977. As the work progresses, garden watchers can enjoy the growth. And frequent visitors can appreciate the garden in all its moods. "With an organic design," Karl Pettit points out, "man is blessed with the treat of an ever changing design; such a garden will offer new experiences with the drift of time through the seasons; such a garden will evoke different emotions with changes in sunlight."

As of Spring 1977 the Edgar Anderson Memorial Boxwood Garden will have been eight years in the making. Many people and institutions have contributed to its development thus far. This long-term commitment reflects the respect, admiration, friendship and affection which Edgar Anderson's fellow boxwood enthusiasts felt for him, as botanist, as teacher and as man. His dedication to plants, and his enthusiasm for boxwood in particular, is another of the intangibles which, in time, will make this garden, created in his memory, one of the great, evocative boxwood gardens of the world.

From:

Mary A. (Mrs D. Goodrich) Gamble
23 Bon-Price Terraces
St. Louis, Mo. 63132

MAIL BOX

September 27, 1971

Dear Mrs. Stebbins,

I like your article on boxwood in Arkansas, and I know that Mrs. Whiting will be delighted with it. Ever since she has been in charge of the Bulletin, she has wanted reports from different geographic areas. I believe that your in the first from Arkansas. Please encourage Mr. Brand to send another.

Certainly, you sent photographs of some beautiful plants. I disagree with one identification. What you are calling *koreana* is *Buxus harlandii* from Hong Kong. I recognized it from the photograph — vase-shaped, and your specimen confirmed my identification. I think that I sent your cuttings of this plant, perhaps the same clone. But I have a better representative of the species, just a small plant as yet in the greenhouse; I got it as a cutting, illegally through the mails from Hong Kong.

I am sending your photographs to Mrs. Whiting today.

Thank you most warmly for your cooperation.

Sincerely,
J. T. Baldwin, Jr.

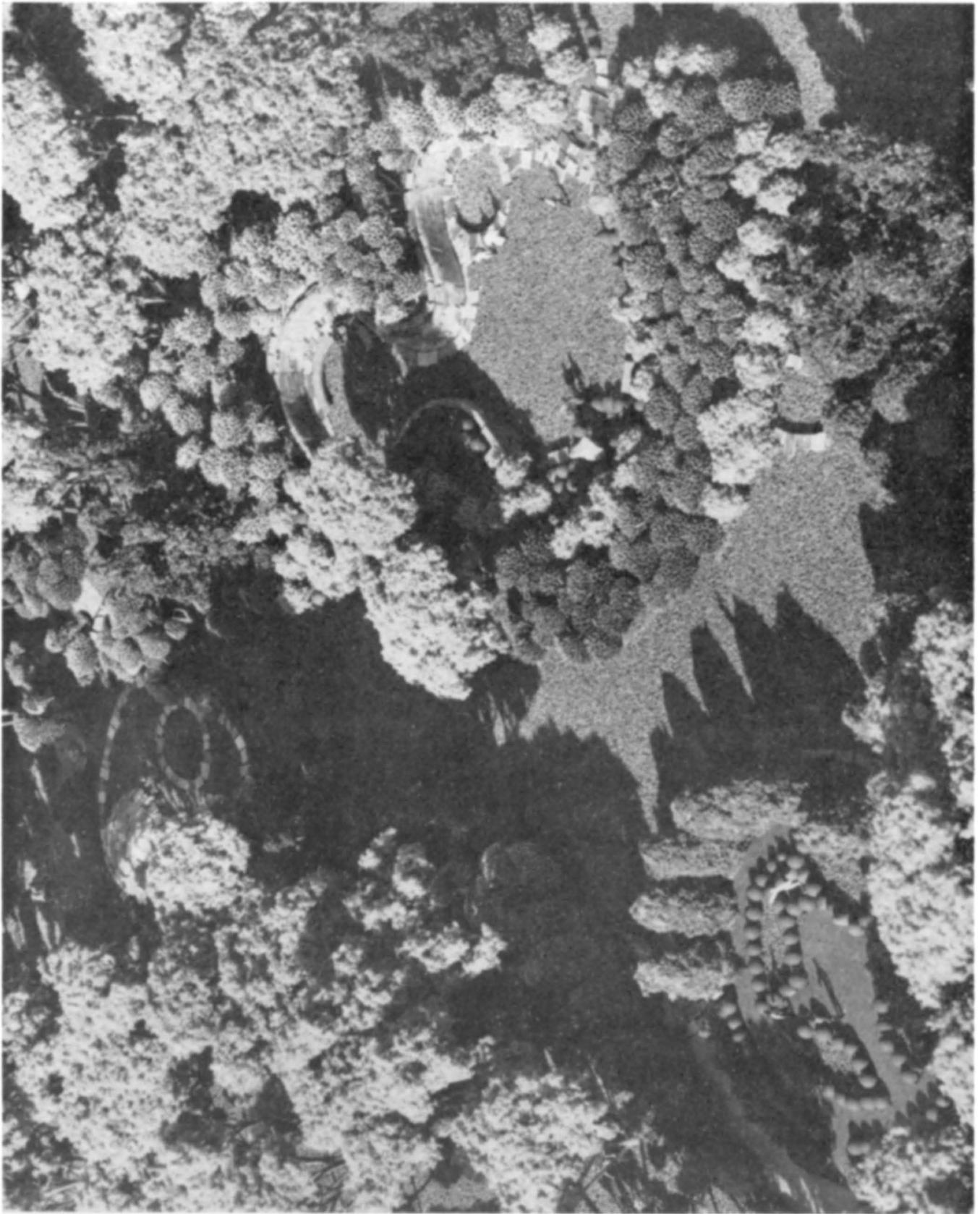


Photo J. C. Horner

Mrs. Stratford Lec Morton's "GARDEN of Particular Grace"

A Missouri Boxwood Garden of Particular Grace

Mary A. Gamble

There is a particular grace to Mrs. Stratford Lee Morton's classically beautiful boxwood garden in Clayton, an old and substantial suburb of St. Louis. The garden is at the foot of a gentle slope to the east of her large and handsome house. It is fully and invitingly visible from a sunroom and a terrace where friends and guests gather throughout the garden months. Entrance to the garden is down a flight of broad, shallow steps.

The boxwood garden lies in an open area almost encircled by stately shade trees. At high noon it is in full sunlight; in other hours there is a continual play of light, shadow and movement across the garden. Breezes ripple from the tall trees to the boxwoods and the garden changes subtly from moment to moment.

The outer form of the garden is an oval within which lies a second, smaller oval. Thus the garden repeats a natural form which is among the most pleasing to the eye, and both rhythmic and relaxing. This basic form was laid down by the late Peter Seltzer, *who was one of the most creative and admired landscape designers ever to practice in the St. Louis area.*

Peter Seltzer's career began with his own garden which he built from a barren, cindered site which angled between the main line of a major railroad and one of its branches. His garden had such charm and appeal that scores of visitors came to see it. Many, warmed by his customary hospitable gesture of tea and cakes, or sometimes mint juleps, stayed to talk. His Studio Garden, as he called it, became a rendezvous for garden clubs, artists' groups, literary circles and a miscellany of compatible people.

His ever-changing garden was a continual source of interest and inspiration and, soon, other gardeners began to ask his advice and help. Although he had no formal training as a landscape architect, he made garden design his life work and some of the most beautiful gardens in St. Louis, a city which appreciates gardens, were his handiwork.

When Peter Seltzer began his garden construction he used old bricks from wrecked buildings which had been part of the great St. Louis World's Fair in 1904. Many of the bricks he chose were broken. He instructed the bricklayers to expose the broken ends and to lay irregular courses. The workmen protested but followed orders. The result was textured walls of great visual interest.



Photo by J. C. Horner

Looking east the length of the boxwood garden which is set in a glade surrounded by tall shade trees.

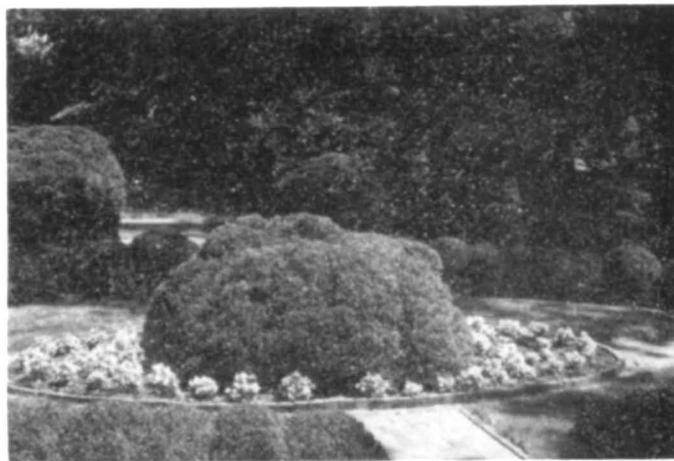


Photo by J. C. Horner

Massed boxwoods in the inner oval wear their summer garland of white begonias.



Photo by J. C. Horner

One of the pair of old brick pillars at entrance to boxwood garden. Squirrels have nibbled at the handsome lead urns.

The main entrance into Mrs. Morton's garden is marked by two strong pillars built of rough, old brick. These are the work of Peter Seltzer. The far, eastern end of the garden is bounded by a high brick wall broken by four equi-spaced pillars. These pillars are the work of Peter Seltzer. But the high wall between the pillars and the lower, stepped brick wall which defines the garden's perimeter are the work of Mrs. Morton. Hers, personally.

"The walls are on a concrete footing and, of course, I had the footing poured," said Mrs. Morton; "but I laid or supervised the laying of every brick myself.

"I'm afraid my bricklaying caused a mild sensation and it came to the attention of the bricklayer's union. The union called my husband and he told them they must consult me as I was doing the work. Soon after, a representative of the union stopped to see me. I was busy with the wall when he came. He asked me if I didn't want a professional job and I told him no, that I liked laying bricks."

"Then I must tell you," he said, "you're doing it wrong."

"He was very pleasant about it," continued Mrs. Morton. "He stayed to give me advice on mixing the mortar and laying the bricks. For example, he told me to use lime in the mortar which I wasn't doing, and to make sure I left "weep" holes for drainage. Lime, he told me, expands with moisture and makes brick walls waterproof."

When the late Stratford Dee Morton and Mrs. Morton purchased their home, the double oval bed was in place. There were boxwoods at the garden entrance and a number in the immediate garden area. But today's planting is all, except for one specimen plant, Mrs. Morton's work. She selected, placed and planted all the boxwoods which enclose the outer oval and which delineate the inner oval and fill its core.

"When I started the wall and the planting, I called it my five-year plan," said Mrs. Morton; "but it took much longer. I think it was in 1943 that I planted my first boxwood. After that, I added them as I found them. It was not easy to discover handsome plants in matched sizes."

The outer oval of the boxwood garden measures 90 feet long by 60 feet wide; the inner oval measures 18 feet long by 10 feet wide. There are three broad entrances into the garden: at the western steps, and midway of the garden where the path flows around the inner oval and out of the garden to the north and the south. The walkways are turf, set with courses of brick which unobtrusively divide the space into rhomboidal shapes.

All of the boxwood is of the same species, *BUXUS sempervirens*. It has all come from Perry County, one of the bank of counties commonly thought of as Missouri's "boxwood country". St. Louis gardeners frequently call this handsome and sturdy boxwood "the Ste. Genevieve strain."

Mrs. Morton's garden is a purely boxwood garden. Occasional clumps of hosta lilies provide the palest touch of background color for several romantically baroque stone figures; white begonias bloom in urns and planters throughout the summer; and there are some areas of ground cover. But Mrs. Morton is withdrawing from the last. She has tried ajuga, which "took over". She now is experimenting with a low, creeping sedum but is about to remove it. "It has to be weeded," she says; "and that disturbs the boxwood roots and adds to upkeep." Her solution is increased use of a thick mulch of coarse wood chips which weather to a soft gray.

Throughout the garden, the visitor is tempted to linger at the ornaments placed with artistry. They are from the collections which she and her husband assembled. Their special interest was Early American artifacts and handicrafts. Representative of this period are the pineapples, symbol of hospitality,

on the garden wall. They are tin, weighted with concrete and painted," said Mrs. Morton. "They are quite old and much rarer than those of stone."

A pair of antique lead urns top the pillars at the garden entrance. Mrs. Morton pointed out how they have been nibbled by the neighborhood squirrels. "I believe in a 'living museum'," she said, with a smile. The four stone acanthus leaves spaced across the back wall were brought home by Mr. Morton from an old downtown building being torn down for "progress".

Mrs. Morton does much of her own garden work, and all of the boxwood upkeep, except cutting the grass pathways. "And I've done that, too," she says. She is a knowledgeable gardener and an expert pruner. She shapes her larger boxwoods for a "natural look", and maintains the desired height and shape of the smaller plants with a sort of gentle persuasion.

Mrs. Morton is a charter member of the Boxwood Society of the Midwest. The Society's first annual field trip was a visit in May to her garden, coupled with an invitation to stay for lunch.

The garden brought both inspiration and reassurance to the assembled boxwood enthusiasts. As they settled on the screened porch and terrace, and spilled over into the house and along the garden steps to enjoy the food and to talk over the morning's garden experience, agreement was general that the grace of this garden, in particular, is compounded of its harmonious design, its vigorous, cared-for plants, and the generosity with which its owner shares it.



Photo by J. C. Horner

A view across the garden. One of the several baroque stone figures is visible at center left.

Winter Protection In New Jersey

David B. Reed

Our winter protection of *Buxus suffruticosa* consists of the following:

1. Four-foot snow fences, the same as used by the highway department, are used as a windbreak. Six-foot steel fence posts, spaced approximately ten feet apart, hold the fences. These are driven into the soil approximately eighteen inches. This year we plan to staple burlap to the fence, to see if we can get additional protection.

2. For protection against wind burn and sun scald we have tried Wilt Pruf, an anti-transpirant. This does not seem to be the answer to our problem. However, we will continue to use this until some other suitable material is made available. This will not protect if you have severe winds and temperatures near or below freezing for several days at a time, with little or no snow cover — which is often the case in our area.

3. Mulch for the winter. Salt hay is used; this is purchased from a local farm supply store. The hay is not removed in the spring, additional hay is added at that time, and during the summer months as needed. The boxwood we have is grown in open beds; for boxwood in foundation plantings I definitely would recommend some other type of mulch.

We have found that sugar cane is about our best mulch — some weeds do come through but for the most part are easy to pull. This material is becoming difficult to obtain in our area. At one time sugar cane was used by poultry farmers — of which we now have very few.

Pheasant Hill, Allentown, N. J. 08501

SCARCITY OF TRUE BOXWOOD

SCIENTIFIC AMERICAN

Vol. 110 JAN. 3, 1914

In the literature of the commercial woods of the world the word "box" appears frequently, applied oftentimes to woods that are widely distinct from each other. The word is usually employed with a prefix, even when the true box wood is meant, as Persian box, Russian box, Himalayan box, etc. In this article will be considered the wood of the box tree proper, the *Buxus sempervirens* of the botanists, which has been so generally imported into the United States and England as wood for the engraver's use. The German name of this tree is buxbaum; in French it is called buls; the Italian name is bosso, from which doubtless, its Latin name, *Buxus*, is derived; and in Persia it is known as Shanda laghune.

Its native home is Persia and the territory surrounding the Black and Caspian Seas, but it is in general cultivation in many parts of the world, and grows successfully as far north as 52 degrees latitude. While it grows in the temperate and more tropical climates, it is only for export in southern Europe and in parts of southern Asia. It is at present derived mainly from the forests of the Caucasus, Armenia, and the Caspian shores. The wood of the best qualities comes from the Baltic Sea forests and is shipped largely from the port of Poti. It is grown also in all parts of India, and in many districts flourishes in a wild state. It is but little planted and protected for its wood, but is largely grown and highly esteemed in Europe for ornamental and other useful purposes. To the gardener the box is a well-known, hardy evergreen tree or shrub, which seldom exceeds the height of from 12 to 15 feet in the United States, but in Turkey and Asia Minor it is sometimes found as high as 25 feet. The thickness of the trunk is often out of proportion to the height of the tree, because in full grown trees it varies from 6 to 9 inches in diameter near the ground.

Box wood is remarkably heavy (about 70 pounds per cubic foot), very hard, fine and straight-grained, takes a very high polish, and has a light yellow color. It is very liable to check in drying, and in order to prevent this the wood is placed in a dark cellar for from three to five years. At the end of this time the sapwood is removed with a hatchet and the heartwood again placed in a dark cool cellar or barn until wanted. For the best result the wood should be boiled for some time, and after it is dry, buried in dry sand until required.

The box wood has been in great demand already by the Greeks and Romans, and Theophrastus classed it with that of ebony on account of its usefulness and very fine grain. Pliny described box wood and said that it is as hard to burn as iron, and observed that it is totally unfit for charcoal. Both Virgil and Ovid stated that the wood was used very early for making musical instruments. With the advance of civilization box wood came into use for wood carving, and for this purpose it soon formed an important article of trade. It was also used extensively in England very early in cabinet making and inlaying, turnery, and a multitude of other purposes.

The use of box wood has been so very great that it is becoming scarce and consequently very costly. It is now so valuable that the trees are dug up by their roots and the latter are used for various articles of turnery. The root wood is very beautifully marbled or veined and the articles manufactured from it vary in value accordingly. The tree grows exceedingly slow, and the rate of consumption is far greater than the growth. No wood has yet been found to take the place of box for engraving, and for this the demand is great and the supply is limited. The want of the present day is a suitable substitute.

An Old Friend in New Dress

The Present Uses for Turkish Boxwood, and the Search for Substitutes

By Samuel J. Record, Professor of Forest Products,
Yale University

Scientific American Vol. 128-318-319

May, 1923

There are certain woods which seem designed to fill some particular niche in man's scheme of thing. Just as many words in our language are without synonyms for some of their true meanings, so have certain woods no perfect substitutes for their more exacting uses.

The peculiar resonance property of spruce, for example, makes it unrivaled for sounding-boards of musical instruments. It is hard to conceive how the violin, without spruce for the belly and Pernambuco wood for the bow, could have attained its enviable place in the musical world. Lignum-vitae alone combines the required density, toughness and natural lubricant for the propeller shaft bearings of steamships. The red cedar is the only perfect pencil wood, walnut the premier gun-stock material, Honduras rosewood the choice for xylophone bars, white pine the ideal match-stick wood, black locust the best for tree nails and insulator pins, white oak for tight cooperage, white ash for baseball bats, shovel handles and bent work, hickory for ax handles, spokes and many other uses where hardness, toughness and resilience are essentials. All our valuable woods owe their position to some unique feature, some rare property or combination of properties which fit them for special uses where nothing else will serve so well.

And so it is with the Turkish boxwood, the one wood of all the untold thousands in the world that is suited for fine engraving. The properties which fit it for this exacting purpose are light color, extremely fine and uniform texture, the minuteness of its pores, freedom from grit and from splintering, checking, and warping when finished, and a dense structure that lends itself readily to carving and polishing. As John Lyly says in "Euphues and his England," "There is no . . . box so knotty that dipped in oil cannot be carved." For centuries it has held its throne and no pretender is likely ever to overthrow it.

It is obvious that such a wood is eminently fitted for many purposes besides engraving blocks. The list includes mathematical instruments, various

carved and turned articles of ornament and utility, weavers' shuttles, mouthpieces of musical instruments, wooden combs, small tool handles, and in the form of veneer for inlay and marquetry, either in natural color or stained. Because of its fine texture and freedom from grit jewelers use wheels of it for burnishing and the sawdust for polishing. Formerly it was much in demand in the manufacture of roller skates, but that day has passed.

If the true boxwood could be had in the size and quantity of our more common woods there is no end of uses to which it could be put. Unfortunately it is at best only a small tree of slow and usually crooked growth and throughout much of its range it is scarcely more than a shrub. Its range is very extensive, covering central and southern Europe, northern and western Asia, and northern Africa. Its commercial distribution is more limited, being much the same as that of Circassian or Persian walnut. The chief source is the region about the Black Sea and the principal port of shipment is Batum, but no stocks have been exported since the beginning of the war. The tree reaches commercial proportions in parts of England, but the English boxwood is inferior to the Turkish.

Considering the circumstances, it is not surprising that the wood has become increasingly more difficult to obtain, the quality poorer and the price dearer. The question of substitutes became acute years ago. The botanical name of the true boxwood is *Buxus sempervirens*, the generic name being the Latin for the box tree and the specific referring to the evergreen foliage. In Cape Colony is another species known as *Buxus Macowani*. In 1885 the wood of this tree was introduced into the European trade as a substitute for Turkish boxwood and has since been known as East London or Cape boxwood. It can be used for engraving, but is not the equal of the other wood. The fact that the tree is small, rarely 8 inches in diameter, and of poor timber form, has limited its exploitation. A pile of the wood in the lumber yard looks like rough firewood in the round.

Formerly, nearly all weaver's shuttles were made of Turkish boxwood. Among the first satisfactory substitutes for this purpose were apple and pear wood. The supply of these was so uncertain and inadequate that many others were tried. Of our native woods only two have proved successful, namely, the persimmon and the flowering dogwood, sometimes called American boxwood, and in the English trade known as cornel. Today these two woods supply the bulk of the shuttles used throughout the world.

The making of shuttle blocks or blanks is practically confined to the south, since the industry is so specialized that it can only be conducted successfully in localities where is a good supply of the timbers. For this reason dogwood and persimmon trees may be much in demand in one locality and without a market in another.

Most of the boxwood now on the market comes from Venezuela and is commonly known as West Indian boxwood. There is record of shipment of this wood as early as 1878, but the extensive development of the business is much more recent. The first wood was called by the natives "amarilla yema de huevo," referring to the resemblance of the color to that of the yolk of an egg. The botanical name of this tree is *Aspidosperma Vargasii*, and it belongs to the same family (Apocynaceae) as the Knysna boxwood of South Africa. It is almost certain that this wood, often called "amarillo," is produced by more than one species of *Aspidosperma*.

For some reason not clear to the writer the amarillo was soon superseded by another Venezuelan wood, known as "zapatero." For a long time the identity of this tree remained obscure and most works of reference attributed it to *Tevoma* (or *Tabebuia* or *Pentaphyllo* of the cataupa family. This was a mistake which arose about 1884 due to the incorrect labeling of a specimen in the museum at Kew, England, and remained uncorrected for 30 years. It is now known that the most important West Indian or Venezuelan boxwood is *Casearia Praecox* of the family Samydaceae.

There seems to be a plentiful supply of this zapatero in Venezuela and the logs are smooth, straight and round, 8 to 12 feet long, and ranging in diameter from 6 to 14 inches at the small end. They are stored in cool dry sheds to prevent bluing, and sometimes they are sawed lengthwise in half to prevent splitting in drying.

This wood is of a light yellow or straw color without any distinct heart. It is a fine and uniform

texture, without distinct grain, and is easy to work or carve. It can be used for all the purposes of Turkish boxwood except the better grade of engravings. It comes the nearest of being a satisfactory substitute of true boxwood of any wood known, and its good timber form and freedom from knots permit manufacture with a minimum of waste.

The most recent addition to the boxwoods of commerce is a wood from Santo Domingo known locally as "baitoa." This first came to the writer's attention in 1918 when a battery commander's ruler made of this wood was submitted for identification. It had two or three features which distinguished it from the other boxwoods, one of which was the presence of lime in the pores in such abundance that when a drop of hydrochloric acid was applied to the end a very noticeable effervescence took place.

Upon visiting the lumber yard of a New York dealer in tropical hardwoods, a large supply of this material was found, but the only information available was that it came from Santo Domingo and was called "baitoa." No reference to this name could be found, and the extensive Yale collections contained no identified specimens of the wood from the West Indies. There were in this collection, however, five specimens of the same or similar wood from Argentina, but at first they served to complicate the problem because the labels did not agree and, in fact, referred the woods to entirely different families. Through a process of elimination, based on some knowledge of the structure of the woods of these families, the writer was convinced that if any name was correct the wood must be a species of *Phyllostylon* in the elm family. It is a far cry from boxwood to elm, but a piece of a twig from an herbarium specimen in the New York Botanical Garden established the relationship. Corroborative evidence was later secured from Haiti where the tree is known as "bois blanc," and one more wood has been taken from the "source unknown" list and properly classified.

Regarding the occurrence of this tree in Haiti, Mr. C. D. Mell, who looked it up for the writer, says:

"The 'bois blanc' is one of the most common trees in the dry calcareous regions of the west and north of the island and is said to be most plentiful in the flat and arid regions south of Gonaives in Haiti and on the low dry foothills and lower slopes of the mountains around Puerto Plata in Santo Domingo. Only rarely is it found on the upper slopes and tops of the mountains. It prefers flat lands that are dry and rocky, where it is often found growing thickly in pure forest.

"The crowns of the trees are so open that in the pure stands the sunlight reaches the ground and the trees are accordingly rather short boled. In mixture with other trees casting a denser shade the height is greater and occasional specimens may be seen that are 30 feet to the first large limb and as much as 18 inches in diameter breast high. Usually the trunks are irregular and few of them are suitable for lumber.

"The leaves are small and not very numerous. Every tree, regardless of its site or associates, seems to be full of epiphytic plants which appear to interfere with its development.

"The wood is not esteemed very highly by the natives except for making fence posts and square timbers for buildings of all kinds. Only the smaller sizes are used and the large trees do not seem to be cut for any purpose."

There are several interesting things about this baitoa or San Domingan boxwood. Though it belongs to the elm family, the wood is fine-textured and yellow like boxwood, and the bark and fruit of the tree resemble sugar maple. Only one species, *Phyllostylon braziliensis*, is recognized by botanists, and it is known to occur in Argentina, Brazil, Cuba, Santo Domingo and Haiti. It is proving a very satisfactory shuttle wood, and as the trees grow to large size it is likely to become an important factor in the trade. Through the establishment of its identity several previously unknown sources of supply are made available.

The question of the identity of woods may seem to be of academic interest only, but as a matter of fact it is often of highly practical significance. The native names have such a foreign sound that they are usually discarded by the trade and new ones given. The latter may be purely fanciful, as for instance calling *lignum-vitae* "Congo cypress;" but more likely they are intended to convey the idea of a close relationship to some other woods with established reputations. This tends to no end of confusion, may lead to disputes and lawsuits, and calls for expert knowledge to straighten out some of the snarls. It is a common experience for a manufacturer to pick up an odd lot of material that just meets his needs only to find that it has passed through so many hands that its identity and origin are lost. If in all such cases the scientific name can be fixed, the region of growth can be pretty closely determined and old and possibly new sources of supply suggested. Scientific names are recognized the world over and thus provide a key to information regardless of the language in which it is published. Moreover, they indicate natural relationships which are often suggestive to seekers of new woods for old uses.

It is extremely doubtful if the search for boxwood substitutes will ever produce another wood suited for fine engraving. During the present famine of Turkish boxwood stock, block-makers have to produce every possible economy of material. Used blocks are cut into thin layers and glued on to maple backs. In some instances the engravers have had trouble due to the layers being so thin that the grain would tear out under their tools.

In Japan, when large engravings are made, some less expensive wood is used for the main figure, but when the fine details, such as faces and hands, are to be engraved, as indicated by an outline sketch, an inlay of edge-grain boxwood veneer is used.

It might seem that in these days of advanced methods of printing there would be no demand for wood engravings. It is becoming a lost art in this country because of lack of apprentices, though about 200 old engravers remain. Of this number 150 are said to be in Chicago and the remainder in New York. The boxwood blocks are prepared by only two makers, one in each city. The blocks are cut edge-grain so that the engraver works on the cross section of the wood, and are seven-eighths inch thick. The best blocks measure 2 by 2 inches free of the pith and can only be procured from logs not less than 4½ inches in diameter. This wood costs \$200 a ton in the rough before the war.

American Substitutes for Boxwood

The amount of genuine (Turkish, Persian, Corsican, or English) boxwood imported into this country has been reduced to such an extent that the price is almost prohibitive. Often the old-world boxwood cannot be obtained in the open market, and manufacturers of wood-engravers' blocks, draftsmen's scales, chessmen, roller-skate wheels, small handles, and certain kinds of novelties are looking for woods that can be used as substitutes. No wood is known which in all respects is the equal of boxwood for the more exacting uses, especially for engraving blocks for printers. It is, however, the opinion of the Forest Products Laboratory at Madison, Wisc., that certain native fine-textured woods can be used to a large extent for some of the purposes for which boxwood is used.

The properties which have given boxwood its reputation and which must be found in a satisfactory substitute are a very fine and uniform texture, a fairly high degree of hardness—so that the wood will take a fine polish, will not wear away easily, and will work smoothly under tools—freedom from gums and resins, and a light, preferably yellowish, color.

Among our native woods, only two species come anywhere near having all the properties of boxwood. These are Florida boxwood and wahoo, otherwise known as strawberry bush, or burning bush.

Florida boxwood, which grows abundantly in Florida and the West Indies, is a hard, yellowish wood of very uniform texture. Though it is somewhat coarser than true boxwood, a fact which would be a drawback to its use for the finest work, it is probably the best substitute, when availability is considered.

Wahoo grows in most of the wooded regions east of the Rocky Mountains, but attains the proportions of a tree only in southeastern Arkansas, eastern Texas and the Appalachian regions south of Pennsylvania. Its wood is not quite so hard as that of boxwood; but it has an even finer texture. Owing to the scarcity of merchantable material of this species, its value seems to be unappreciated. Trunks three or four inches in diameter would undoubtedly work up well into chessmen and rules, and larger sections could be used for engraving blocks. Owners of wahoo

trees would do well to correspond with users of boxwood, with a view to utilizing this valuable wood.

A few other native hardwoods have somewhat the same characteristics as boxwood and might be used for the less exacting forms of engraving or the manufacture of cheap rules and novelties. Among these are witch hazel, great rhododendron, mountain laurel, thornapple, orange wood, torchwood, mastic and yellow buckeye. Mastic and torchwood might be obtained in sufficient quantities in southern Florida to make their exploitation profitable. The citrus orchards of Florida and California furnish a considerable quantity of orange wood each year. Sufficiently large trees of witch hazel, great rhododendron, and mountain laurel can undoubtedly be found in the southern Appalachians.

Among coniferous woods there is none uniformly hard enough to compare with boxwood. Mention should be made of some very fine textured species which are almost homogeneous in appearance and are hard enough to take a good polish.

Yellow cedar, which grows along the coast from Alaska to southern Washington and in the Cascade mountains southward into Oregon, is one of the finest textured conifers. Its wood has a clear yellowish color and a distinct spicy odor, and is well fitted for novelties.

Pinon, one of the nut pines of the Southwest, is the hardest and heaviest of the soft pines, and has a very uniform structure. The heartwood is yellowish or creamy brown in appearance. Although this species would not do for engraving purposes, it apparently would be excellent for cheaper grades of chessmen, for it works easily and takes a smooth polish.

Other very fine textured coniferous woods are the Arizona cypresses, the junipers or red cedars and the western yew. The wood of the latter two species, however, is dark, reddish brown in color and rather brittle, and, therefore, could not be used as an imitation of boxwood, although its uniform fine structure makes an even polish possible and fits the wood for novelties.

Although none of the woods above mentioned has all the properties of true boxwood, the scarcity of this species makes their substitution in many cases justifiable.

HOW TO GROW BOXWOODS IN COLD COUNTRIES

E. Bradford Clements

1. Plant boxwoods where the soil is well-drained. Good drainage is achieved by providing ditching or tile drains, by elevating beds, by planting on terraces or on hillsides, by planting within the perimeter of the roots of large trees AND by adding humus and ground limestone to the soil. Drainage problems occur when the planting area is flat, where the soil is heavy clay and on newly-filled land.
2. Locate boxwoods where there is some protection from the Winter sun and wind — on the north or east sides of buildings, shrubs or trees, This is less important than locating them on well-drained soil. However, **DO NOT PLACE BOXWOODS CLOSE TO THE SOUTH OR WEST SIDES OF BUILDINGS.**
3. Winter protection is a must the first year. Use evergreen boughs, other brush, old hampers or burlap attached to stakes driven in the ground. Protection is needed on the south and west sides of the plant. **DO NOT WRAP THEM WITH BURLAP, PLASTIC OR OTHER MATERIAL.** Protection is not needed until after Christmas. Old Christmas trees give the best protection.
4. Growth by fertilization and watering should only be encouraged in April and May. Late-season growth will not be mature by winter-time and will usually kill-off. Avoid excessive fertilization and watering at any time.
5. If pruning is done, it should be done in the early spring before growth starts. If you trim the outside of the plant, you should also reach in and remove weak branches from the interior.

Note: New plantings in summer and early fall should be carefully watered during periods of dry or hot weather. Boxwoods may be moved in March and April and from August 1st to mid-October.

Boxwood Pests

1. "Cupping" of leaves. This is caused by an insect - Boxwood Psyllid. Control is effective by spraying about April 15th with CYGON pesticide. Psyllids do not kill the plant but do spoil its appearance.
2. Blister-like areas on the underside of the leaves. This is caused by the Boxwood Leaf Miner. Control is effective by spraying with 25E DIAZINON during the last week of July. Leaf Miners rarely kill the plant and often go unnoticed. We have used ground limestone which is available as "screenings" at the quarries around Milton and placed it in, or on the soil, around the plants.
3. Rabbits and mice do not eat boxwood leaves or girdle the plants. Dogs do not do significant damage to them either.

CLEARBROOK BOXWOODS
Milton, Ontario, Canada

BOXWOOD

Elizabeth M. C. McClure

Bulletin of Yale University School of Forestry

S. J. Record, Professor Forest Products

Reprinted with permission of The Garden Club of America Bulletin, from the November, 1932 issue of The Garden Club of America Bulletin, page 19.

The Boxwood, commonly called Turkish Boxwood, is derived from a small group of plants, of which the evergreen box of our garden is the type. To this group the famous botanist Linnaeus gave the generic name of *Buxus*, the Latin for Box tree. He called the best known member of it *Buxus sempervirens*, which is but another form of Ovid's Evergreen Box. For a long time this was considered the only species, though varying forms and varieties came to be recognized, several of which have been elevated by other botanists to specific rank.

Natural Range — embraces southern Europe, part of North Africa, coastal region of Asia Minor, the Caucasus, northern Persia and from the higher levels of Afghanistan extends along the Himalayas into China and Japan. This tree has appealed to peoples of all times and degrees of civilization because of its slow, persistent growth, its long life, its comparative freedom from diseases and pests, the perennial green of its compact foliage, the ease with which it can be propagated, and also on account of the unique qualities of its wood.

The trees, typifying immortality, were planted about shrines and cemeteries, and sprigs of the dainty and durable foliage played a part in religion and festal rites. For these reasons it has been cultivated for centuries, both in the region of its natural range and beyond.

No other wood is so fine-textured and of such uniform consistency as boxwood — of great density, yet easily carved and shaped: the color is pale yellow throughout. The ancient Egyptians made combs of it, a common use in many countries to this day. Boxwood tablets, with their smooth, clean surface, were well adapted for writing purposes, and it was upon such a tablet admonitory that the message of (*Isaiah 30:8*) was ordered to be published. The Allegorical ship of Tyre (*Ezekiel 27:6*) had benches of ivory inlaid in boxwood, from the isle of Kittim. (*Revised Version*)

The early Greeks and Romans found manifold employment for boxwood. The yoke for Priam's steeds was of this material (*Iliad 24:268*). Writing

tablets, flutes, spinning tops, combs, jewel cases, carved ornaments and images, inlays and veneers, all made their demand upon the wood, the best of which came from the mountains of Cyturus where the town of Kitros is now situated. From the color of the wood originated the words "buxans," pallor, and "buxeous, sometimes used in the sense of spurious, and allusion to the palenes of the material. Various legends came to be associated with the trees, as for instance, that no serpent could breed in it because of the hardness of the wood.

Invention and demand of the power loom brought a demand for shuttles made of wood of great strength and elasticity and of exceeding firmness and uniformity of texture — qualities in which boxwood is pre-eminent. The timber became of great demand, and during the period 1860-1880 the imports into England from the Caucasus, Asia Minor and Persia averaged about 6000 tons annually.

Then came a sharp decline — inroads of substitutes robbed the true boxwood of its former high place in the trade. Such a change was inevitable but it was hastened by the action of the Russian government. It is said that they offered to sell to a Liverpool firm all the boxwood in the Caucasus for a lump sum of 10,000,000 rubles, (At this time, 10 rubles equaled about 1 English pound.) with the added stipulation that the purchaser was to make in that region a specified number of versts (*Russian measure of length; equal to about two-thirds of an English mile*) of military roads to the satisfaction of the Russian military engineers. Failing the acceptance of this proposal, an export duty of approximately \$15.00 per ton was imposed on all boxwood and walnut shipped from the Caucasus. Stimulated by necessity, the shuttle makers were not long in discovering other and cheaper woods for their needs.

Among these, the flowering dogwood and persimmon of Virginia were found upon trial to answer the purpose for most textiles and their exploitation on a commercial scale began in 1871. The import of boxwood from the Caucasus and Turkey in Asia and Persia subsequently declined to less than one-tenth of its former volume. True boxwood has ceased to be a factor in shuttle business. The two Ameri-

can woods have largely replaced it for that purpose, but neither is suited for fine engraving, etc., lacking the color and consistency of boxwood. In parts of the United States the name boxwood has been applied to dogwood for considerably more than a century and the wood is sometimes sold as "American boxwood."

History — Loudon, in 1844, says "The box tree appears to have first been mentioned by Theophrastus, who ranks the wood with that of ebony, on account of the closeness of the grain. Pliny describes it as being as hard to burn as iron, as producing no flame, and as being utterly unfit for charcoal. He distinguishes three kinds, larger, smaller, Italian; he speaks of the tree for topiary work, and of the wood for musical instruments. Vitruvius also recommends the box for topiary work, and it appears to have been much employed in verdant sculpture and close-clipped hedges in the Augustan age." . . . The same practice is followed in several Roman gardens at the present day, and in that of the Vatican. The name of the Pope, the date of his election, etc., may be read from the palace in letters of box.

Virgil calls it

Smooth — grained and proper for the turner's trade

Which curious hands may carve, and steel with ease invade."

(Dryden's Virgil.)

Both Virgil and Ovid allude to its use for musical instruments.

Cabinet makers used it for inlays, ornamentations, dentils; on cornices, on Sheraton furniture in combination with mahogany and rosewood — in the Jacobean period for the crude geometrical designs with Indian and Persian motives — for box lines in combination with ebony — for marquetry during the Queen Anne and William & Mary periods.

Distribution-

England The tree has been growing so long in an apparently wild state in southern England, particularly on Box Hill, that many writers consider it a native; others, however, believe it is one of the many introductions owed to the Romans.

Portugal, Spain Regarding the distribution in Portugal, Wilkom (1896) writes, "Special attention should be called to *Buxus sempervirens* which advances from the Pyrenees, through Northern Spain, to southern Galicia, through the tablelands to Portugal.

France Box is common in parts of France and one writer (1898) says there are pure stands frequently covering large areas — box is a characteristic shrub of the whole Pyrenees region. *The earliest known fossile forms of Buxus have been found in the Pliocene deposits of France.*

Switzerland In the Jura mountains there are areas of bushland composed of *Buxus sempervirens* to which Baumberger has given the name "fell heath."

Germany Mentioned in mountainous places near Baden where there is a natural underwood of approximately 80 hectares (about 200 acres). Loudon says that it is almost the only evergreen exclusive of the *Coniferae* that will stand in the open air without protection, in Berlin.

Balkans According to Adamovic (1909), *Buxus sempervirens* is very well distributed in a continuous belt through Albania, old Serbia, Macedonia to the lower Alps, the highest elevation observed being about 4000 feet above sea level.

Africa Native to the Madeiras but not the Canaries — also found in North Africa.

Asia Minor Box grows all along the costal regions of the Black Sea and on Cyprus; Cyturus was famed for its box trees in the time of Virgil — the same region still supplies boxwood for export.

Georgia Box is at its best in the Black Sea region of the Caucasus, box trees are common everywhere. The trees are frequently 10 to 18 inches in diameter and attain a maximum height of 50 feet. The age of a tree a foot in diameter is estimated to be between 200 and 300 years.

From an article in the Russian Information and Review (1924) *Buxus sempervirens* occurred in considerable quantities 30 years ago (1894). The boxwood area covered no less than 7,000 acres but, owing to the high value of the wood and unrestricted exploitation, the area is now much reduced.

Caucasian boxwood always commanded a ready market in European markets. During the half-century before the War (WW I), one firm alone exported at least 5,000,000 poods, while only 40,000 poods were sold to Russia for the domestic market.

Trade interrupted by World War I has been only recently resumed (1944); wood of poor quality, defective.

Persia — commercial stands over large area, poor quality — used for same purposes as Caucasian but considered inferior.

You can plant boxwood at almost any depth and old leggy specimens can have the bare trunks buried well under the soil. We planted one ungainly *sempervirens* three feet below its original surface. Some years later, when we had occasion to move it, the bush had developed a second ball of fibre roots, just as large, three feet above the original one, and

it was an extraordinary spectacle when the entire bush was dug up. Don't forget that it is very necessary to keep newly set boxwood bushes or hedges well soaked at periodic intervals, particularly the English box, which must be soaked all over every ten days during a dry spell. I never feel that the English box is really safely established until it has been in the ground for a year.

We have found it best in moving boxwood, to do so in January or early February as the roots are then ready to make immediate growth when the sap is active and the oncome of spring is favorable to early adjustment on the part of the plant.

When it comes to fertilizing established specimens, it is well to give a good heavy mulch of manure in late February. This manure mulch seems peculiarly beneficial if spread a few weeks before spring growth is active. The roots get the benefit of the soaking rains, carrying down the manure just at a time when they most need stimulus and nourishment. This should be done at least every two years and the mulch left on during the summer as it protects the roots from too much sun, and conserves moisture. It is a wonderful tonic and does great things for color and general vitality. I have seen quite yellow, rusty bushes take on a good rich green some time before the new growth started.

In caring for hedges, it is well to remember that the individual plants are set so close together that the roots do not get adequate nourishment, and so a regular all-round feeding is necessary. Since manure is not always desirable to spread around a hedge, bone meal is very satisfactory, worked into the ground in early spring. Then, if you want to make your boxwoods really jump into action, wait for a day of good soaking rain and between showers, if possible, apply a handful of nitrate of soda around the roots of your big bushes, being very careful not to let any touch the leaves. Do this when the new growth is first feathering out, probably about the middle of April. You can get eight inches on your *sempervirens* and a good three on the English box and you can keep it growing right along by doing this in four weeks; but, remember — never apply nitrate of soda except when your ground is very wet, and remember that a teaspoonful would be the right amount for a box twelve inches tall and a cupful for a big five-foot fellow. The growth will be very loose and soft for a time, of course, but it will harden up as usual. No stimulants should be used later than the middle of June, as you want the growth to be dark and well hardened by autumn.

Another thing to remember, when it comes to general routine care: In the autumn, BE SURE to soak all your boxwoods well, before freezing weather. It is very bad for evergreens to go into cold weather with dry roots, as the transpiration of the leaves continues all the time and if there is no moisture for the roots to draw on, your bush may die back in patches. If a hard freeze does come, provided your ground is wet, there will be no harm done. Snow, the soft powdery kind, is rather a friend to

boxwood as it soon blows off and carries fertilizer down to the roots; but oh, beware of the damp, heavy, clinging sort! There is nothing for it but to put on your most waterproof gloves and your tallest boots, and armed with a light cane, set to work to beat it off. Knock it off gently, beginning toward the bottom and working up, as in a heavy snowfall the snow from the top, added to that already weighing down the lower leaves, is apt to break the branches. *Sempervirens* is comparatively easy to handle in the snow, but the English boxwood becomes terribly brittle with cold, and you may have to ease it of its burden with very careful hands. If you are to be away in winter, lay it on your gardener's soul to keep snow from accumulating on your boxwoods and make him realize that even a few hours' delay will sometime ruin the shape of a bush or make great disfiguring gaps.

It is a question with us whether the *suffruticosa* box does not do better with some lime in the soil. Certainly the astonishing vigor of the *sempervirens* in this mountain region seems to argue that their acid fare here is entirely satisfactory. But I wonder very much if the Virginia soil, which produces such magnificent specimens of the English box, does not supply a considerable amount of lime — at least in those sections where this variety of boxwood flourishes, and if that and the climate is not perhaps the secret of its permanence and thriftiness there? We are, at any rate, working on this problem here and in another year or two may have something to report to you. Perhaps the Virginia ladies can give definite information on this point.

In this connection, may I again quote from Richard Bentley, who in his dissertation on gardening in 1730 seems to know it all! He states that "Boxwood delights in chalky mountains—(mark this well) where it grows much quicker than it does in our gardens. It is on these hills where it should be planted therefore for profit, as the Boxhill in Surrey, where the box trees are some as large as to equal any sort of timber trees. But a natural soil in a garden is rather to be preferred if we would keep it in shape and within bounds. "I have no doubt, however, but that Virginia can be as definitely informing on this matter of lime in the soil.

In shearing *sempervirens* specimens, it is best to do as little as possible to well-cared-for, well-shaped bushes. Keep them rounded but avoid that overbarbered look that make you think of Versailles and a force of fifty gardeners — unless, of course, you go in for a very formal 18th century type of place. There is a certain shaggy quality that one should preserve while aiming always at a uniform bush, free of holes and breaks. The best results are perhaps obtained by a very slight trimming of well-shaped bushes in February or early March and a very vigorous shearing of neglected misshapen bushes. Hedges, too, should be gone over if it is needed, and you are then ready for spring growth.

There is considerable variance of opinion about summer pruning. There are those who insist that the common box should be sheared in May or early

June, just after it has made its spring growth; the contention being that sheared early, the second growth will cover the marks of the scissors. In my observation, this does not happen except in the case of hedges. The soft growth is always badly bruised by even the sharpest shears, and the continued growth afterward is not such as to hide the ugly marks. It seems to me far better to wait until a general hardening-up of the foliage has come about in the fall or late August, as the leaves are then tough and you can shear with comparatively little damage. Hedges, on the contrary, are best given an early summer clipping. Add a dose of nitrate of soda to stimulate new growth and you will find that it induces them to thicken up wonderfully. The marks of the shears will soon be covered and they will probably need a second going-over in the autumn, in order to be neat and trim for winter. This, of course, applies always to *sempervirens*. A hedge of *suffruticosa* you would not touch, except with a most prayerful and discriminating hand.

In the matter of propagating, the *sempervirens* roots very easily and comparatively quickly. You can collect your August prunings, prepare them and set them in the ground, well shaded with straw. They should be about four to six inches long, cut with a clean cut at the base, just below a node or leaf bud, and stripped of all leaves, excepting for a little tuft at the top, as this starts your growth off from the very beginning in bushy form. If you do not find it convenient to prepare your slips for rooting immediately after pruning, they can either be buried in the vegetable garden soil for a week or more, or they can be left rolled in wet burlap and kept thoroughly damp until you are ready to attack them. Be sure to plant them in well-drained, damp but not too rich soil that will hold moisture. Be sure that the slips are very closely planted and very tightly wedged; right up to their ears, so to speak, in the ground. Be terribly sure about firm planting, as it is the main secret of successful rooting — that, and keep them always damp. If you can get them successfully through a few dry weeks in the fall, you practically never have to think of them in winter. Some fine day in February you will decide to have a look at them and you will be astounded to find quantities of little white roots. You can set them out, about six inches apart, where you wish them to be permanently located. Line the trench with bone meal, thramp them in very firm and water occasionally. It is as easy as A B C, and you will have a very presentable hedge or border in three years.

The English box develops tiny rootlets at the joints of the sprays inside the bushes, and these may be detached from old bushes and planted in a nursery row, where they can be well watered until a root system is developed. They may then be moved to their permanent quarters. Poke inside your English boxwood and you will find certain sections where there is a vast number of little white roots coming from certain branches. By making use of these cuttings you save time. Curiously enough, this never happens with *sempervirens*.

Another odd characteristic of the English boxwood is a certain nest-like development of roots in the center of the plant, and at the joints of branches, entirely out of the ground. Old mountain women have told me that it is very necessary to nourish these roots with occasional handfuls of rich dirt and old rotted leaves. It is an interesting fact that many of the finest old hedges and specimens of English box have been growing for years on neglected farms where the chickens and turkeys have found them admirable roosting grounds, the droppings of the birds furnishing a high nitrogen content to the roots, and the decaying leaves of nearby trees blowing under and providing humus.

Boxwood Diseases — Problems and Progress

R. C. Lambe and W. H. Wills

English boxwood decline:

During the past year several new locations of English boxwood decline caused by *Paecilomyces buxi* were reported. The continuing appearance of this disease in additional locations in Virginia is discouraging.

Research was continued in the greenhouse and under a lath house at Virginia Polytechnic Institute and State University with the major emphasis on the influence of soil moisture on disease development. The possible use of nutrients such as calcium and magnesium for help in disease prevention is under investigation in the greenhouse, using soil from a northern Virginia property where boxwood had died earlier. In related research at a nursery in Loudoun County some small English boxwood were planted in soil treated with Epson salts and others in soil treated with ground limestone. Disease has developed slowly in the untreated plots but no conclusion can be drawn until the treatments are evaluated after the coming growing season.

Large boxwood at Mr. P. F. Hilbert's home in Loudoun County were treated with Epson salts to attempt to slow the decline of these plants. An evaluation of the treatment will be made this year.

In the experimental boxwood nursery at Mr. Hilbert's decline developed very quickly during the summer of 1976 among small healthy plants set out in June 1974, especially in the test plots fumigated with methylbromide. At the end of the summer the fumigated plots were compared with the untreated plots for symptoms of decline in the tops and roots. There were no differences in disease between plants in the treated and untreated plots. *Paecilomyces buxi* was recovered from about two-thirds of all plants, in fumigated and non-fumigated plots alike. Nearly 85% of the plants showed some disease

symptoms with little differences between treated and untreated plots. On the basis of these results it appears impractical to fumigate the soil in order to replant English boxwood. Apparently this treatment does not prevent recolonization of the soil by *Paecilomyces* and subsequent infection of the roots, when replanted with healthy plants at the same site.

Phytophthora root-rot:

The early warming trend in 1976 was accompanied by an unusually large number of calls from boxwood growers for assistance with plants suffering from *Phytophthora* root-rot. Excessively heavy rainfall during the fall of 1975 together with warm soil was believed to be conducive to disease development. Because this disease threatens boxwood in the southern part of the state, experiments to test the fungicide Truban* for control of *Phytophthora* and plant safety, were established in the greenhouse and later in field plots. In the greenhouse Truban appeared to prevent infection of the roots. Although the results were promising the fungicide is not registered specifically for boxwood and could cause injury to plants in the landscape if used improperly. In addition, a new experimental fungicide is being tested in the greenhouse against *Phytophthora*, but it is too early to report on the findings.

An experimental fungicide test plot was established in cooperation with the Danville Extension Agent, Mr. Ralph LaRue at a property in the city of Danville. English boxwood plants were treated in various ways with Truban to prevent disease development. We cannot draw any conclusions at this time because the disease develops slowly, but we hope to have some results this year.

SUMMARY OF COMMENTS PRESENTED BY

R. C. LAMBE

Although the *Phytophthora* root rot disease is the principal cause of decline and death of both English and American boxwood, other fungi and nematodes cause disease.

Recently a planting of American boxwood showing stem blight was found by laboratory culturing at Blacksburg to have *Verticillium* disease. This disease has not been considered a serious problem in Virginia but numerous articles have been published over the years by various investigators. Cuttings collected from apparently healthy plants when propagated under mist developed a stem rot preventing the development of roots. The fungus *Verticillium* has been isolated from rotted stem tissue. Possibly this disease has been responsible for the poor success in obtaining rooted cuttings experienced by some propagators. Investigations are in progress to uncover effective fungicides that can be used to prevent stem rot of cuttings. At present

there are no fungicides recommended for *Phytophthora* root rot by V.P.I. Results of testing fungicides at V.P.I. indicate that at least two fungicides are safe to use on boxwood and effective in the greenhouse. These are Decon and Truban (terrazale.) However, before a fungicide can be recommended for use it must have received approval by the Environmental Protection Agency (E.P.A.). Results of fungicide research trials at V.P.I. are reported to industry which in turn (data) are submitted to E.P.A. for approval and addition to the pesticide label.

PLANT DISEASE INFORMATION REQUESTED

The plant disease information requested in (4) above, should include as many of the following items as possible, for accurate disease diagnosis.

Plant (or crop) diseased ----- Variety or species

Owner or Grower ----- Address

Sender ----- Title

Address ----- Title

Year planted ----- Approximate age and size

Relation to roadside, feet

Present disease and insect control programs

General appearance of plants — Wilted--; yellowed--; stunted--; abnormal leaf or stem growth--; leaf spot or blight--; leaf mottle--; other---

Distribution of diseases: Scattered plants--; groups of plants--; on slopes--; low areas--; upland areas---

When were symptoms first noticed?

Weather conditions of previous week?

Chemicals applied and rates, during the current growing season and the previous year.

Fertilizer ----- Insecticide

Fungicide ----- Nematicide

Herbicide -----

When was last soil test taken -- pH of soil if known

The above abridgement of Form 97, V.P.I. & S.U. Extension Service was made by Dr. R. C. Lambe, and is intended as a guide for preparation of needed information to accompany samples of diseased boxwood sent to the Plant Protection Clinic. It is modified to apply particularly to boxwood. The complete Form 97 may be obtained by request from the Plant Protection Clinic at the address given above.

HOW TO COLLECT AND SHIP BOXWOOD PLANTS FOR DISEASE IDENTIFICATION

The accurate diagnosis of a boxwood disease depends upon receiving a fresh sample. All specimens should be fresh when collected, and shipped immediately. When specimens arrive unidentified, wilted, crushed, or in advanced stages of decay, diagnosis is often impossible. If the sample is in good condition, the disease can be diagnosed more rapidly. Most specimens will be diagnosed and acknowledged within a week.

COLLECTING SPECIMENS

1. For small plants (12" - 18" tall), collect the whole diseased plant, including roots, and at least one quart of moist soil. Dig (don't pull) plants with a shovel or trowel.
2. Collect more than one plant if various stages of decline are evident. Dead or dry plant material is of no value. When possible, include healthy plants or plant parts for comparison.

PACKAGING PLANT SPECIMENS

1. Immediately after digging small plants, place the moist root ball in a plastic bag and tie the top of the bag around the stem just above the soil line. This will prevent the soil from drying during transit. Enclose the tops of the plants in a ventilated plastic bag. Do not wet the tops before packaging.
2. When distinct spots on the leaves are the only symptoms, include several leaves wrapped between dry strips of cardboard or in a thin magazine. Do not wrap leaves in wet paper towels. However, enclose a wet paper towel in the plastic sack.
3. Specimens should be packed in a sturdy container to prevent damage in transit. Avoid exposure to high temperatures. Whenever possible avoid weekend lay-overs in the post office.
4. Complete Plant Disease information, in an envelope, should be attached to the outside of the shipping container (see below). Include the return address both inside and outside the envelope.
5. Samples collected for insect identification should be sent to:
Extension Entomologist,
Price Hall, V.P.I. & S.U.
Blacksburg, Va. 24061
6. Samples for plant disease diagnosis should be sent to:
The Plant Protection Clinic,
Dept. of Plant Pathology & Physiology
Room 106, Price Hall, V.P.I. & S.U.,
Blacksburg, Va. 24061

MULCHING AND COMPOSTING

Neill Phillips

Mulching, as I understand it, has four principal purposes: conservation of soil moisture, protection of plant roots from extremes of temperature, weed control, and (in the case of organic mulches) the supply of plant food as the material breaks down.

Like most other plants, boxwood in many cases is benefited by a mulch. A thrifty, well-established box bush with its limbs growing down to the ground usually does not need mulching. More important is an annual or biennial thinning out of the center of the plant (anytime, spring or summer) to admit light and air. For American boxwood we use long handled lopping shears for large branches secateurs for small branches, and usually we cut right off at the base. For English boxwood we prefer to pluck by hand: reach into the center of the bush and break off branches at their base. But for rooted cuttings lined out in the field, boxwood standards, boxwood in tubs, espaliered boxwood, and any newly transplanted boxwood, large or small, mulching is highly desirable.

We have tried many kinds of mulches, as I shall set forth below. But this does not mean that we know all about mulches and mulching. We welcome comments and suggestions.

COMPOST — This material has great value as a combination of mulch, plant food, and soil conditioner. It is only partially effective in weed control, but the weeds that sprout up in a compost mulch usually are easy to pluck out.

The literature contains much valuable information on constructing and maintaining a compost heap: layers of vegetative material interspersed with layers of topsoil, the application of a breakdown chemical, the turning and stirring of the mass from time to time. This practice gives a rich and valuable product but it is expensive in time and labor. We prefer to follow the shredding method. Our small shredding machine is a KUTUP, made by Gilson Bros., Plymouth, Wisconsin, but there are lots of other available at the stores. The cost of the machine is soon compensated for by the saving in time and labor. To supply material for our shredder we have several compost heaps at various convenient locations on the place. Some of the heaps are pile up on the ground, others are started in shallow holes dug in the ground (to hold moisture and thus speed up decomposition.) Every heap is given a depression, or dimple, in its top (with a shovel or a tractor blade) to retain moisture. Our heaps are made up of leaves raked up in the autumn, grass clippings from lawn mowers, assorted non-woody debris and weeds from the vegetable and flower beds, vegetable tops and parings from the kitchen, and any other non-woody vegetative trash. We do not bother with stirring, turning, or the addition of layers of topsoil and breakdown chemicals. In shredding a supply of mulch from compost, we usually select the oldest piles, though we find that shredded compost gives desired results even though the material is not thoroughly rotted. Shredded compost comes out of the machine in masses of soft, fluffy dark brown flakes; very light and easy to handle. Spread as a mulch it decomposes in about 6 months without ever packing down. Such a mulch

must therefore be renewed about twice a year, but this means that in decomposing it has supplied valuable plant food. We use it around newly transplanted boxwood and other shrubs. Twice a year we spread it on our flower beds, where it has great value. For a wildflower garden it is the essential key to success.

GRASS CLIPPINGS — Note above that we list grass clippings as an ingredient of our compost heaps. But unless mixed up with leaves and herbaceous materials grass clippings require several years to begin decomposing. So in the summertime when we have lots of grass clippings and not many leaves to mix with them, we pile the grass clippings into a separate heap. These dry, unrotted grass clippings are invaluable for weed control. Spread 2-3 inches deep around shrubs or bushes they cut off the encroachment of choking grasses and weeds almost completely. For flower beds the mulch of grass clippings is absolutely invaluable. In June, as soon as the annuals have been bedded out, all the flower beds are mulched with a 2-inch thickness of dry grass clippings. Watering and weeding are then hardly needed for the rest of the season. We have found no material as excellent as grass clippings for conserving ground moisture and for resisting weeds. There are these factors to observe:

This mulch can be used only around established plants. No bedding plants (as well as no weeds) can sprout through it.

The ground must be well watered before the mulch is applied.

If it is necessary to feed the plants, the layer of matted grass clippings can easily be raised up so that fertilizer can be applied.

After the first breeze in late autumn has finished off the growth of weeds, the grass mulch is raked off. It will still show little decomposition. A heavy mulch of shredded compost is then applied to the beds for protection against winter heaving and thawing, and for decomposing into the plant food available early the next spring.

SAWDUST — From time to time you may acquire a truckload of sawdust. Dump it in a convenient place in the work area. Make a dimple in the top to hold moisture and thus hasten decomposition. Let it stand for a long time (at least a year) to become rotted. Unrotted sawdust used as a mulch will in decomposing draw off a considerable amount of nitrogen from the soil, which will have to be replaced by expensive fertilizer.

PINE BARK MULCH — Available as a bagged commercial product at most supermarkets and garden supply stores. Relatively inexpensive, light in weight and bags are easy to handle. Material is soft and fluffy and easy to spread and to work around the plants. Makes a pleasant, long lasting (about 1 year) surface for paths and walkways in boxwood gardens where it is too shady for grass, or where you wish to avoid having to mow the grass. Almost impervious to weeds. We recommend it as our choice for a commercial mulch. It has given us an interesting side dividend. In some of the boxwood alleés where the paths are spread with pine bark we have established clumps of mahonia bealei and hellebore (Christmas rose and Lenten rose), which can be cranky about increasing from seed. But if pine bark is spread around the plants dozens (or hundreds) of thirsty seedlings spring up.

WEED-KILLER MULCH — In extensive plantings in fields and woodland where grass grows rank and may choke young trees and shrubs, we use the weed killer Paraquat. It is only the experienced personnel to use, and manufacturer's instructions must be carefully followed. The grass and weeds thus killed are left lying on the ground around the base of the tree or bush and form an effective mulch that lasts for months and keeps down further growth of grass and weeds. Other weed killers we have been told are too toxic to be recommended except for special cases with trained personnel.

STONE CHIPS and GRAVEL — Excellent mulches, especially where permanence is desired. But troublesome to remove, and highly undesirable in the vicinity of a mowing machine.

WOOD CHIPS — When a professional tree expert comes to your place to cut down or to prune trees, he no longer hauls away the debris (his term for all trash except trunks and large limbs.) Instead he runs the debris through a powerful grinder and produces for you a nice pile of small size wood chips. This makes a useful coarse mulch but, like sawdust, it takes up nitrogen in decomposing.

BRUSH — We formerly burned our brush heaps to produce useful wood ashes as a source of potash. But brush fires have many drawbacks, so now we just leave the brush piles out in the meadow and eventually they decompose. They may take years before being ready to go through our compost shredder but meanwhile the brush piles are ideal cover for wildlife and they significantly increase our bird population.

PEAT MOSS — Used as a mulch, this material packs down too tightly unless it is shredded, and for shredding we prefer to use our compost heap. Otherwise we use pine bark mulch in preference to peat moss.

PINE BOUGHS — These may be considered a mulch. After the first freeze, light pine branches are laid over the beds or are stuck into the ground so that they lop over the plants. For low growing boxwood they are very effective against snow burn and winter bark-splitting.

BLACK PLASTIC — The trunks of boxwood standards should be wrapped in black plastic strips, securely tied, in winter to ward off bark-splitting. Black plastic strips laid on the ground are very effective for moisture conservation and weed control, especially for plants growing in rows. Relatively expensive and somewhat troublesome to put in place and to remove.

CONCLUSION — Experiment with available materials and methods for mulching and determine what is best for you. Some mulches are permanent (e.g., stone chips). Some decompose completely and incorporate with the soil. Some must be removed when their usefulness is over.

Before applying a mulch be sure that there is plenty of moisture in the ground, since the mulch will tend to shed rain water.

Do not mulch with materials that pack down, such as unrotted leaves or unshredded peat moss.

Boxwood is tolerant of a wide range of pH and you don't have to worry too much about the pH of your boxwood mulch. For acid loving plants such as azaleas and rhododendrons it is desirable to use a mulch made from oak leaves which are high in acidity.

NEW MEMBERS SEPT. 1976

LIFE MEMBERS

Gerry, Mrs. Roger G. 105 Main St.,
Roslyn, L.I. N.Y.
Hallowell, Mr. H. Thomas Jr., 980 Meetinhouse Rd.,
Rydal, Pa.

REGULAR MEMBERS

Courtney, Mrs. Thomas P., RR 1 Box 173,
Jamestown, Mo.
Dechert, Mrs. Philip, Box 271-P,
South Dartmouth, Mass.
Eley, Mrs. Cloud E., Jr., Mount Pleasant Farm,
Spring Grove, Va.
Flower, Mrs. Guiles, Jr., 251 W. South St.,
Carlisle, Pa.
Harris, Mrs. James S., 500 Brunswick Ave.,
Blackstone, Va.
Hemani, Sudruddin B., M.D., 73 High St.,
Newburyport, Mass.
Johnson, George F., 1312 Page St.
No. 1, San Francisco, Calif.
Jones, Muriel E., 6814 Felix St.,
McLean, Va.
Lansing, Mary, 625 Oakwood,
Webster Groves, Mo.
MacKie, Mrs. Paul T., Jr., 6007 Charlesmeade Rd.,
Baltimore, Md.
Nelson, Donald Miles, P.O. Box 931,
Williamsburg, Va.
O'Leary, Mrs. Julian P., P.O. Box G 825,
New Bedford, Mass
Peter, Armistead, 1644 31st St., N.W.,
Washington, D.C.
Shughart, Mrs. Dale F., 271 S. College St.,
Carlisle, Pa.

REINSTATED MEMBERS

Mr. Lloyd G. Edwards, 9100 Riggs Road,
Adelphi, Md. 20783
Dr. John F. Harley, 444 W. Harding Drive,
Springfield, Ohio 45504

NEW MEMBERS APRIL 1977

Carter, Thomas T., Rt. 2, Box 129,
The Plains, Va. 22171
Lowman, Rev. H. Ruffner, Jr., Rt. 3, Box 21,
Waynesboro, Va. 22980
Pannal, Ruby C., Richneck Farm,
Earleville, Md. 21919
Somerford, John Drew, 4500 Franconia Rd.,
Alexandria, Va. 22310

SUBSCRIBER MEMBER

Denver Botanic Garden, 909 York Street,
Denver, Colorado 80206

REINSTATED MEMBER

Feil, Henry, Cranbury Neck Road,
Cranbury, N.J. 08512

NEW MEMBERS OCTOBER 1976

Anderson, Mr. Bruce, P.O. Box 128,
Waterford, Va.
Averitt, J. T. Jr., Rt. 1 Box 25-B
Kilmarnock, Va.
Ball, Mr. H. M. Jr.,
Purcellville, Va.
Ballantyne, Mr. and Mrs. James III, 31 South Ridge
Road, Niantic, Conn.
Batchelder, Mrs. Philip, 106 Greenwood Ave.,
Rumford, R.I.
Brandl, Miss Mary Ann, 221 A. Main St.,
Roslyn, N.Y.
Cochran, Mr. and Mrs. Joseph S. Jr., Rt. 2 Box 252,
Staunton, Va.
Friedle, William, 1441 Old Northern Blvd.,
Roslyn, N.Y.
Ingles, Mrs. William,
White Marsh, Va.
McKnight, A. L., 8009 Staples Mill Road,
Richmond, Va.
Mak, Mr. and Mrs. Dayton, 3247 "P" ST., N.W.,
Washington, D.C.
Murray, A. J., 6 Fair Haven Road,
Rumson, N.J.
Oliver, James E., 11139 John Hopkins, Rd.,
Laurel, Md.
Rosebroch, Mrs. Charles, 106 Main St.,
Roslyn, N.Y.
Rockwell, M.A., 5432 Calstock Court
Burke, Va.
Seilheimer, Mary Louise, Luton Forest,
Warrenton, Va.
Smith, Howard W. Jr., Box 454,
Alexandria, Va.
Walsh, Lt. Col. Frederick, Jr., 23 Ridgewood Drive,
Staunton, Va.
Wright, L. A., 400 Duncan,
Ashland, Va.
Youngblood, Mrs. Joseph,
Waynesboro, Tenn.

ADDRESS CHANGES

Mrs. Joel Lund No. 1 King Street,
Charleston, S. C 20401
From: 200 Park Avenue,
Convent, N.J. 07961
Dr. Samuel E. McFadden, Jr., 304 So. Hiawatha St.,
Summerville, Tenn. 38068
From: Florida Agric. Exp. St.,
Gainesville, Florida

WANTED TOPIARY

Mr. Thomas Tinsley would like to buy 8 pieces
of topiary, 5 to 6 feet tall. He is interested in stan-
dard ball, double ball, persiphere, pyramid, or
others.

His address: Thomas Tinsley
506 Baltimore Avenue
Towson, Md. 21204

His phone: 1-301-296-0116. Call Collect.

THE AMERICAN BOXWOOD SOCIETY

INFORMATION

Address; Box 85, Boyce, Virginia 22620

DUES AND SUBSCRIPTIONS

Regular membership dues of The American Boxwood Society are now \$5.00. This includes a subscription to *The Boxwood Bulletin*, to the publication of which the Society allots about 2/3 of the money received from dues.

Non-member subscriptions are for groups and institutions such as botanic gardens, libraries, etc. These are \$5.00 a year, and run by the calendar year.

The Boxwood Society year runs from one Annual Meeting to the next; from May of one year to May of the next year. Those joining the Society at other times are sent all the *Boxwood Bulletin* issues for the current Society year, beginning with the July number. Their dues are then again due and payable in the following May. This was voted by the Society in order to lighten as far as possible the heavy work load of our busy Treasurer.

Price per single copy \$1.25 plus 5¢ postage to members: \$1.50 plus 5¢ postage to non-members. Orders of five or more copies are sent postpaid. At the present time any or all *Bulletins* are available, back to Vol. 1, No. 1 (Vol. 1 consists of three issues only, there was no Vol. 1, No. 4.)

Besides regular membership dues at \$5.00 per year, there are other classes of membership available: Contributing, \$10.00; Sustaining, \$25.00; Life, \$100.00; and Patron, \$500.00.

Gift memberships are announced to the recipients by boxwood-decorated cards which carry the information that *The Boxwood Bulletin* will come as your gift four times a year.

Members of The American Boxwood Society are reminded of the 1968 IRS decision that contributions to and for the use of the Society, are deductible by donors as provided in Section 170 of the Code.

FOR YOUR ADDRESS BOOK

If your letter is concerned with

- Membership, new or renewal
- Payment of dues
- Donations to research programs
- Change of address
- Gift Membership
- Ordering back issues of the Bulletin
- Ordering Dr. Wagenknecht's List
- General information about the Society

write to

Mrs. Thomas Ewert, Secretary-Treasurer,
American Boxwood Society
Box 85, Boyce, Va. 22620

If you have something of real importance — a question of policy, a new project for the Society, a matter which needs top-level consideration, write to

Rear Adm. Neill Phillips, USN Ret'd., President,

Heronwood,

Upperville, Virginia 22176

If you have contributions for the *Boxwood Bulletin* — articles, news notes, photographs, suggestions of anything of probable interest to boxwood people, it saves time to direct them to

Mrs. Edgar M. Whiting, Editor,
The Boxwood Bulletin,
415 West Clifford St.,
Winchester, Va. 22601



BOXWOOD—

A heritage from Yesterday

A privilege for Today

A bequest for Tomorrow

