Tree Walks - - - 1959

FOREWORD:

Chautauqua's acres support 5121 trees more than 4" in diameter, representing 69 species. A tree census taken in 1957 compared with one taken in 1892, 65 years earlier, is available and free to you upon request at Chautauqua Bird & Tree Garden Club meetings, any Tuesday at 3:15 pm during the season - Smith-Wilkes Hall.

These Tree Walks spotlight only a few areas at Chautauqua; you can be sure there are many other tree walks not only here but all over America. Occasionally here a species may be marked by name, especially in the arboretum; but to learn the names of trees we suggest you visit the bookstore where you may select a tree guide from among many authors. FIELD GUIDE TO TREES AND SHRUBS, by George Petrides, 1958, is one we use and can recommend. Find it in the Peterson series.

For Chautauqua Bird & Tree Garden Club

George C. and Dora Nelms.

TREE WALK 1, Chautauqua, 1959

The ravine, for those who like woodland trails: Leave Smith-Wilkes Hall, go south on Clark brickwalk, passing south plaza. Pause on the bridge crossing the ravine. Bridge railing is 30 feet above the running water: you are up in the trees getting a bird's eye view.

East area, toward the lake, contains more than 500 trees 4" diameter and over of 18 species; west area about 800 trees of 19 species; together there are about 1300 trees 4" and over in diameter of 25 species. Species counting 100 trees or more each are American beech, white ash, red and sugar maples, black cherry, hophornbeam and oaks. Beech and maples are quickly identified by their leaves,- others with leaves far overhead seeking sunlight may be known by distinctive bark, as in black cherry, hophornbeam, oak and ash. Take care when naming the younger trees,- you may 'bark up the wrong tree' until you have them sorted out.

A wide trail west from the bridge will bring you to a grove of 20 hemlocks 11" to 20" diameter. Standing in their midst you sense that 'forest feeling'. Sunlight is largely cut off by the towering hemlock branches. The only leaves to be seen are of beech and maple; white ash bare trunks stretch upward toward the light: this is a difficult spot for this species. Read this paragraph from college botany: "light is the ultimate source of all energy stored by the plant in photo-synthesis, without which all growth would ultimately cease. Low light intensity causes excessive elongation of stems; high light intensity causes stems to shorten and thicken. This accounts for the fact that most plants grow more at night than during the day. Beech, maples and hemlock maintain themselves indefinitely partly because seedlings of these species develop in the shade of mature trees. This sort of growth is called 'climax association'.

Joseph S Illicks, director of Penna. State Forest Academy, tested 100 trees and found night growth 67%, day 33% (only 1/3 by day). He writes: "90% of the annual growth of Penna. native trees is less than 40 days of spring and early summer; some begin early; wild cherry starts about April 1st, while tuliptree waits 'til the latter part of April; Norway spruce is early May. Our Penna. sweet buckeye has completed all height growth of the season by May 10th, and by then has already formed its winter buds,- making all its growth in about 35 days of early spring.

Continuing our walk: From the largest hemlock, halfway to the nearest practise house, is a young American chestnut tree, at this writing 30' high x 6" diam., a small reminder of the days of 1892 census when Chautauqua grounds could count more than 300 of this species, many of them giants. As late as 1919 Illicks said: chestnut is the most common tree of Penna." U S check list 1952 still lists the American chestnut tree, but adds: "now almost exterminated by the chestnut blight, but stumps sprouts persist." There is a chestnut variety imported from Asia, said to be blight-free, a smaller tree than our American chestnut; an orchard of these is planted on the Hartfield road out of Westfield about 2 miles on the right side of road.

A good walkway leads to the water course which can then be followed to Lake Drive. Across the stream 30 feet below the culvert is a handsome hophornbeam tree 60" in girth, easily recognized by its 'shreddy' bark and often seen because of its wide distribution-- Nova Scotia to Texas. Several 'hops' may be seen downstream, one bordering the path at the smaller pool below the bridge, where you may examine its bark closeup.

Along the waterway black oak appears across the creek on Hawthorne avenue. Black oak trees tend to limb-out in the lower half of the trunk. Interesting here to study tree root systems, and how trees growing on sloping ground develop buttress bases. Approaching Lake Drive, Chautauqua's great sugar maples take over: a big one back of the grandstand is 140" girth; its neighbor across Lake Drive is 129"; big one has broken top, but measured height of tall maple on s.e. corner of girls' gym. is 100 feet.

Returning on Hawthorne toward the bridge, opposite right field of the ballground, is Chautauqua's largest tree with a single trunk, a yellow poplar, or tuliptree, 192" girth x 100 ft. tall. Try to see it any time, but especially the middle of June when, as last year, it bore thousands of tuliplike blooms.

On this Tree Walk you have seen American beech, red and sugar maples, black cherry, hemlock, hophornbeam, American chestnut, yellow poplar, red and black oaks and white ash. List the tree species seen in your travels: it will take a while to reach 100 species on your tree list, but identifying them gets easier with practise and experience, the strange ones offering a challenge; moreover, you will feel at home in the woods the rest of your life.

Offered for your enjoyment by

Chautauqua Bird & Tree Garden Club
Smith-Wilkes Hall, Tuesdays 3:15 pm

TREE WALK 2. Chautauqua, 1959. The Overlook.

Cross the bridge over the ravine, south on the grounds. You are on Wythe avenue, crossing Hawthorne and entering the Overlook. Observe the suburban touch, houses, gardens, streets and lawns shaded with well-spaced tree plantings.

Rear of first house on your right is a tall gray birch: in good light a yellowish-silver gray. A few steps along Hawthorne gives us a closer look, and a reward: splendid mountain-ash here, several of the largest and best formed on the grounds; three on this property might be of the European variety, Sorbus aucuparia, so-called 'rowan-tree'. A fourth mountain-ash tree along Wythe at 21 Emerson, watch for it, is certainly our Sorbus americana, the species of our native woodlands and hardy to Labrador. A relative, Sorbus decora, showy ash, also native, is at 39 Palestine. Try to see this one: leaves are entire, fruit is larger.

Back to Wythe avenue and the maples. Anglo-Saxons called them 'mapultreow' so the maples have been around a long time. Rutherford Platt in his American Trees urges us to "know the maples one from another; in a lifetime (he says) you will perhaps see only a half-doz. species"; but in five minutes from this point you can see good specimens of 5 maple species.

Bordering Wythe ave. are three maple species: Norways, 14 of them, mostly on your right; on your left 6 sugar and 2 red maples, all bordering the street. A word about Norway maple,- it is not yet in U S Check List,- is planted widely but not naturalized. Again on maples, at 22 Emerson see 3 fine silver maples (63", 99" and 124" girth); and rear of 21 Emerson across the street from the silvers there are 2 ashleaved maples, common name boxelder. Botanical name of boxelder is Acer negundo, or 'chaste maple'. Such a name, of course, has a curious and maybe interesting derivation:

Acer, Latin for maple, derives from Greek akastos. Negundo is Malayam, referring to Vitex negundo reported to Linnaeus as having flowers resembling boxelder. Vitex genus includes V. agnus-castus, the 'holy' or 'chaste' tree, widely cultivated in Malay for its fruit (stimulant and antispasmodic) and for its willowlike twigs carried in religious festivals: its name agnus confused with Greek hagnos, meaning holy, chaste; castus is Latin, also for chaste. Our feminine name Agnes derives from Greek hagnos. Maybe all too roundabout: Dr. Fernald's 1952 Grays Manual calls negundo "an aboriginal name".

continuing Tree Walk 2.

19 Emerson, across Wythe toward the lake, has a boxlike group of tall evergreens; Norway spruce (not naturalized) and Scotch pine, with the orange-colored bark, (naturalized) and hemlock are in close formation on the lot. The back row facing the lake is planted with balsam fir; these firs are the largest of 13 of this species on the grounds. Pinch a blister from the bark; the aroma will fix 'balsam' in your memory for days.

Proceeding south on Wythe, the driveway to garage at 21 Emerson will lead you to a closeup of 4 fine pin oaks (rear of houses along Whittier ave). The Arboretum is next. Permanent seats are here, so we may rest awhile and add up our score of tree species seen so far on this walk: gray birch, 2 mountain-ash trees, 5 maples, Norway spruce, Scotch pine, hemlock and balsam fir, with pin oaks- 13 species.

Latin word arboretum is "a place grown with trees"; dictionary: "a botanical garden of trees." A memorial plaque in stone just inside the gates commemorates the founder of the garden, on property set aside by Chautauqua Institution. 52 trees of 18 species are here. We list them alphabetically. Of some species there must be more than one tree; 18 species are properly marked, but only one tree of each species is marked, which gives you a bit of tree detective work: to study the marked trees and apply names to the unmarked ones. 16 hemlocks are included in the count of 53,- let's check them out,- leaving 37 trees to be the total on the list below. There is at least one tree of each species named: have a try at it.

arbor vitae	____	maple, Norway	____	pine, Scotch	____
catalpa	_____	" silver	_____	" white	_____
cucumbertree	_____	mountain-ash	_____	sassafras	_____
elm, American	_____	mulberry (dying)	1	spruce, blue	_____
ginkgo	_____	oak	_____	" Norway	_____
hemlock	16	pine, red	_____	yellow poplar (tuliptree)	_____

We hope you have enjoyed the walk. See us for check list and U S Govt. Pamphlet "165 Important Forest Trees of U. S.

FOR Chautauqua Bird & Tree Garden Club
Smith-Wilkes Hall, Tuesdays 3:15 pm.

TREE WALK 3, Chautauqua, 1959. To South Plaza.

From Smith-Wilkes go south on Clark ave. brickwalk,-- for pedestrians only. Some of Chautauqua's fine beech trees border this walk. Westerners do not see our American beeches. Even in the east beech is not a common tree of the streets. But Chautauqua has 300 beech trees over 12" diam., 35 over 24" and one over 36" diam. (116" girth, see it at 25 N Lake Drive). Unless you look for beech thru the winter woods you may not see another until you return next year. Read D. C. Peattie's story of American beech in his Natural History of Trees, copy at Smith Library.

Crossing Peck ave., count the trees on your right (opposite Lutheran House). Total of 8, - 3 beeches, 4 maples and a 'sleeper' - it's leaves out of sight. Concentrate on this tree: note its furrowed grayish bark in basket weave, diamond pattern, tall trunk without knot or branching. This is white ash, Fraxinus americana. (Frax. is Latin for ash tree). U S 1952 Check List names 17 species of ash trees, 6 of them listed among the 165 'important forest trees'. Black ash, liking wet soils, has disappeared from Chautauqua since 1892 census, but white ash has multiplied 5-fold; many here now over 100" girth.

Cookman ave. and welcome to south plaza. To your left is Hall of Philosophy, replica of the Athenian Parthenon: a Doric structure with columns in peristyle (means columns go all around). Without the sculptures and carving of the original, but including the frieze and holes in the roof decorated with lions heads to let roof water fall on to flagstones below; a functional structure admirably adapted for sizable summer meetings, built A.D.1900 (Parthenon 438 B.C.). Read the dedication tablet below the rostrum. Visit the tree park in the rear.

Mountain-ash trees astride the Golden Gate entering the park from Fletcher. White oak is first tree on your left, the only one of this species on the grounds; red oak next to it. Sugar maples shade the park, largest near rear steps 105" girth. Hemlocks shelter the building and steps. Before leaving Hall of Philosophy, consider the English oak tree on front lawn: (more properly British oak). Quercus robur, its botanical name. Quercus, Latin for oak tree and robur said to be ancient Latin denoting strength of wood. Native of Europe, has escaped cultivation and become naturalized in Canada and northeast U S, now in U S Check List. This tree was presented to Chautauqua by the English-speaking Union of Toronto, Canada,- is thought to be descendant of British oak from Windsor Castle grounds. A larger specimen of Q. robur is near head of Morris avenue, off Bestor Plaza.

continuing Walk 3. Cookman ave. front of Hall of Missions has some surprises: a sweetgum tree (across Cookman with the star-shaped leaves); a common tree in southern U S. Only two of these on the grounds, other is at main gate. Right of front porch H/Missions is a pair of American basswood trees; these described in 1949 U S Yearbook as "shade tree and important honey plant, its blossoms scent the air as far as a mile to attract bees". Another large American basswood fronts CLSC building on the right. Chautauqua basswoods bloom in June.

Before leaving H/Missions, at Wythe ave. and Cookman is a fine tall Norway spruce, trimmed underneath so the trunk and its branches can be seen. Widely planted in n.e. U S and s.e. Canada, Norway spruce has escaped from cultivation in Conn. and elsewhere, but apparently is not yet naturalized,- therefore, not in U S Check List.

Crossing Wythe, on Cookman, see a large American elm tree on the right. Halfway alongside C L S C bldg on Cookman is a tree familiar to all but scarce at Chautauqua,- an American sycamore. While its botanical name, Platanus occidentalis, allies it to the European species (orientalis), no tree is more American than our sycamore. London planetrees line many city streets in America, but our sycamores love the streamsides and woodlands. Buttonballs, fruit on planetrees, come in twos and threes; on sycamores they are single.

Clark brickwalk terminates at Hall of Christ (avla Christi), a tall brick classic revival structure, with lateral wings and Ionic portico, dedicated in sculptured plaque to exposition of LOGOS: the Word of the Gospels. Right of its portico stands shagbark hickory; halfway back, also right, is slippery elm. Viewing the plaza from here one sees shagbark hickory, red and sugar maples and four large oaks; 3 of the oaks are red oaks, but the larger one fronting CLSC is dominated black oak. Oaks hybridize freely, U S Check List accepts 58 native, 1 naturalized (robur) and 69 hybrids of oak species.

So it is at Chautauqua: from the whirl of its program and the commotion of its popular waterfront, one may find quiet and relaxation on a bench at Philosophy. Try it again sometime, won't you? Thanks for coming...

FOR Chautauqua Bird & Tree Garden Club
Smith-Wilkes Hall, Tuesdays 3:15 pm

Tree Walk 4, Chautauqua, 1959. Water needed for tree growth:
Black locust grove; black willow; US defines a tree.

From Smith-Wilkes Hall south along Clark brickwalk, passing some fine American beech trees: a safe wager you'll say next spring "I haven't seen a beech tree since leaving Chautauqua last year." Inspired words about American beeches are written by D C Peattie in his Nat. Hist. of Trees of E. No. Amer.- copy at Smith Library.

30 Peck ave. (Wythe & Peck) is sheltered by 4 large trees,- oak, elm, white ash and sugar maple. Their extra girth and apparent robust health in such a limited area indicates owner's care. Trees more than 100" girth are usually more than 100 years old, and contain about 100 cu ft of wood,- growth averaging roughly a cu ft for each year of age. A cu ft of dry wood from any of these trees weighs 40 to 43 lbs. Botany tables say: "formation of 100 grams of cellulose (wood) requires only 55 grams of water, but while a tree increases its weight 100 grams it actually transpires 100,000 grams (1000 times more) of water. Transpiration is the giving off of water vapor from internal tissues of living plants. So to add 40 lbs, 1 cu ft. of growth would require the tree to take 1000 times as much water in 40 to 50 days of spring growing season- 40,000 lbs. in say 50 days, or 800 lbs. (100 gallons) of water each day. (Tree roots gather water for its use; leaves process the water in photosynthesis and transpiration to keep the tree cool). Happily for Chautauqua's green plants the average rainfall, surface infiltration, ground water, deep seepage and storage,- the water table in short, seem to keep them well supplied during the growing season, despite runoff from roofs and pavements. If your well beloved tree doesn't show consistent growth by measuring year to year (average of 1" in girth increase) look first to its water supply.

Walk continues West to Massey ave. to see black locust, a grove of 68 trees, 24 of them over 12" diam. along Massey, Janes to Cookman aves. For the amazing story of black locust's place in our history, we urge you to read Peattie's book referred to above: black locust's part in winning the naval battle for Com. Perry on Lake Erie: the fantastic story of how black locusts went to England with Wm Cobbett, political refugee; and about the variety Shipmast black locust found in 1948 in West Virginia mountains. This quote from Agr. Yearbook 1949, TREES, p. 74: "black locust will stand rigors of drought, poor soil and abuse; with boxelder and Siberian elm, these three cannot be surpassed in producing quick shade and enduring unfavorable climatic and soil conditions of Ariz., Colo., New Mex. and Utah, where normal rainfall is less than 16" a year, only half of which falls during the growing season." Fortunate indeed are black locusts here in Chautauqua, with its 35/45" annual rainfall.

continuing tree Walk 4. Near Cookman ave. end of locust grove is a 'sleeper' - not a black locust. Common tree. Name it____?

From Cookman ave. southward 200 paces along Massey; here, of all Chautauqua's acres of trees, see the tree with the MOST, a great black willow; 24 stems, each 15" to 24" diameter from one root system. U S Check List defines a tree as "a woody plant having one erect perennial stem or trunk at least 3" diam. breast-high, a more or less definitely formed crown of foliage and a height of at least 12 ft; however, large willows with several trunks from the same root have been included. Willow clumps along streams are often seen around the countryside, but seldom in such apparent good physical condition as this one. Maybe some fertilizer washed down from the golf course above was captured and utilized by this tree. Read Peattie on willows: we quote a sample from his writing: "when whales and elephants grow as large as whales and elephants can be, they grow no larger. Not so that willow tree, which hardly knows age. Beetles may be boring galleries in its crumbling heartwood, but tips of twigs are in tender babyhood. Though perpetually dying, the willow is practically immortal." (Examine this book at Smith Library or at the book store: you will tant to own a copy). Could that tree on your property need fertilizer?

Grade of the old street railway follows south along Massey to Hawthorne, the last 25 yards bedded with a perennial herb,- profuse rose-colored flowers in June-July. It appears in Gray's Manual as Coronilla varia, commonly termed crown-vetch; also, with good illustration, p.856, Vol 1, Bailey's Horticulture,- both at Smith Library. However, vetches are in genus Vicia, so the term 'crown-vetch' is inaccurate. This is Coronilla.

Corner of Massey and Hawthorne aves.- an opportunity here to name some trees, a good look at black cherry, apple, pin cherry, white ash and beech; inbye is a fine black oak 80" girth and down along the stream 30 ft. from culvert see Chautauqua's largest hophornbeam, 65" girth, a large tree for this species in this area.

Homeward now along Hawthorne. Extra large black oak, 134" girth at east end of fence; younger black oaks appear in a sort of grove to the bridge entrance. Close up at the bridge is a fine oak, a power pole, two 15" diam. trees and a maple sapling crowding between them; these 15" trees, a species common to Chautauqua,- what is their common name? _____

In yardage we've had a longer walk than usual. But you've enjoyed it, we hope.

FOR Chautauqua Bird & Tree Garden Club
Smith-Wilkes Hall, Tuesdays 3:15 pm.

TREE WALK 5. Chautauqua, 1959. Basswood disappearing; white ash multiplying; oddities in trees; big timber.

From Smith-Wilkes Hall along Clark brickwalk to Foster ave. and west to #28 to see a large American basswood tree, 98" girth. BASS and BASTE, to stitch loosely, are corrupt forms of BAST,- Anglo-Saxon for a plant fiber used in making rope or matting. A tough fiber comes from the inner bark (phloem) of basswood tree. Botanically it is Tilia americana (Tilia Latin for linden tree). A common tree in woods of this area, basswoods are leaving Chautauqua grounds: 470 of them counted in 1892 census, reduced now to but 47 trees, a loss of 90%. U S Agri. Yrbk 1949 says: "basswood is fast growing, reaching maturity in the forests in 90 to 140 years, yet may be relatively short-lived on the streets. It is intolerant of dry locations or dry climate. Trunk rot, which occurs rather frequently, starts near the ground level and advances slowly upward." Basswood trunk rot may be seen at 10 Haven ave.,- tree gone, the stump sprouts persist. More water and fertilizer might help, but figures show we may have to go to outside woods to see basswood.

Foster, west of Wythe: sugar maples well spaced, tho' a large one was lost at #35, its absence reflected in street appearance. Now here's a spot: let's plant an imaginary tree! As owner here, what tree would you plant?

43 Foster at Warren. Sugar maple, Warren side, is an oddity: limbed and leaved only halfway 'round, branching contorted,- a strong limb started growing northward, reversed itself across the main trunk and divided into several smaller limbs going east and south, creating a curious ingrowth. Note the crossing limbs have formed a cleft,- just right this year for a Red Indian, or a small boy hiding behind it to shoot with bow and arrow the wary but luckless deer.

Same property, front: a tree-straightening problem. Oak tree, lacking sunlight shut off by house, limbed southward where the light was unopposed over vacant lot; weight of southward growth tended to make oak lean that way. Owner counterweighted with a guy line back to his corner maple tree. Oak stem has now elongated above the house roof, so lean may be corrected by the tree sending out opposed balancing limbs. Oak won't limb-out properly until it is higher than the house, so it has limits here as a shade tree. Does this problem change your idea of what is best to plant at #35?

A few steps north on Warren, crossing Peck, bring us to a small park; maybe we can find a bench at point of park where Warren joins Judson and Palestine,- a 3-stem hemlock marks a spot from which we can rest our eyes on a pleasing prospect. This park is the site of Morey Hotel, popular boarding house operated here for many years,- torn down in 1934.

Continuing Walk 5. Southward 25 yds. is a large red maple and a sugar maple merged at their bases. Red's girth is 80" - sugar's only 68" (5 ft. above ground). Though red is substantially larger, sugar is in better position for afternoon sun, and with its longer life expectancy might outlast red. But it is a good place to study differences in these two species so closely related: bark structure, color of leaves and limbs, the shapes of leaves, later the winter buds,- sunlit in clear afternoon

Immediately south of these maples is an Amelanchier, am-o-lan'kier a Provencal French name; a genus with many species of trees. Gray's Manual lists 20 and some additional hybrids; U S Check List 1952 limits to 8 species, 4 of them in n.e. U S. Our Chautauqua tree is A. arborea, with common name 'downy serviceberry." Of good size, (Gray gives maximum for 'downy' 15" diam.) serviceberry has many common names: sarvisstree, shadbush, shadblow, Juneberry, etc. Another serviceberry, a smaller tree, is in the ravine near Massey.

We are still at the point of Morey Park. 'Big Timber' around us: close on our left (looking south) is a great white ash - 105" girth, at 28 Palestine; across Wythe ave. is a great elm, 140" girth, not many larger than this tree on the grounds; across Palestine from elm is red oak 98", and northward along Palestine and west to Massey are many very large white ash trees, including the largest on the grounds at 39 Palestine (s.w. cor. of house). It is 115" girth. See some of these: Bowman at Palestine, 110"; 43 Palestine, 105"; 28 Waugh 99"; 29 Waugh 92"; 32 Palestine 2, 80" & 90"; rear #6-8 Judson 110". We mention only the extra large; in the immediate neighborhood of these are 18 more white ash trees from 50 to 80" girth. To become acquainted with white ash isn't difficult at Chautauqua, over 1000 of them in our 1957 count, 254 more than 12", 30 more than 24" diameter. Without reason or desire to predict the loss of our elms (elm has stood up well in two counts over a period of past 65 years)-- but if they do go from the grounds, white ash is a likely successor: a big tree that grows fast, doesn't harbor contagions and produces a minimum of ground litter. (US Agr Dept reports 'rust fungi' develops in saltwater marshes to attack ash in such areas).

Another look at Chautauqua's only showy mountain-ash tree at 39 Palestine. 'Showy' has only recently been classified as a species; it is Sorbus decora in U S Check List 1952. Its leaves are partly or wholly entire, not separated into leaflets as in S americana. Showy has larger fruit, and is strictly a northern tree-- from southern borders of our great lakes north to subalpine areas.

That's all for today. Enjoy the trees.

For Chautauqua Bird & Tree Garden Club
Smith-Wilkes Hall, Tuesdays 3:15 pm.

TREE WALK 6. Chautauqua, 1959. Your own arboretum.
U S Agri. Yrbk 1949, TREES, at Smith Library, suggests: "to the person who has a piece of ground, a few dollars, a love for trees, nature and beauty, and a collector's instinct, we recommend starting an arboretum. Few things are more enjoyable than a tree collection of one's own. An acre is ample for 20 or 25 specimens of trees and shrubs and 5 acres is plenty for a really representative collection.".. As our countryside builds up and our trees disappear this idea may become popular.

But what about now? An acre is 208 ft. sq., 832 ft. to walk around and by crossing through a time or two soon one would walk a couple thousand feet. In that distance one can see 20 or 25 species of trees almost anywhere here at Chautauqua. In fact the entire grounds approximate one large arboretum with thousands of trees; some are old enough to count their years in centuries, witnesses to famous events could they but talk. See "Some Trees are Famous" - a chapter by Randall in Agriculture Yearbk 1949 at the Library. Good reading. P.11.

Several tree walks already offered fall under a couple of thousand feet. Shall we try a new one: Take Clark brickwalk at Janes ave. toward the amphitheater: on your right, see two yellow poplars, tuliptrees, young and old; note changes in their bark with age. This species, "King of the Magnolia family," some say, has held its own in our census, 45 trees in 1892 and 45 in 1957. It is one of three trees called 'whitewood' by pioneers: others are white basswood and cottonwood. Yellow poplar is said to be free from insect and fungus diseases but rather difficult to propagate,- seems more successful doing its own planting.

Next, a large beech and two young oaks, and at amphitheater s.w. corner, a great hemlock. Census lists this tree (Fall of 1957) with girth 104" breast-high and 80 ft. tall. Evergreens have the advantage of lower summer transpiration, ready at any season for growth activity. Hemlock is said to be a slow grower, difficult to transplant and 'like Indians' won't stand civilization. Showing hemlock's slow growth, Peattie reports in his Nat. Hist of Trees (at Smith library) hemlock "specimen only 14½" in diam. inside the bark was found to be 170 years old." That diam. would be only 46" girth, so our amphitheater hemlock must be more than 300 years old. It is (botanically) genus Tsuga (the Japanese name for hemlock) with 4 species in U S Check List: eastern, Carolina, western and mountain hemlocks. Our grounds count more hemlock trees now than were here in 1892 census. A 'tip' from Botany: "on hemlock trees up to 50 years of age, the slender tips of the leaders droop gracefully at the pointed crown, and erroneously are said always to be drooped toward the east."

Continuing Walk 6. Pratt ave. leading us, passes Miller ave. to Center ave. We go west on Center. 20 Center: an Ohio buckeye only one of this species here: "rarely over 30' high" (Sargent). 23 Center- west side- is 10" black cherry. 1892 reported 15 black cherry trees: 1957, 233 of them, 52 over 12" diam. Welcome to black cherry trees. Botanically, Prunus serotina is an important forest tree in U S Agri. Yrbk list. If you read D. C. Peattie's Nat. Hist. of Trees at Smith library, don't fail to turn to his chapter on black cherry, where he tells about the pugnacious 'cherry bears' and the cherry coffins of Daniel Boone. Peattie's book belongs on a bookshelf at home. Trees, 25 of them, circle the park at Center-Miller-Palestine aves. At 41 Miller is a 60" bitternut hickory; 39 Miller has a shagbark; in the park are found silver and red maples with American elms,- surrounded by sugar maples and white ash trees. A pleasant place.

We move northward to Vincent brickwalk, opposite main gate. Louise Miller Park with its cultivation is worth a special trip. Let us return on Vincent ave. brickwalk. The walkway end is bordered by Siberian elm on south, red maple and ailanthus, north. You will find these described, with Chinese elm in U S Yrbk 1949 pp 826 and 830- Smith library. Siberian elm flowers in spring, Chinese elm in fall. Ailanthus has become naturalized and is in U S Check List, 1952. 43 Vincent, see ornamental Japanese maple (Acer palmata); Norway spruce at #42; large yellow birch trees at 37 & 38; red pine at 35; 2 fine white ash at #28; tamarack (somewhat damaged) at #23; 2 southern catalpas at #31.

Vincent ave. named for John Heyl Vincent; Miller ave. for Lewis Miller: leaders of a host who helped make a proper name of a lake, Chautauqua, into a common noun of our language, chautauqua: an assembly for educational purposes. Did these great trees - familiar to a traveling Bishop of Western NY aid these purposes? Surely,- but let poet Robert Frost say it in his singing lines:

"one of my wishes is that these dark trees, so old and firm
they scarcely show the breeze... some day into their vastness I should steal away. I do not see why I should e'er
turn back, or these should not set forth upon my track.
They would not find me changed from him they knew,-
Only more sure of all I thought was true."

Finally for this walk, note a large white pine as you approach the plaza (right). White pine is not our biggest tree, but of eastern trees white pine is on record as tallest:- sycamore grows to 180 ft; yellow poplar, 200 ft., but white pines up to 240 feet high are recorded from pioneer times. You can read about it in an interesting white pine chapter of Peattie's Nat. Hist. of Trees of n.e. North Amer. at Smith Library. 21 trees?

For Chautauqua Bird & Tree Garden Club
Smith-Wilkes Hall, Tuesdays @ 3:15 pm.