

THE ARBOR DAY, PARK AND CONSERVATION MOVEMENTS IN IOWA

BY L. H. PAMMEL

(Continued from the October number.)

Prof. Geo. C. Morbeck,^{69a} in a paper on "Possibilities of Forestry in Iowa," notes that the forests of the United States have been our most valuable resource. The forests have influenced to a very large degree the civilization of our country, perhaps more than any other one thing. It is to be noted that the first exports were forest products. At present our supply is 2,214 billion board feet of lumber; the original stand was 5,200 billion feet. He urged that it was especially important to make every acre of non-agricultural land work, and that Iowa should have four million acres in forest land. White pine may be grown profitably in Iowa. Soft woods like cottonwood can be grown with profit, and this wood may be used for posts when the posts are creosoted.

T. R. Truax, in a paper on "Some Returns from Forest Plantations in Iowa,"⁷⁰ gives the various estimates of the total area of timber at one time in the state. These estimates vary from 5 per cent to 15 per cent of the area, but thinks that 7 per cent to 10 per cent would be closer. At 7 per cent, 2,500,000 acres were covered with trees originally. The estimated planting is 210,000 acres or less than 1 per cent. The use of forest products has gradually increased, perhaps eight to ten times greater than the increase in wood lands. The following are some of the species he would use for commercial planting: Catalpa, white pine, cottonwood, and he cites that the plantation of catalpa near South Amana, which was not pastured near the trees, at twenty-six years old yielded 795 posts per acre, and 1250 posts per acre had previously been taken off. At 20 cents net, these would amount to \$409.00. This gives an annual return of \$13.00 per acre per year. Professor Truax gives the net returns from cottonwood planted many years ago in this state. The same author

^{69a}*Ibid.*, Vol. LV, p. 64, 1921.

⁷⁰*Ibid.*, Vol. XLVIII, p. 115, 1914.

on "Forests in Iowa"⁷¹ gives the area planted to trees in Iowa a total of 210,000 acres. In 1863, 8,360 acres were planted; in 1867, 14,128 acres; in 1875, 65,000 acres. The paper also notes the area in timber in different states.

Prof. G. B. McDonald in a paper on "Unproductive Trees in the Woodlot and Shelterbelt,"⁷² discusses the value of the cottonwood and other trees for forestry purposes. The cottonwood produces a larger annual increment than any other species, when we consider rate of growth, tolerance, soil conditions, etc. Trees of little value should not be planted, like the box elder. Trees should be planted that will be of value for posts, railroad ties, or for lumber. There is also a splendid discussion in a paper by him, "Forestry Along the Rivers of Iowa."⁷³ He recognizes three periods: (1) Timber resources inexhaustible; (2) come to the realization of the need of timber; (3) steps taken to restore forest taxation.

Prof. H. P. Baker, in a paper on "Iowa's Fencepost Problem,"⁷⁴ notes that in the state of Iowa we have twenty-five million acres of fenced land. This requires 78,126,000 posts to fence our farms. At that time he estimated the cost at 15 cents per post, making a cost of \$11,710,000. An average acre will produce 3500 five-inch round posts. He tells us that most Iowa land is too valuable to use for this purpose, but there is much waste land that should be utilized. He also estimated there were 200,000 acres of timber-planted land in Iowa. Much of this is worthless because of pasturing. The annual expenditure for posts in Iowa is \$1,400,000 and this money should be kept in the state. Formerly this supply came from Wisconsin, Michigan, and other timber growing states. He lists the species valuable for post purposes as follows: Osage orange, hardy catalpa, black locust, honey locust, and green ash. Quick growing species are willow, cottonwood, and soft maple. He also notes that the tree area in Iowa has been greatly increased because of planting. Then in a paper "What Iowa Can Accomplish by the Practice of Forestry"⁷⁵ he suggests that our timber should be grown on land

⁷¹*Ibid.*, Vol. XLIX, p. 280, 1915.

⁷²*Ibid.*, Vol. LII, p. 110, 1918.

⁷³*Ibid.*, Vol. XLV, p. 89, 1911.

⁷⁴*Ibid.*, Vol. XLI, p. 846, 1907.

⁷⁵*Ibid.*, Vol. XLI, p. 411, 1907.

that is subject to erosion and wash. Not the least value of forestry is to stop erosion.

H. P. Baker in another paper, "The Prairie Farmer and Forestry,"⁷⁶ discusses the price of lumber as it affects the farmers of the prairie states, and then advises the practice of forestry on the farm for the purpose of growing fence posts.

There is a paper by Hardin Tice, VI, "Timber Growing for Profit," which gives direction for planting.

J. K. Macomber⁷⁷ gave an address on the subject, "The Relation of Forest to Climate," and urged its importance to the commonwealth. Shelterbelts prevent drifting snows, modifying climate.

I. T. Bode, 1922, discussed the forestry extension projects of the Iowa State College⁷⁸ and gave some statistics to show why the farmer should plant trees, especially for the forest products used by him. He also gave an account of the preservative treatment for fence posts and wood lot management. The use of shelterbelts and windbreaks are the topics that were undertaken by the extension service. He urged that more care be taken of the wood lot, as the wood lot is important to the farmer.

Prof. G. B. MacDonald, in a discussion of the subject of growing box and crate timber in Iowa,⁷⁹ states that there is a splendid opportunity in Iowa, especially on lands not suited for agricultural purposes, for the growing of box and crating material, stating that cottonwood trees eight to ten inches in diameter could be produced in thirteen years. There was also discussion of this subject by G. W. VanHorn⁸⁰ for the growing of cottonwood for the making of boxes. The Burlington Basket Company of Burlington, Iowa, is buying soft woods like cottonwood and willow for the manufacture of box material.

The use of the cottonwood is discussed by the *Western Farm Journal*,⁸¹ giving two species: *Populus monilifera* (*P. deltoides*) and *P. angulata*; and Rex,⁸⁴ a lover of trees says we of the West must plant more trees if we would have our homes pleasant. We

⁷⁶*Ibid.*, Vol. XLII, p. 44, 1908.

⁷⁷*Ibid.*, Vol. IX, p. 241, 1875.

⁷⁸*Ibid.*, Vol. LVI, p. 119, 1922.

⁷⁹*Ibid.*, Vol. LVI, p. 401, 1922.

⁸⁰*Ibid.*, Vol. LVI, p. 400, 1922.

⁸³*Ibid.*, Vol. XXII, p. 233, 1888.

⁸⁴*Western Farm Journal*, Vol. XXIII, p. 120.

must not ignore the beautiful, as we have done for the most part.

Wesley Greene⁸⁵ discussed the type of tree to be planted in Iowa, giving a list.

NATIONAL FORESTRY

In a discussion of "Forestry as a National Problem"⁸⁶ L. H. Pammel took up the subject at some length. Forestry was not properly administered in the Department of the Interior, but when it was placed in the Department of Agriculture it was taken care of in a better way. He notes that it is important that the United States Department of Agriculture take over the national forests for the purpose of conserving the timber and water supply and to regulate grazing. The subject of forestry is one of the most important problems for the people of the United States to settle in the proper way.

James G. Berryhill⁸⁷ in a paper on "Sensible Legislation on the Forestry Question" gives a general account of Iowa as a prairie state, and the destruction of trees in the Iowa, Des Moines and Raccoon regions supposed to be due to fire set by the Indians, but it was in this condition when the settlers came in. Many trees were started when these pioneers came, because it was the invariable custom to plant trees. In northwestern Iowa many timber claims were taken up and trees planted. He then refers to the work of the United States Department of Agriculture and the importance of the work in this department. He declares that the forestry problem can not be solved on state lines. The state can co-operate with the national government. There should be legislation to strengthen the forestry work of the United States Department of Agriculture. The government should have small nurseries to grow trees for individuals who want to reforest.

The national forest policy was discussed by the writer who spent a vacation⁸⁸ in the Uintah Mountains where he studied the injudicious grazing in our national forests.

Rev. Charles Ezra Fisk in a paper, "The Need of Better Forestry Laws,"⁸⁹ discusses forest fires, forest reserves, and notes

⁸⁵*Report Ia. State Hort. Soc.*, Vol. L, p. 303, 1916.

⁸⁶*ibid.*, Vol. XXXVI, p. 228, 1902.

⁸⁷*ibid.*, Vol. XXIX, p. 141, 1895.

⁸⁸*ibid.*, Vol. XXXVI, p. 535, 1902.

⁸⁹*ibid.*, Vol. XXX, p. 279, 1896.

that the last two presidents set aside seventeen million acres of forest land to conserve the timber of this country. He urges the importance of forestry to hold back the water, and calls attention to the floods of the Mississippi River. He notes that the effort being made to repeal the Iowa Forest Law is unfortunate. More extension work should be done in forestry. This paper was discussed by Hinkley, Elmer Reeves, and C. F. Gardner.

In 1907 Charles A. Macomber of Ida Grove⁹⁰ in a paper on "Forestry" urged that more attention be given to forestry, and the importance of establishing schools of forestry, and then notes that the course as given at Ames (Iowa State College) handles this subject in a thorough manner. He notes that the students taking a course of this kind will have large opportunities to be of service to the country, and mentions the fact that only 17 per cent of the land in the United States is actually utilized, and that 45 per cent or eight hundred million acres contain waste land. The first step to protect the great forests of the country was when in 1891 the president set aside the first area of the national forests. Few states have done anything toward the establishment of state forests. He notes that a good example was set by New York, but we may note in this connection that the situation in that state prevents the proper utilization of these state forests in New York along right forestry lines.

GROWTH OF TREES

T. C. Tanner, in a paper "Trees, Their Growth and Care,"⁹¹ reports yellow poplar in Benton County two feet in diameter in 1913.

Hiram Heaton, in a paper, "My Trees,"⁹² gives the age of trees some of which he obtained in Van Buren County. He gives the size of the oaks planted in 1874 and in 1913 of the white oak and pin oak. The pin oak 47 years old is 1½ feet in diameter and between 40 and 60 feet tall. This is a record of trees planted by one of the pioneers, Eli Kirk, in 1837, and is a fine record.

H. C. Raymond⁹³ gave the measurements of trees on the prairies, and his reports indicate that the trees had made good growth.

⁹⁰*Ibid.*, Vol. XLII, p. 421, 1908.

⁹¹*Ibid.*, Vol. XLVIII, p. 120, 1914.

⁹²*Ibid.*, Vol. XLVIII, p. 468, 1914.

⁹³*Ibid.*, Vol. XIII, p. 377, 1879.

Silver maple, planted in 1869, in 1879 had a diameter of 8 inches; abele, or white poplar, 9 inches.

Prof. J. L. Budd on the subject of growing trees, refers to the conditions on the Missouri slope.⁹⁴

Lawrie Tatum in 1884 gave the sizes of trees⁹⁵ planted by him in 1871, 1875 and 1877, as follows:

Name of Tree	Date Planting	Average Height	Circum. 1 Foot from Surface of Ground
European Larch.....	1871	30 ft.	18 in.
Black Walnut.....	1875	22 ft.	12½ in.
Butternut.....	1874	19 ft.	11 in.
Honey Locust.....	1876	26 ft.	8 in.
Green Ash.....	1875	23 ft.	11 in.
Catalpa.....	1877	19 ft.	12 in.
Norway Spruce.....	1875	15 ft.	11 in.
White Pine.....	1875	15 ft.	11 in.
Scotch Pine.....	1875	15 ft.	11 in.

Prof. M. F. Arey, who was then living at Fort Dodge, in a paper, "The Relation of Forests to Climate,"⁹⁶ notes the tempering of the climate, and the other useful effects of the growing of forest trees. Dr. B. E. Fernow on the invitation of Col. G. B. Brackett of the State Horticultural Society, prepared a paper on "Forest Trees and Climate,"⁹⁷ which stated that "constructive reforestation is your need," and the advantages forestry offers to horticulture was urged. He referred to the climatic effects of forests, the effective range of temperature, especially winter temperature, humidity of atmosphere and rapidity of evaporation, all influenced by the forest.

James G. Berryhill in a paper, "Sensible Legislation on the Forestry Question," notes that forests have an influence on rainfall⁹⁸ and refers to the year 1894 when we had a dry season. The bulletin of the United States Department of Agriculture on forestry gives much valuable information and urges that the Iowa Experiment Station take up the forestry question for Iowa.

NUT CULTURE

The Horticultural Society has published much on the subject of nut culture, which of course is intimately related to forestry.

⁹⁴*Ibid.*, Vol. XIII, p. 118, 1879.

⁹⁵*Ibid.*, Vol. XVII, p. 67, 1883.

⁹⁶*Ibid.*, Vol. XIX, p. 254, 1885.

⁹⁷*Ibid.*, Vol. XXVI, p. 111, 1892.

⁹⁸*Ibid.*, Vol. XXIX, p. 141, 1895.

A pioneer in this discussion was Dr. A. B. Dennis of Cedar Rapids, a dentist by profession, who was keenly interested as an amateur in this line of work, and became a professional grower. He made many experiments which have proven of great value to the state. His early papers are published in the report of the Southeastern Iowa Horticultural Society. In a paper on the "Possibilities of Nut Culture in Iowa for Fruit and Wood"⁹⁹ he discusses the American sweet chestnut, shellbark hickory and other species. He states this hickory is of the finest quality of any of our nuts, and gives directions for the cultivation of nut bearing trees. He deplors the fact that we did not start in this work fifty years earlier. The black walnut will be valuable for lumber. This paper was ably discussed by S. W. Snyder, Center point, and F. O. Harrington, Williamsburg.¹⁰⁰

W. M. Bomberger used nuts from hardy trees, and none of them should come from south of the Ohio River.

Another horticulturist very much interested in nut culture, and one who has made many contributions to horticulture in this state, is F. O. Harrington, who states nuts can be grown everywhere in the state. An editorial in *Wallaces' Farmer* urges the growing of nuts.¹⁰¹

Dr. A. B. Dennis¹⁰² in 1910 in a paper, "The Story of the Chestnut," gives the history of Iowa in its relation to nut growing, and states that the common American chestnut though reasonably hardy is much subject to blight, which may seriously interfere with the cultivation of the chestnut in this state. Then he gives the history of the Cooper and Boone varieties, also the comfort and paragon.

The writer has seen fairly good sized chestnut trees in Keosauqua and Burlington. Chestnut trees in this state have been cut having a diameter of eighteen inches. It was early cultivated at Ames. I remember seeing a fairly good sized chestnut on the campus in 1889. This lived three or four years longer, and then died, because not quite hardy.

E. A. Riehl in a paper on "Nut Growing for Pleasure and Profit"¹⁰³ mentions the black walnut, hickories, filberts, almonds,

⁹⁹*Ibid.*, Vol. XLI, p. 253, 1907.

¹⁰⁰*Ibid.*, Vol. XLI, pp. 255-56, 1907.

¹⁰¹*Wallaces' Farmer*, Vol. XLIII, p. 1290, Sept. 13, 1918.

¹⁰²*Report Iowa State Hort. Soc.*, Vol. XLIV, p. 136, 1910.

¹⁰³*Ibid.*, Vol. XLIV, p. 84, 1910.

pecans, butternuts, and chinquapins. The latter, he states, has very much better quality than the chestnut.

I may note that the shagbark or shellbark hickory is common, especially in eastern Iowa. This is *Carya ovata*. The white hickory (*C. alba*) grows as far north as Scott County. The big hickory nut, or Missouri hickory (*C. lacinosa*) grows in southeastern Iowa on the Fox River, on the Chariton near Centerville, and on one of the tributaries of the Des Moines River in Jasper County, and north to Muscatine County at the lower end of Muscatine Island. The distribution in Poweshiek County is quite unusual. The species were collected by Frank and Florence Sullivan and later I inspected the trees. There are also some interesting hybrids discussed by Dr. William Trelease.¹⁰⁴ Jasper County seems to be the most northwesterly distribution of the species in the state.

The pecan (*Carya Illinoensis*) is found north as far as Green Island, in Clinton County, near the Jackson County line.

Some of the shellbark hickories are found in Sac County, near the Carroll County line north. There are also some shellbark hickories in southwestern Iowa. The distribution of this species is closely associated with clay soil along our streams. Two other species of hickory have been reported in the state. One, the pignut (*C. cordiformis*) which has a much wider distribution than the shagbark, and occurs in all wooded sections of the state, except that it is less abundant upon the Missouri slope. There are a few recorded localities of another pignut (*C. glabra*). Prof. Morton E. Peck found thin shelled hickory (*Carya ovata*) in Hardin County.

The butternut (*Juglans cinerea*) is found throughout eastern Iowa along streams. It is more abundant in northeastern Iowa than elsewhere in the state. It is abundant in central Iowa in Boone, Story and Webster counties.

The black walnut is generally distributed along the Mississippi River from Keokuk to New Albin and along all the stream courses from the mouth to the headwaters of the Oneota, Wapsipinicon, Cedar, Iowa, Des Moines, Skunk, Chariton, Nishnabotna, Big Sioux, Nodaway, and along the Missouri from Hamburg to Plymouth County.

¹⁰⁴Report Missouri Bot. Gardens, Vol. VII, pp. 25-46.

Dr. A. B. Dennis in an early report to the Society,¹⁰⁵ "The Chestnut, Its Value in Iowa," says that this tree does well in places, and notes the fact that some of the chestnuts he had planted average seven inches in diameter. He gives the history of the Ridgely and paragon chestnuts. C. G. Patten in a discussion of the subject of "Nuts" refers to hybrids of the Persian walnut.¹⁰⁶

S. W. Snyder, who became interested in the subject of growing nuts in 1920, discussed the subject of "Native Nuts and Hybrids that are Worth Planting on the Home Grounds."¹⁰⁷ Several Iowa varieties of the shagbark are Dennis, Cedar Rapids, Fairbank, possibly a hybrid. He mentions the Burlington as a hybrid, and mentions several native pecans. W. M. Bomberger¹⁰⁸ also discusses nuts, especially the chestnut.

C. G. Patten, the veteran nurseryman and well known northern Iowa horticulturist,¹⁰⁹ made a report on the growth of pecan trees planted by him which at the time of the report were sixteen feet high, the seed coming from N. K. Fluke of Davenport. The writer saw these trees some fourteen or fifteen years ago and they were healthy. The writer of this article observed several pecans on the campus at Ames grown from seed that was sent by Mr. N. K. Fluke from Davenport. A few years ago the writer planted several pecans from seed obtained from Green Island, this state, on the Iowa State College campus.

It is well known that in Europe nuts are planted along the highways. B. W. Lamson in a paper read before the Horticultural Society¹¹⁰ urges the use of nut trees along the highways and in corners. The planting of nut trees was also urged by the president, A. J. Baumhoefner.¹¹¹

S. W. Snyder, on "Recent Information on the Development of Nuts in Iowa,"¹¹² and "Saving the Natural Heritage of Iowa," gives a list of nuts that can be cultivated in the state and mentions a number of varieties of shellbark, like the Stanley and eureka, and also mentions the pecan and some fine hybrids like

¹⁰⁵Report Iowa State Hort. Soc., Vol. XLIII, p. 215, 1909.

¹⁰⁶*Ibid.*, Vol. XLIII, p. 238, 1909.

¹⁰⁷*Ibid.*, Vol. LIV, p. 28, 1920.

¹⁰⁸*Ibid.*, Vol. XLIII, p. 508, 1909.

¹⁰⁹*Ibid.*, Vol. XLVI, p. 142, 1912.

¹¹⁰*Ibid.*, Vol. XLVII, p. 476, 1913.

¹¹¹*Ibid.*, Vol. XLVIII, p. 440, 1914.

¹¹²*Ibid.*, Vol. LVIII, p. 101, 1924; Vol. LIX, p. 48, 1925.

the Burlington. He also mentions the chestnut and chinquapin (*Castanea pumila*) and three hazelnuts. Mr. Snyder lists some of the nuts originated in Iowa. I may add there are no tree hazelnuts native to the eastern United States. The Pacific Coast hazelnut is the nearest to the tree type in this country, but there are true tree hazelnuts native to China.

I may add that there are two native species of hazelnuts in Iowa, one the common hazelnut (*Corylus americana*) which is widely distributed over the state in southern and eastern Iowa, and less abundant in the western part of the state. The beaked hazel (*C. rostrata*) which is more or less related to the European filbert is a native of Allamakee, Clayton, Winneshiek, and Dubuque counties. The writer has seen a filbert cultivated at Burlington and Davenport which seems to be perfectly hardy at Burlington.

The paper by S. W. Snyder was discussed by Prof. I. T. Bode.¹¹³ In the discussion Prof. Bode referred to the work of the Agricultural Extension Division in connection with forestry work and nut culture in the state.

W. P. Williams who has also been interested in nut culture discusses the subject of the nut contest put on at Danville. He reports on the contest at which hazel, shellbark, pecan and walnuts were exhibited.

CLIMATE AND ACCLIMATIZATION AS RELATED TO FORESTRY

The subject of acclimatization was discussed with a great deal of animation during the late eighties and the early nineties by members of the State Horticultural Society, largely on account of the introduction of certain Russian fruits and forest trees into Iowa by Prof. J. L. Budd. One of the earliest papers on the relation of climate to plants was prepared by Prof. C. E. Bessey, entitled "Climatic Adaption of Plants"¹¹⁴ in which he said:

"Acclimatization is that process of adaptation by which animals and plants are gradually rendered capable of surviving and flourishing in countries remote from their original habitation or under meteorological conditions different from those which they

¹¹³*ibid.*, Vol. LVIII, p. 106, 1924.

¹¹⁴*ibid.*, Vol. XII, p. 86, 1878.

have usually to endure, and which are at first injurious to them." Prof. Bessey considers the subject from the standpoint of geology, climate, soils, relation to other plants and animals, man acclimatization.

There is another paper on the same subject by Prof. Bessey showing how rainfall governs the distribution of trees and a brief resume of the subject of climatic adaptations of plants.¹¹⁵

The writer of this review also published a paper, "Climate and Plants," in the monthly Iowa Weather and Crop Service bulletin,¹¹⁶ and later a paper was published in the *Report of the State Horticultural Society*,¹¹⁷ especially with reference to the apple, under the title, "Climate and Its Effects on the Quality of Apples."

L. H. Pammel¹¹⁸ in a paper on "Effect of Winter on Shrubs at Ames" discusses the effect of frost on trees and shrubs, giving a list of deciduous and evergreen trees and shrubs and how they were affected.

PHENOLOGICAL DATA

Early in the history of horticulture of Iowa we have phenological reports. I refer to the papers published for many years in the Horticultural Society reports. Some observations were made at Fairfield more than sixty years ago. My friend, Senator Fulton, called my attention to these early reports. The early phenological records at Ames were kept by Dr. B. D. Halsted,¹¹⁹ G. W. Carver, P. H. Rolfs, and F. C. Stewart.¹²⁰ Later Miss C. M. King¹²¹ for more than a quarter of a century kept a fine record, and she has performed an invaluable service to the horticulture of the state. These phenological records are the best in the country over a long period of years.

Through these many years these observations have been reported in the State Horticultural Society and this will be of value in connection with the study of our trees, as, for instance,

¹¹⁵*Western Farm Journal*, Vol. XXIII, p. 72.

¹¹⁶*Report Ia. State Hort. Soc.*, Vol. XXV, p. 6, 1891.

¹¹⁷*Ibid.*, Vol. XXVII, p. 132, 1893.

¹¹⁸*Ibid.*, Vol. LII, p. 39, 1918.

¹¹⁹*Bul. Dept. of Bot.*, Ia. Agrl. Coll., 1886, p. 42.

¹²⁰Pammel, L. H., Phenological Notes for 1892 *Proc. Ia. Acad. Sc.*, 1 pt. III, pp. 46-61. Reprint.

¹²¹King, C. M., Phenological Notes for 1901. *Trans. Ia. State Hort. Soc.*, 1901, p. 114, and succeeding papers each year to 1925, inclusive; see also *Bul. Torrey Bot. Club*, Vol. XIX, p. 375.

the paper by Miss King¹²² in 1918 on "Times and Seasons" among the trees.

In this connection there is also a valuable paper by C. H. Farr¹²³ "Dormancy and Winter Killing of Peach Buds." This is a cytological study.

HEDGES

The subject of hedges early received the attention of horticulturists in Iowa. The writer referred to this at length¹²⁴ in another report. The discussion on hedges for the purpose of turning stock was an animated one in the late sixties and early seventies before the introduction of the wire fence, instead of the ordinary board or rail fence. Fences were needed in Iowa. There were no rails because of the scarcity of trees and boards were expensive, hence it was strongly urged that these hedges should be used. The plants commonly recommended for the purpose were the white willow, the common barberry, the osage orange, and the buckthorn. The extensive planting of osage orange in the early days was largely due to the fact that it was one of the best and most desirable species for turning of stock. The planting of osage orange in southern Iowa was much more extensive than elsewhere in the state. Many of these are still in existence and many have been removed. The writer has seen osage orange as far north as Dubuque, Hardin and Marshall counties and practically across the state in southern Iowa. At Clinton there were trees fifteen years ago that were twelve to fourteen inches in diameter. There were a few hedges at Ames in 1880. The discussion of hedges was entered into by such men as C. A. Scott of Nevada, and J. L. Budd of Shellsburg, and many others.

Wesley Greene¹²⁵ gives an interesting account of hedge planting in Iowa between 1860 and 1863.

¹²²Also the following papers on this subject by Miss King and joint authors: *Report Ia. State Hort. Soc.*, Vol. LIII, pp. 226, 416, 1919; Vol. LIV, p. 98, 1920; Vol. LV, p. 117, 1921; Vol. LVI, p. 172, 1922; Vol. LVII, p. 73, 1923; Vol. LVIII, p. 162, 1924; Vol. LIX, p. 115, 1925; Vol. LX, p. 139, 1926; Vol. LXI, p. 116, 1927.

¹²³*Ibid.*, Vol. LV, p. 99, 1921.

¹²⁴*Proc. Ia. Acad. of Sci.*, Vol. XXVI, p. 193, 1919.

¹²⁵*Rep. Ia. State Hort Soc.*, Vol. L, p. 47, 1916.

WINDBREAKS

There has been much discussion of the subject of windbreaks. Such men as J. L. Budd, Earl Ferris, and Capt. C. L. Watrous, made contributions on the subject of windbreaks, and the importance of the subject merits discussion at the present time. In recent reports of the Horticultural Society there is such a discussion on the subject. Earl Ferris in a paper on "Evergreen Windbreaks on the Farm, the Reason for Success or Failure"¹²⁶ gives many reasons why windbreaks can be used to advantage for separating areas or saving of food for live stock. He thinks it important to make the right selection of trees, and account should be taken of hardiness and vigor of trees. He recommends the Norway spruce and white pine to be of the best species.

A. J. Baumhoefner of Linn County in a paper, "Windbreaks, What to Plant and How,"¹²⁷ urged for good growth the Russian mulberry. He speaks of the value of evergreens, such as the white pine followed by the Norway spruce. He would plant Norway spruce, white pine, Austrian pine, and arbor vitae.

Eugene Secor in a paper on the subject of windbreaks refers to the fact that windbreaks were commonly planted in Iowa in 1865-1866. That they followed the Illinois custom of using the white willow; hence, in many places in Iowa white willow became the dominating tree as a windbreak.¹²⁸

Suel Foster¹²⁹ of Muscatine who was much interested in all matter pertaining to forestry and windbreaks presented a paper on the subject of "Forestry for Shelter and Profit" in which he criticises the American Forestry Congress for their attitude on forestry. He calls the members woodchoppers. Then he discusses the best trees to use in Iowa, mentioning the catalpa and black cherry.

May I add, of course many trees have been used for windbreaks. The species usually used were Norway spruce, white pine, arbor vitae, red cedar, white willow, and white spruce, and they may be found in all parts of the state as cultivated trees, but there can be no question but that the Norway spruce stand-

¹²⁶*Ibid.*, Vol. LI, p. 317, 1917.

¹²⁷*Ibid.*, Vol. XLVII, p. 292, 1913.

¹²⁸*Ibid.*, Vol. L, p. 51, 1916.

¹²⁹*Ibid.*, Vol. XX, p. 227, 1886.

ing today have passed the zenith of their beauty or utility. Many of these trees are dying. The bulk of these trees planted on the Iowa State College campus for ornamental purposes are practically gone, and the few trees left do not compare in beauty with the Norway spruce trees as we find the species in the East where the climate is better suited for them. The arbor vitae, though a swamp tree, is much hardier and better for Iowa conditions than the Norway spruce, and so far as my observations go, the same can be said of the white spruce as an evergreen windbreak. The red cedar which was frequently planted as a windbreak, is perfectly hardy in all parts of the state and is a beautiful tree. It may be planted in sandy land. It is native to Iowa, distributed from northeastern Iowa along our streams and clear creeks to the Missouri slope, also common along the streams flowing southeasterly into the Mississippi. It occurs in considerable quantity in southeastern Iowa. The red cedar (*Juniperus Virginiana*) was the species generally sold by nurserymen in this state, but in later years the Platte cedar was distributed, especially by Mr. Bomberger of Harlan. This is the *Juniperus scopulorum*.

In the meeting of the Iowa State Horticultural Society¹³⁰ there was a discussion of the question of naming the very best evergreens for windbreaks. Earl Ferris recommended the white pine, Scotch pine, and Norway spruce. Mr. Reeves recommended the arbor vitae, and C. H. True, the hemlock.

It is rather interesting to note in this connection that the balsam fir on the rockbound soil of northeastern Iowa makes a better tree than it does on the fertile soils of central Iowa. There are some magnificent trees in Iowa, in some cases used for windbreaks, in Allamakee County. The balsam fir trees on the campus of Iowa State College which were forty or fifty feet high when I came to Ames in 1889 died long ago. I might also add that the Norway spruce in northeastern Iowa is longer lived and makes a better tree than in central Iowa.

B. F. Ferris in a paper on "Hardy Evergreens," mentions the Colorado blue spruce, balsam fir and white pine. Balsam firs planted in 1876 are now thirty to fifty feet high. This pioneer horticulturist during his young manhood traveled extensively in

¹³⁰*Ibid.*, Vol. LII, p. 389, 1918.

the West, and in this paper refers to his contact with the Colorado blue spruce and other Rocky Mountain conifers.

George C. Platt¹³¹ in a paper on "Evergreens for Ornamental Planting" discusses the Colorado blue spruce, the Black Hills spruce and the dwarf mountain pine.

The following item was published by the writer in the *Des Moines Register* of April 30, 1928, under the title, "Historic Winterset Trees."

During the fall (1927) I had the pleasure of a visit with Judge W. H. Lewis of Winterset and viewed some wonderful conifers he had growing in his yard. I was interested because Judge Lewis had planted a good many evergreens on a part of the tract now owned by the state and known as Devil's Backbone Park, and too, since Judge Lewis was one of the advocates of planting our hard western evergreens in Iowa years ago, and also he was an earnest advocate for the planting of trees nearly sixty years ago and did much pioneer forestry work.

Many interesting papers and notes of his work were published by the Iowa State Horticultural Society years ago.

When I first visited him he told me that the Colorado blue spruce on his place was planted in 1861. Naturally this interested me because there must be some of the earliest planted of the Colorado evergreens in the state, and too, because while the tree was known to Dr. Edwin James and other explorers of the West as a white spruce, it was not until Dr. C. C. Parry, botanist and explorer of Davenport, clearly recognized that the Colorado spruce was entirely a distinct species and was named *Picea pungens* by Dr. George Engelmann and later named *Picea Parryana* by Dr. Sargent. I wish it might commemorate this intrepid explorer, Dr. C. C. Parry, but the name that Dr. George Engelmann of St. Louis gave it is the earliest name and hence the tree will have to go by that name. I wish that our early planters might have taken the advice that Judge Lewis gave years ago, that this species should be planted more generally than it is.

The thing that interested me also in connection with the trees in his yard, was this, that the young trees should have been brought eastward because it took considerable length of time

¹³¹*Ibid.*, Vol. XLVI, p. 328, 1912.

going overland from Colorado to Iowa. Judge Lewis tells me that the first trees were brought by freighters to Winterset in 1861.

I was also interested to find that Judge Lewis had set out in his yard a number of native oaks. Some one I met in the Iowa State Horticultural Society years ago made a plea for the planting of oaks as the best and most useful trees for Iowa, and the wonderful oak trees in the yard of Judge Lewis verified what this man said, that oak trees will make not only splendidly rapid growth, but considering their long life are the most desirable trees to set out in some places. We have a good selection of native oaks in the state. Among the dozen or more species in the state we have the red oak, the pin oak, the quercitron, the white oak, the swamp white oak, the northern pin oak, the chestnut oak, the laurel oak, the overcup oak, the post oak, and therefore we have oaks adapted to every part of the state.

TREES

W. M. Bomberger, president, notes for the first time the Norway poplar¹³² which was discussed at the Minnesota State Horticultural Society meeting where it was given high praise. I may note that this species is one of the Balm of Gilead poplars, and has been widely planted on the prairies of Minnesota and eastern Dakota, and has been used for the growing of wood pulp. This species was introduced by Prof. J. L. Budd. A. T. Erwin¹³³ refers to this species and the Carolina poplar which is one of the hybrids. It is known as *Populus Canadensis* and is a hybrid between *P. nigra* and *P. balsamifera*.

There was considerable discussion on the Carolina poplar also at the Des Moines meeting in 1908,¹³⁴ by Wesley Greene and W. M. Bomberger.

Prof. S. A. Beach calls attention to the use of the Chinese elm (*Ulmus pumila*).¹³⁵ This species at that time gave promise of being a fine tree, and there are some fine specimens on the college campus that date back to that time.

L. H. Pammel in a paper on "Willows and Poplars"¹³⁶ gives a

¹³²*Ibid.*, Vol. XLIII, p. 191, 1909.

¹³³*Ibid.*, Vol. XLIV, p. 364, 1910.

¹³⁴*Ibid.*, Vol. XLIII, p. 191, 1909.

¹³⁵*Ibid.*, Vol. L, p. 274, 1916.

¹³⁶*Ibid.*, Vol. LIII, p. 163, 1919.

key for the identification of the above, with a short account of the species native to the state. The key for the willows is by Dr. C. R. Ball, and the economic use by the writer.

Prof. S. A. Beach in another article on the Experiment Station at Ames, reports the growing of many exotic trees, especially the Chinese elm (*Ulmus pumila*), which came from near Peking, China. The seed of this elm was collected by Mr. Myers, the plant explorer, and was sent out by the United States Department of Agriculture for trial at Ames.

L. A. Clemons¹³⁷ urges the use of the American mulberry (*Morus rubra*) for Iowa, and thinks it preferable to the Russian mulberry. The American mulberry is native to the streams of Iowa.

R. A. Lewis¹³⁸ discusses forest trees; thinks well of the walnut, maple, and box elder. The walnut is the best tree.

Prof. J. L. Budd¹³⁹ recommended the black locust as a good timber tree. "Forest Woodland Trees" was the title of a paper in an early report of the Iowa State Horticultural Society by Suel Foster.¹⁴⁰ The kinds to grow in Iowa were given, such as the elm and the maple.

The writer¹⁴¹ also gives a systematic account of the oaks and their use for ornamental purposes.

W. H. Lewis¹⁴² in a paper on ornamental deciduous trees in which he lists hard maple and basswood, says: "Our native oaks are beautiful trees." Especially the black and the red oak. I saw these fine trees in his yard a few years ago; one of these was the quercitron oak (*Quercus velutina*).

The value of shade trees is discussed in an editorial in the *Iowa Homestead*.¹⁴³ Trees are of great value in the home. Its editorial makes a plea for the value of shade trees and cites a legal case of Niagara County, New York, where a law suit was started because of damage to certain trees. The court decided that of the trees damaged thirteen were worth \$100 each, nine were worth \$60 each and a few others appraised at \$125 each.

¹³⁷*Ibid.*, Vol. XLVII, p. 157, 1913.

¹³⁸*Ibid.*, Vol. XIX, p. 129, 1885.

¹³⁹*Rural Life*, Oct. 14, 1894.

¹⁴⁰*Report Ia. State Hort. Soc.*, Vol. XIV, p. 333, 1880.

¹⁴¹*Ibid.*, Vol. LI, p. 96, 1917.

¹⁴²*Ibid.*, Vol. XXX, p. 179, 1896.

¹⁴³*Iowa Homestead*, Vol. XL, p. 696, 1895.

The editorial proceeds to say that as a country grows older shade and ornamental trees of this kind become more valuable because more appreciated and it would be hard to predict what a good, now well located shade tree would be worth twenty-six years hence.

Dr. B. Shimek has prepared a splendid paper, "Key to the Woody Plants of Iowa,"¹⁴⁴ published in 1928, and has published many other papers on the subject of trees. Like all of his papers they are splendid. There are ninety-eight genera. Sixteen oaks are given.

Dr. H. S. Conard, too, has issued a splendid work on the Grinnell flora, a pamphlet of seventy-two pages in which the trees of that region are given, and also many of the cultivated flowers. There are good keys in this work.

The paper by Prof. I. T. Bode and G. B. MacDonald, "A Handbook of the Native Trees of Iowa," is a most excellent work giving a brief description of some eighty-six species of trees. There are good figures and descriptions. Each species is taken up from the standpoint of the tree, distribution, leaves, fruit, bark, wood and remarks under the latter—the economic uses of the species. It is issued by the Extension Service, Iowa State College. It is without number.

CATALPA

F. O. Harrington in a paper, "The Catalpa in Iowa as Post Timber"¹⁴⁵ thinks it profitable and that it is valuable for posts. W. C. Rickey gives an account of a grove of catalpa (*C. speciosa*) in western Iowa.¹⁴⁶ The paper was discussed by Van Houten, Harrington, and Elmer Reeves. Elmer Reeves discusses "What Shall We Do for Posts" noting that the catalpa is a desirable tree for this purpose.¹⁴⁷ He notes that a small plantation for timber on the farm will pay. In another paper on the catalpa,¹⁴⁸ (*Catalpa specioca*), he notes that catalpa trees planted thirty years ago are not satisfactory timber trees. No posts can be made, and it has little fuel value. In other words, Mr. Reeves was not a friend of the catalpa from his observations at Waver-

¹⁴⁴Pamphlet, p. 1-56, fig. 1-50, Iowa City, 1928.

¹⁴⁵Report Ia. State Hort. Soc., Vol. XLIV, p. 73, 1910.

¹⁴⁶Ibid., Vol. XLIX, p. 462, 1915.

¹⁴⁷Ibid., Vol. XLIX, p. 278, 1915.

¹⁴⁸Ibid., Vol. XLVIII, p. 302, 1914.

ly. C. G. Patten gives a report on the hardy catalpa.¹⁴⁹ T. R. Truax¹⁵⁰ in a paper, "Some Returns from Forest Plantations in Iowa," notes the rapid growth of the catalpa in Iowa, especially a 26-year-old grove at South Amana.

EVERGREENS

In a paper, "Evergreens for Calhoun County," C. W. Conner¹⁵¹ gives a list of trees which should be planted for windbreaks. This subject was discussed by Wesley Greene and Prof. A. T. Erwin, who suggested that in considering windbreaks, only seed from hardy trees should be selected. Edson Gaylord of Nora Springs¹⁵² refers to his experience in growing evergreens on his place, and reports success with the Austrian pine and Black Hills spruce. L. H. Pammel¹⁵³ in the same report discusses "Distribution of Trees," including some of the evergreens.

Wesley Greene, secretary of the State Horticultural Society,¹⁵⁴ arranged for a series of lessons. One of these was on evergreens and shade trees. These discussions are valuable. C. L. Watrous, the veteran nurseryman of Des Moines, and one who will long be known in Iowa horticulture for his splendid service, conducted a lesson on shade trees, windbreaks, ornamental plants, and evergreens. In the same report there is a paper on the shelterbelt by J. E. Coleman¹⁵⁵ who gave directions for preparing a shelterbelt, which was discussed by J. E. Coleman, L. A. Williams and W. M. Bomberger.

C P. Osborn¹⁵⁶ of Fairfax discussed the use of conifers. He recommended of the pines chiefly the white pine. The arbor vitae and American spruces chiefly favor with him. His advice concerning the spruces should have been followed.

E. B. Porter¹⁵⁷ discusses the conifers for Iowa. He recommends the red cedar, and white and Scotch pine as his favorite trees. The Scotch pine of course was the one from Western Europe. Prof. Budd often told me that the East European tree, the Riga pine, is a much better one for Iowa than the West

¹⁴⁹*Ibid.*, Vol. XLVII, p. 144, 1913.

¹⁵⁰*Ibid.*, Vol. XLVIII, p. 115, 1914.

¹⁵¹*Ibid.*, Vol. XXXVI, p. 395, 1902.

¹⁵²*Ibid.*, Vol. XXXVI, p. 251, 1902.

¹⁵³*Ibid.*, Vol. XXXVI, p. 344, 1902, with four maps.

¹⁵⁴*Ibid.*, Vol. XXXVIII, p. 211, 1904.

¹⁵⁵*Ibid.*, Vol. XXXVIII, p. 423, 1904.

¹⁵⁶*Ibid.*, Vol. XVIII, p. 231, 1884.

¹⁵⁷*Ibid.*, Vol. XVIII, p. 233, 1884.

European tree, an opinion also held by Dr. Filbert Roth who once told me that the Scotch pine of the interior of Europe is a much better forest tree than the West European coastal type. There is a single specimen on the campus at Iowa State College.

E. M. Reeves¹⁵⁸ in a paper on "Forestry Belts for Protection" mentions the use of poplar, soft maple, Norway spruce, and white pine.

W. M. Bomberger, referring to "Forestry and Orcharding,"¹⁵⁹ urges the planting of several species of evergreens for wind-breaks, and the possibility of interplanting evergreens and orchard trees.

O. S. West¹⁶⁰ in a paper on "Evergreens" recommends for northwestern Iowa the Black Hills spruce. The Scotch pine is undesirable.

THE GROWING OF EVERGREENS IN IOWA

The state of Iowa is not rich in species of evergreens that are native to the state. Our evergreens occur in a few isolated places. Most of the localities are found in northeastern Iowa where the groves of white pine are frequently accompanied by the Canadian yew and some red cedar and sometimes the dwarf juniper. There are some extensive groves of white pine in Allamakee County. The most interesting of these pine groves is along the Yellow River from Forest Mills westward, and in a northeasterly direction from Postville on the Yellow River. There is also a fine grove of balsam fir and associated with it the Canadian yew and white pine on the same stream. There are two additional groves of balsam fir in Winneshiek County on the Oneco River.

The red cedar also occurs in the region. The balsam fir grows on north slopes. There are several fine groves of white pine near Waterville and then there are some fine white pine with the Canadian yew in northwestern Dubuque County in what is known as Pine Hollow. And westward, there are a few native white pines on the Volga River in Fayette County, and a few at Eldora and Steamboat Rock in Hardin County. This locality is the most southwesterly distribution for native white pine in the United States in the Mississippi Valley. Again, there are some

¹⁵⁸*Ibid.*, Vol. XIX, p. 207, 1885.

¹⁵⁹*Ibid.*, Vol. XXXVI, p. 215, 1902.

¹⁶⁰*Ibid.*, Vol. LV, p. 205, 1921.

fine white pine in the Wildcat Den region in Muscatine County. This is the most southern distribution of white pine west of the Mississippi River.

Long before the nursery distributed pine trees in the state the pioneers made use of the native evergreens. Thus, for instance, many of the fine specimens of white pine at Eldora were cut off for lumber and fuel. The same is true of the white pine in the Backbone Park in Delaware County and vicinity. And the forest primeval stand of white pine still in existence are the White Pine Hollow or the Pine Creek Hollow in Dubuque County. The white pine set out in the early days at Eldora and in northeastern Iowa from the native stock, have made splendid growth. Sometimes these pines were carried considerable distances.

C. S. Harrison¹⁶¹ gives an account of the successful growing of evergreen experience with the ponderosa pine, spruce and red cedar.

More than sixty years ago Father Clarkson sent some white pine for the college campus at Ames from Eldora. These trees are still living and constitute the "Bessey Memorial Group of White Pines on the Campus."

The white pines in the Wildcat Den State Park in Muscatine County also serve as sources of the white pine planted in Muscatine and Scott County. These pines were long known to Dr. C. C. Parry, as back in the forties he mentioned the occurrence of white pine in that vicinity.

The following papers and books have many references to Iowa trees:

N. L. Britton, a splendid book on the value of North American trees. This volume of 894 pages will be of service to students of trees. The splendid Grays' *Manual of Botany* revised by Robinson and Fernald is a most useful work for Iowa tree identification.

Also the fine *Silva* by Charles Sprague Sargent in fourteen quarto volumes, handsomely illustrated, and containing many notes on plants and trees of Iowa.

Mention should be made also of the book by Samuel B. Green,

¹⁶¹*Successful Farming*, April 1913, p. 346.

Forestry in Minnesota, in one volume, and the work of Frederick Clements and others on *Minnesota Trees and Shrubs*, issued in 1921.

Also a fine work by Chas. Sprague Sargent, *Manual of Trees of North America*, in two editions.

Also the following works by Dr. Wm. Trelease, *Juglandaceae of the United States*.¹⁶² The *Sugar Maples* with a winter synopsis of the North American maples.¹⁶³

Of course the nurserymen did distribute a great many pine trees as long as sixty years ago.

The balsam fir mentioned above is rather isolated in its distribution and many fine species of balsam fir may be found in northeastern Iowa. These trees came to a very considerable extent from the groves in Allamakee and Winneshiek counties. The soil is better adapted to the growing of these trees in northeastern Iowa than elsewhere, and nearly all the balsam fir set out in southern Iowa failed. It is not adapted to the soil. Where the clay soil is tenacious and holds moisture better, the balsam fir has succeeded, as in northeastern Iowa.

Mention is also made of the Canadian yew which has nearly the same distribution as the white pine. Its occurrence in Linn, Dubuque, Allamakee and Winneshiek counties has been mentioned. The Canadian yew has, however, never been planted to any great extent in the state. There are some very fine specimens found in a few places particularly at Onawa. One of the Asiatic species (*Taxus macrocarpa*) is occasionally planted.

The hemlock has succeeded in all parts of the state. There are fine species in southeastern Iowa on the clay acid soils as well as on the northern slope at Onawa and Sioux City.

The red cedar is fairly common in many parts of the state, from the Mississippi to the Missouri River, especially southeast and northeast Iowa, and the lake region in northwest Iowa southwesterly to Sioux City, and not a few isolated groves southward. It is, however, not as common as in eastern and southeastern Iowa.

The dwarf juniper (*Juniperus communis*) is common on the river stream bluffs of the Mississippi River, especially in north-

¹⁶²Report Mo. Bot. Garden, Vol. VII, pp. 25-46, pl. 1-25.

¹⁶³Ibid., Vol. V, pp. 88-106, pl. 4-16.

eastern Iowa, and also occurs near Dubuque and has been found at Iowa Falls in Hardin County.

There is only one other conifer in the state, the prostrate juniper (*Juniperus horizontalis*), found on a limited area near Rockford.

During the early period of planting evergreen trees in the state the more important species recommended were Austrian pine (*Pinus Austriaca*), white pine (*Pinus Strobus*), red pine (*Pinus resinosa*), and Scotch pine (*Pinus sylvestris*).

Some years later several other species of pine were planted, especially jack pine (*Pinus Banksiana*), yellow pine (*P. ponderosa*), the lodge pole pine (*P. Murrayana*), occasionally the Himalayan pine (*P. excelsa*), Adair County, the limber pine (*P. flexilis*), stone pine. For ornamental purposes the dwarf mountain pine of Europe (*P. Mugho*) was occasionally planted. Then the white spruce (*Picea Canadensis P. mariana*), and then much later the Colorado blue spruce (*P. Parryana*); and the firs, the common balsam fir (*Abis balsamea*) was most commonly planted in the early days, and then in the eighties the white fir (*A. concolor*). About the same time, the Douglas fir (*Pseudotsuga taxifolia*), the common arbor vitae (*Thuja occidentalis*) was widely planted, and later the Siberian species (*T. Sibirica*) was introduced. The common red cedar (*Juniperus Virginiana*) was widely planted, and much later, the Platte cedar (*J. scopulorum*) was used.

The black spruce (*Picea mariana*) is not often planted; like the American larch or tamarack, it occurs in peat bogs. Here and there a few fine specimens of the black spruce occur. One fine tree on the campus at Iowa College about sixty years old was destroyed by a heating tunnel.

The white spruce was much more commonly planted and succeeded everywhere in the state far better than the Norway spruce. It was a mistake except in northeastern Iowa to ever have planted the Norway spruce.

One of the most interesting introductions of the Gymnosperms to which our conifers belong is the maiden hair tree (*Gingko biloba*) which though not widely planted is hardy and there are some fairly fine specimens in Keokuk, Burlington, Davenport and Ames. One of the first introductions to this country were

planted at Keokuk through the efforts of one of our congressmen. These were the seed trees brought to this country when the government sent our emissaries to China in 1844. I am afraid these trees have now been destroyed. A part of this original stock may be at Bonaparte. The tree at Bonaparte is fourteen inches in diameter I am told.

The European larch (*Larix Europaea*) as well as the common native tamarack (*L. laricina*) were widely planted. During the early days also the common hemlock (*Tsuga canadensis*) was much planted, and there are some magnificent specimens in the state.

It is rather interesting to note that the American tamarack in spite of its occurrence in swamps succeeds admirably, but one must remember that the peat bogs are really desert in character because of the acid conditions of the soil.

For many years there was a great deal of discussion on the type of evergreens to be grown in the state. Of the persons vitally interested in the matter mention may be made of C. F. Gardner,¹⁶⁴ who urged the growing of evergreens for shelter. Mr. Gardner urged that planting for shelterbelts should be done right, and recommended the planting of Norway spruce, Scotch and white pine. The discussion was entered into by Elmer Reeves, R. P. Speer, J. C. Ferris, W. H. Guilford, B. F. Ferris, C. G. Patten.

C. F. Gardner of Osage for many years was one of the leading growers of evergreens in the state and made many valuable contributions. Of the other papers presented by him, attention may be called to one on "The Gathering, Keeping and Planting of Forest Tree Seeds."¹⁶⁵ This is an exceptionally fine paper.

In a paper published in 1891, Mr. Gardner in "Forestry for the Northwest" said that planting was only in its infancy in Iowa, and that forestry was needed because they were being swept away in the United States.¹⁶⁶

John Wragg, the veteran nurseryman of the old days in Iowa, was untiring in his efforts in the planting of conifers, and in a paper on "Best Evergreens for Iowa Farmers"¹⁶⁷ advocated the

¹⁶⁴Report Ia. State Hort. Soc., Vol. XXVIII, p. 90, 1894.

¹⁶⁵Ibid., Vol. XXIX, p. 109, 1895.

¹⁶⁶Ibid., Vol. XXV, p. 96, 1891.

¹⁶⁷Ibid., Vol. XXV, p. 154, 1891.

growing of red cedar for posts, and said that he would plant Norway spruce, Scotch and white pine, because of their good growth; and for ornamental purposes, Austrian pine and Colorado blue spruce. Mr. Wragg had growing on his ground the white pine of the Himalayas (*Pinus excelsa*). The discussion was entered into by Silas Wilson, N. E. Hansen, C. F. Gardner, J. L. Budd and L. H. Pammel. Judge Lewis who had set out some evergreens in Winterset in the early sixties advocated the use of Colorado blue spruce and Engelmann's spruce, but he was uncertain as to which of the species of spruces he had. The specimens I noted a few years ago were *Picea Parryana*.

There is now much evidence of the good work done by Mr. Wragg at Waukee. The fine trees at his old home near Waukee are a delight to visitors.

Robert Douglas,¹⁶⁸ the veteran evergreen grower of Waukegan, Illinois, in a letter he wrote to Prof. J. L. Budd mentions the Menzies spruce, umbrella pine (*Sciadopitys verticillata*). This Menzies spruce, according to a statement made by Dr. Engelmann as quoted by Dr. C. C. Parry, is that this *Picea pungens* now is generally regarded as *Picea Parryana*.¹⁶⁹ It commemorates Dr. Parry who did such indefatigable work as an explorer in the early days in the Rocky Mountains. More recently the name *Picea pungens* has preference.

Dr. Parry in an earlier letter he wrote to the secretary of the society, refers to the Engelmann spruce. Parry named this spruce, which he had growing in Davenport for twelve years, *Picea Engelmanni*, after his friend, Dr. George Engelmann.

C. S. Sargent¹⁷⁰ in a letter to the secretary recommends *Abies Sibirica*. O. S. West¹⁷¹ discusses evergreens, and advocates the use of Black Hills spruce. "Do not plant Scotch pine." S. G. Platt¹⁷² in a paper, "Evergreens on the Farm," discusses planting and the kinds to use. He recommends arbor vitae and white pine, and Norway pine for northeastern Iowa and Scotch pine for sandy soil.

W. H. Lewis¹⁷³ of Winterset, one of the early pioneers in the

¹⁶⁸*Ibid.*, Vol. XIII, p. 348, 1879.

¹⁶⁹*Ibid.*, Vol. XIII, p. 349, 1879.

¹⁷⁰*Ibid.*, Vol. XIII, p. 349, 1879.

¹⁷¹*Ibid.*, Vol. LV, p. 205, 1921.

¹⁷²*Ibid.*, Vol. LVII, p. 291, 1923.

¹⁷³*Ibid.*, Vol. XX, pp. 167-69, 1886; Vol. XXI, p. 191, 1887.

growing of evergreens in Iowa, in several papers discussed the subject of evergreens. There were planted by him *Picea pungens* and Douglas fir (*Pseudotsuga Douglasii*). The seeds came from plants some twenty miles from Denver, and were planted at Winterset about 1866.

In 1879 he reported¹⁷⁴ that white pine, Norway spruce, and balsam fir were doing finely. In a discussion of the subject¹⁷⁵ in 1877 he said the Rocky Mountain conifers were doing splendidly. In the paper of 1886 on the subject of "Propagation of stocks and Forest Trees,"¹⁷⁶ there is a full account of the methods used by him with reference to the planting of the Rocky Mountain conifers.

This subject was discussed by B. F. Ferris, George H. Van Houten, J. L. Budd, John Wragg, Mr. Smith and J. B. Keffer.¹⁷⁷

In 1896 Judge W. H. Lewis¹⁷⁸ gave a longer report on evergreens, such as Douglas fir, silver spruce, and Menzies spruce. He thinks the Wisconsin white pine as valuable as the Black Hills spruce. The Douglas spruce is worthy of cultivation. In 1889 he mentions¹⁷⁹ Engelmann spruce, which is better than Menzies spruce (proved to be *Picea Parryana*, Douglas fir, and *Pinus ponderosa*.) Judge Lewis left a large impress on the growing of evergreens in Madison County. He died in the fall of 1928.

There is another discussion of evergreens from the Rocky Mountains, some fifty to sixty miles from Denver, by C. G. Patten.¹⁸⁰ The discussion was entered into by J. L. Budd and C. L. Watrous.¹⁸¹ C. L. Watrous¹⁸² in a committee report on evergreens considered the use and types of different kinds. The same year the society had a standing committee on evergreens, of which Lawrie Tatum¹⁸³ was chairman. The title of the paper was "Evergreens and Hardy Shrubs." The white pine he thought was the most magnificent of the pines. Moore Briggs¹⁸⁴ praises the white pine, also the hemlock and balsam fir.

¹⁷⁴*Ibid.*, Vol. XIII, p. 365, 1879.

¹⁷⁵*Ibid.*, Vol. XII, p. 215, 1878.

¹⁷⁶*Ibid.*, Vol. XXI, p. 191, 1887.

¹⁷⁷*Ibid.*, Vol. XII, p. 214, 1878; Vol. XX, p. 160, 1886.

¹⁷⁸*Ibid.*, Vol. XXXI, p. 199, 1897.

¹⁷⁹*Ibid.*, Vol. XXXIII, p. 116, 1899.

¹⁸⁰*Ibid.*, Vol. XII, p. 214, 1878.

¹⁸¹*Ibid.*, Vol. XII, p. 214, 1878.

¹⁸²*Ibid.*, Vol. XII, p. 230, 1878.

¹⁸³*Ibid.*, Vol. XII, p. 327, 1878. This is the Tatum with whom young Hoover lived.

¹⁸⁴*Ibid.*, Vol. XII, p. 440, 1878.

At many meetings of the society the subject of evergreens¹⁸⁵ was frequently discussed by B. L. Hoyt and C. F. Gardner, large growers of evergreens, also by W. A. Burnap, H. S. Dartt, and J. B. Mitchell.

In an editorial in the *Iowa Homestead*¹⁸⁶ there is a discussion on selected evergreens, recommending the Engelmann spruce, white fir (*Abies concolor*) and Norway pine.

The Black Hills spruce (*Picea alba*) was recommended by Prof. Budd.¹⁸⁷

R. A. Lewis,¹⁸⁸ who lived in northwestern Iowa, in a paper on forest trees, discussed the value of Scotch, Austrian, white pine, white and Norway spruce, arbor vitae, balsam fir, and red cedar. He had some 25,000 trees set out.

ORNAMENTAL TREES

Charles W. Lau, an amateur lover of trees, had a paper on "Ornamental Trees for Eastern Iowa,"¹⁸⁹ and calls attention to the need of a great variety because of the character of the soil. He gives a list of trees that he had tried at Davenport. He gives in this connection flowering dogwood, oriental sumach, liquidambar, tulip (which killed back at first and then later made a fine plant), several magnolias, six maples, five ash, eight oaks, two elms, five poplars, ten willows, two beeches, four birches, two walnuts, butternut, pecan, hickory, sweet chestnut, horse chestnut, two sycamores, box elder, quaking asp, four magnolias, judas tree, prickly ash, English buckthorn, yellow wood, Chionanthus, cypress, sweet gum, ironwood, hornbeam, Ailanthus. Of the magnolias, *M. acuminata*, *M. glauca*, *M. Soulangeiana*, *M. tripetala*, and *M. macrophylla*. A total of one hundred eleven species were grown by him. Mr. Lau had cultivated many of these for forty years.

This is probably one of the most remarkable areas in the state where exotic Iowa plants are to be found. The writer saw these a number of years ago, and all the plants mentioned by Mr. Lau were perfectly hardy, or nearly so. It will be interesting in this connection to comment on where similar species may be found

¹⁸⁵*Ibid.*, Vol. XXXI, p. 253, 1897.

¹⁸⁶*Ibid.*, Vol. XLV, p. 438, 1911.

¹⁸⁷*Rural Life*, Vol. VIII, p. 12, 1894.

¹⁸⁸*Report Ia. State Hort. Soc.*, Vol. XIX, p. 129, 1885.

¹⁸⁹*Ibid.*, Vol. XLIX, p. 192, 1915.

elsewhere in Iowa. The *Magnolia acuminata* is hardy at Osage and there are fine tulip trees at Ames and in Indianola, and fine American beech trees at Lansing. "Oriental Queens" is an interesting paper by Eugene Secor, urging the planting of Paeonies.¹⁹⁰

M. J. Wragg also discusses "Ornamental Trees and Plants."¹⁹¹ Trees that were highly recommended by him were the sugar maple and basswood.

George E. Woodruff in a paper, "Some Newer or Neglected Ornamental Plants,"¹⁹² names the common sorts, *Spiraea Van Houttei*, *Deutzia Lemoinei*, *Hydrangea paniculata*; of the less known, *Helianthus multiflorus*. Do not forget *Viburnum opulus*, *Dolichos* or hyacinth bean. John F. Dayton in a paper, "Forty Years Rose Growing in Iowa,"¹⁹³ says he started in 1876, and gives varieties continuously grown. Eugene Secor in a paper, "A Few Desirable Ornamentals for the North,"¹⁹⁴ says every climate has its own flora. We have a hundred things worth while. One may gather roses in winter season, but not the peonies of June. Then he gives a list of shrubs which should be planted.

A lesson was conducted by Wesley Greene on "Shade Trees" in which he gives the nomenclature of *Populus*.¹⁹⁵

Elmer M. Reeves in a paper on "Native Trees About Our Homes"¹⁹⁶ urges the use of the white elm and the hard maple, and Eugene Secor in a similar paper, "Some Trees Adapted to Northern Iowa Not Generally Planted,"¹⁹⁷ urges the use of cockspur thorn, hackberry, honey locust, pea tree, linden and the oak. The paper was discussed by L. H. Pammel, C. A. Burnett, N. K. Fluke and M. J. Wragg. Prof. Robertson extolled the sumach as a plant of great beauty.

Mrs. Fred Lazell, formerly of Cedar Rapids, in an excellent paper on "Our Native Shrubs"¹⁹⁸ gives an account of the native shrubs of Linn County. She lists forty-seven species as compared with the list of Dr. B. Shimek, who in his paper,¹⁹⁹ "Na-

¹⁹⁰*Ibid.*, Vol. XLIX, p. 194, 1915.

¹⁹¹*Ibid.*, Vol. XLIX, p. 335, 1915.

¹⁹²*Ibid.*, Vol. LII, p. 336, 1918.

¹⁹³*Ibid.*, Vol. LI, p. 127, 1917.

¹⁹⁴*Ibid.*, Vol. LI, p. 312, 1917.

¹⁹⁵*Ibid.*, Vol. XXXV, p. 258, 1901.

¹⁹⁶*Ibid.*, Vol. XXXV, p. 217, 1901.

¹⁹⁷*Ibid.*, Vol. XXXV, p. 104, 1901.

¹⁹⁸*Ibid.*, Vol. XLVI, p. 401, 1912.

¹⁹⁹*Ibid.*, Vol. XXXVIII, p. 453, 1904, 4 pl.

tive Shrubs of Iowa," lists ninety-seven species for the whole state. Some of the shrubs mentioned by Mrs. Lazell are the bladdernut and ninebark.

An article by M. J. Wragg on "Our Best Shrubs and Flowers"²⁰⁰ is of interest in this connection. There was growing on the grounds of Mr. Wragg for many years a dwarf buckeye (*Esculus parviflora*). It likewise is hardy at Ames, and is one of the very desirable ornamental shrubs. A similar paper by Charles L. Adams,²⁰¹ "Our Best Shrubs for Ornamental Planting," lists a large number of exotic shrubs.

J. T. D. Fulmer, who lived in Des Moines and was interested in landscape gardening and park work, prepared a paper on "Shrubbery for Private or Public Grounds."²⁰² In this connection a paper by H. C. Irish, at one time at Ames, now in Missouri, published a paper on "Landscape Gardening as Applied to Home Grounds."²⁰³ He discusses home grounds and gives a long list of plants; many of them exotic. Mention may be made also of the Japanese barberry, Siberian pea tree, etc.

George G. Platt in a paper, "Landscaping of the Modern Farm Home,"²⁰⁴ urges landscaping, and gives a list of shrubs and trees that should be used, and makes many fine suggestions. Mr. Ramsdell in a paper on "Landscape Architecture in the Middle West"²⁰⁵ urges the type of landscape in the West which will fit in with the country. Planting boards should make their survey, and the professional landscape man should plan the parks.

F. H. Culley^{205a} has an interesting paper on "Notes on Common Plant Materials for Iowa." Many of the plants are exotic. He urges the planting of *Ulmus pumila* first introduced on the grounds of Iowa State College. O. H. Carpenter in "The Architect and Landscape Artist" makes many fine suggestions.²⁰⁶

NATIVE SHRUBS

One of the interesting phases connected with forestry is that of shrubs. Shrubs are closely associated with trees in the forest. They are a part of it. Many papers have been published on

²⁰⁰*Ibid.*, Vol. XLVII, p. 150, 1913.

²⁰¹*Ibid.*, Vol. LVII, p. 298, 1923.

²⁰²*Ibid.*, Vol. XLVII, p. 148, 1913.

²⁰³*Ibid.*, Vol. XLVIII, p. 193, 1914.

²⁰⁴*Ibid.*, Vol. LIII, p. 304, 1919.

²⁰⁵*Ibid.*, Vol. LVII, p. 375, 1923.

^{205a}*Ibid.*, Vol. LVII, p. 371, 1923.

²⁰⁶*Ibid.*, Vol. XXXVIII, p. 49, 1904.

shrubs in the reports of the society. We can not, of course, mention all of these, but we wish to call attention to the splendid paper by Dr. B. Shimek.²⁰⁷ This valuable paper is handsomely illustrated, and in it Dr. Shimek makes a strong plea for the native shrubs of Iowa, which should be planted more than they are. The paper is valuable for the fine key which will enable one to identify the ninety-seven species that are listed. Dr. Shimek's work on adaptation has been worthwhile. He has made valuable contribution to the horticulture and botany of the state as evidenced by his many valuable contributions. Dr. H. S. Conard, too, has made valuable botanical contributions on conservation and ornamental plants. There is also a fine paper by Prof. B. Fink, "Some Relations of Native Plants to Environment."²⁰⁸

"Our Native Flowers" were urged for cultivation. Many were suggested in this fine paper by Dr. J. C. Arthur.²⁰⁹ Our own shrubs and trees are not appreciated as they should be. He refers to the basswood and elm.

E. A. Piester on "The Arrangement and Planting of Trees and Shrubs"²¹⁰ urges the use of some striking trees like the Russian olive or oleaster, and Colorado blue spruce. The planting should be done in harmonious lines. There should be unity. The oleaster was introduced into Iowa by Prof. J. L. Budd. It is one of the striking and interesting plants and should be planted. The writer of this paper saw a tree set out in 1887 which in 1925 was nearly sixteen inches in diameter.

A. R. Toothaker in a discussion of "Hardy Vines and Their Place in Landscape Planting"²¹¹ mentions the *Ampelopsis Engelmannii*, trumpet creeper, purple wistaria, scarlet and Hill's honeysuckle. The trumpet creeper (*Tecoma radicans*) is native to southeastern Iowa and is perfectly hardy in Des Moines, Ames and Clinton.

"Rural Landscape Architecture" by Francis A. Robinson²¹² refers to the work of building rural homes and the use of quick growing trees for shade and shelter. There is much valuable

²⁰⁷*Ibid.*, Vol. XXXVIII, p. 453, 1904.

²⁰⁸*Ibid.*, Vol. XXXVIII, p. 32, 1904.

²⁰⁹*Ibid.*, Vol. XIV, p. 41, 1880.

²¹⁰*Ibid.*, Vol. LII, p. 457, 1918.

²¹¹*Ibid.*, Vol. LII, p. 455, 1918.

²¹²*Ibid.*, Vol. LV, p. 75, 1921.

Iowa material, like the hawthorn, which is superior to anything found in Europe. We should use more of this material. A paper along the same lines is one by A. H. Alexander,²¹³ "Landscape Development of the Middle West," which states that the landscape work should meet the needs of the West to fit in with the region. The paper by H. Cornell,²¹⁴ "Landscape Extension in Iowa," gives an outline of the work for rural Iowa. F. H. Culley,²¹⁵ "Notes on Common Plant Materials for Iowa," mentions many plants, mostly exotic. He mentions *Ulmus pumila*, which he planted extensively when he was connected with the landscape work at Ames, and such plants as the Chinese syringas. Prof. J. L. Budd at one time also cultivated many of these at Ames, which were hardy. Prof. Culley also mentions *Rhodotypos kerrioides* and *Prunus tomentosa* which he freely used.

PARKS

A. H. Carhart, "A System of Parks,"²¹⁶ national, state and county, thinks a certain amount of play necessary; deprecates the American attitude toward play. The need of play is inherent. Recreational facilities is a problem of national scope. "It is often the playground versus the juvenile court, and the evidence is determined by the extent and adequacy of the playground." Federal, state and community parks offer the community the greatest facilities. Of the national parks, Hot Springs was set aside in 1832. He describes the Yellowstone, 3348 square miles in extent; Yosemite, 1125 square miles; Sequoia, 237 square miles; Mount Ranier, 324 square miles. He calls attention to the proposed McGregor Park. In 1915 334,799 tourists visited the national parks. He also calls attention to the appointment of Stephen D. Mather by Secretary Lane. Of the state park systems of New York, there is Watkins Glen, Stony Point, and Palisades. Wisconsin leads in state park policy. Of county parks, Essex and Hudson counties, New Jersey, have six county parks. Boston park system has 5,000 acres. He suggests city park service for each state. Cities, towns, and villages should have park service.

²¹³*Ibid.*, Vol. LVII, p. 361, 1923.

²¹⁴*Ibid.*, Vol. LVII, p. 368, 1923.

²¹⁵*Ibid.*, Vol. LVII, p. 371, 1923.

²¹⁶*Ibid.*, Vol. LI, p. 79, 1917; see also A. S. Henry, Vol. LI, p. 65, 1917.

B. J. Horchem,²¹⁷ a good friend of recreation and parks, discusses state park legislation in Iowa, the passing of the Hol-
doegel bill, and its signing by Governor Harding creating the
State Board of Conservation. The Conservation Board of Iowa
at once began to lay plans how to purchase parks. L. H. Pam-
mel²¹⁸ discussed "The Cost of Purchasing Interesting Spots in
Iowa for State Park Sites." He lists a large number, like Steam-
boat Rock, and Balsam Fir Grove, which should be purchased.

Euclid Sanders²¹⁹ discusses the municipal park, and its value
to the community, and how such a park may be attained. The
paper was discussed by Dr. T. H. MacBride. G. A. Hayne²²⁰
states that the park is an educational factor in promoting civic
improvement and recreation.

We note in a report by M. J. Graham, that Mr. Kinne of
Storm Lake²²¹ would plant trees to give a park-like aspect. H.
Moyer discusses the value of horticulture in railroad parks, and
the railroad park at Oelwein.²²² L. G. Chapman²²³ urges a cam-
paign of education in a paper on horticulture and conservation.
The paper was discussed by Mr. Dawson.

A. S. Henry, "A National Park for Iowa," in regard to Mrs.
McMillen's paper, gives an account of this historic region.²²⁴
Pike, who in 1805 visited the region and hoisted the American
flag, calls attention to the visit of Marquette and Joliet descend-
ing the Wisconsin River in 1673. Father Hennepin sailed up
the Father of Waters and landed near Pike's Peak in 1680 in
the region of Fort Crawford. Later there was the fighting of the
Black Hawk War, and the Indian tribes in conference at Prairie
du Chien. He also calls attention to Senator Kenyon's McGregor
National Park bill, and states that the need is urgent that this
bill be passed, because 10,000,000 people live within eight hours
ride of this region.

C. F. Curtiss, in a paper, "Forest Parks and Their Relation
to the Rural Community,"²²⁵ states, "It is important to create
an interest in parks." The North American Indians appreciated

²¹⁷*Ibid.*, Vol. LIII, p. 378, 1919.

²¹⁸*Ibid.*, Vol. LIII, p. 375, 1919.

²¹⁹*Ibid.*, Vol. XLIII, p. 79, 1909.

²²⁰*Ibid.*, Vol. LIV, p. 326, 1920.

²²¹*Ibid.*, Vol. XLIII, p. 299, 1909.

²²²*Ibid.*, Vol. LI, p. 540, 1917.

²²³*Ibid.*, Vol. LV, p. 214, 1921.

²²⁴*Ibid.*, Vol. LI, p. 65, 1917.

²²⁵*Ibid.*, Vol. LIII, p. 363, 1919.

the beautiful in Iowa more than we do. The name that they gave to Iowa, "Beautiful Land," shows this. He suggested the use of license fees paid by hunters for these forest parks. This actually was later carried out.

Mrs. C. H. McNider in a paper, "What the Mississippi Valley National Park Would Mean to Iowa,"²²⁶ urges the creation of such a park. In this excellent paper, she says, "This makes us all the more keen to have our glorious scenic region adopted into the nation's family of parks, now numbering sixteen, and all but one recently created being in the far West." She refers to the bill of Senator Kenyon.

Fred J. Lazell, also discussed parks in a paper, "Action Needed in Conservation."²²⁷ He calls attention to the plea made by Governor George W. Clarke in 1915. Mr. Lazell gives a striking illustration of how money spent in Iowa, \$19,000,000 for education, \$10,000,000 for good roads, but nothing for parks. He gives a list of areas like Devil's Backbone, Bixby's Park, and Balsam Fir Park in Allamakee County.

L. H. Pammel²²⁸ in a paper, "In the Great Out-of-doors," urges the use of nature for vigor and health. How the great landscape of the West has been changed. It is interesting now to follow the narrative of Francis Parkman in his trip from Westport, Missouri, to Fort Laramie. In a paper by L. H. Pammel²²⁹ on state parks there is a brief history of the state park movement and the members of the board, as well as the part Governor Harding took in the creation of state parks, lists of parks created and need of landscape work. There is another discussion in a paper by the same author,²³⁰ "Parks for the People," and one on "The Great Out-of-Doors"²³¹ referred to above.

The matter of conserving scenery, birds, other animals and native plants to check erosion was discussed by Dr. B. Shimek.²³² A national park site was discussed by Mrs. W. B. Small.²³³ She referred to the Devil's Backbone, now the Backbone State Park.

²²⁶*Ibid.*, Vol. LIII, p. 360, 1919.

²²⁷*Ibid.*, Vol. LIII, p. 353, 1919.

²²⁸*Ibid.*, Vol. LVIII, p. 95, 1924.

²²⁹*Ibid.*, Vol. LIV, p. 86, 1920.

²³⁰*Ibid.*, Vol. LIX, p. 37, 1925.

²³¹*Ibid.*, Vol. LVIII, p. 95, 1924.

²³²*Ibid.*, Vol. LIII, p. 372, 1919.

²³³*Ibid.*, Vol. LIII, p. 371, 1919.

I like the fine sentiment by George Godfrey²³⁴ in Squibbs from a Farmer's Notebook, "Every farmer owes it to himself to take some time off for enjoyment. The man that continually stays at home loses interest in his fellowmen and himself."

J. H. Lees²³⁵ had a paper on "Park Sites Along the Des Moines Valley," and B. Shimek²³⁶ on "Iowa's Natural Parks."

The arboretum is discussed by N. D. F. Lummis²³⁷ as early as 1879, when he urged the establishment of an arboretum at the Capitol (Des Moines) while the land was still cheap. He urged buying sixty acres of land. In the paper reference is made to Bartram's Garden.

CAPITOL EXTENSION

One rather important line of work closely connected with conservation and forestry is what was commonly referred to as the "Capitol Extension." Several members of the State Horticultural Society took part in the execution of this great program. The inception of the final program of enlarging and completing the Capitol grounds was due to Edgar R. Harlan, curator of the Historical, Memorial and Art Department of Iowa. Mr. Harlan had a big vision. He recommended to several governors the enlargement of these grounds to adequately house the state departments. Governors Carroll, Clarke and Harding each had a part in this great plan. Mr. Harlan thoroughly studied the problem with several architects, and planned this extension. During Governor Harding's administration a Plant Life Commission was appointed. It consisted of E. R. Harlan, curator of the Historical Department, Wesley Greene, secretary of the State Horticultural Society, Dr. T. H. Macbride of the State University, and L. H. Pammel of Iowa State College. This commission passed on landscape plans submitted by L. E. Fogelsong, and made many suggestions on the planting plan. The plan has not been entirely carried out. It was the contention of Mr. Harlan that the planting plan should illustrate typical Iowa. The Plant Life Commission agreed to this plan.

The matter of Capitol extension and the commission created

²³⁴*Successful Farming*, Oct., 1913.

²³⁵*Rept. 1a, State Hort Soc.*, Vol. LIV, p. 367, 1920.

²³⁶*Ibid.*, Vol. LIV, p. 364, 1920.

²³⁷*Ibid.*, Vol. XIII, p. 111, 1879.

has been fully described by Mr. Harlan in the ANNALS OF IOWA.²³⁸

This Plant Life Commission was created in response to the urgent request of Edgar R. Harlan, who with great energy and skill worked out a plan to enlarge the Capitol grounds, and who, with E. L. Masqueray in a masterly way, presented the plans of the Capitol grounds. It had the hearty approval of Governors Carroll, Clarke and Harding. Mr. Fogelsong was the landscape architect employed by the Executive Council. The commission studied carefully all plans.

Early in the history of the building of the Capitol at Des Moines the register of the State Land Office, Theodore S. Parvin, urged the saving of trees on the Capitol grounds. I am indebted to Mr. Harlan for this reference to Mr. Parvin. In his article on "First of Iowa Conservationists,"²³⁹ he says, in referring to the statement of Mr. Parvin, that it is "the earliest conservation utterance we have encountered of an Iowa public man."

Mr. Parvin said, referring to the location of the seat of government in Des Moines upon a beautiful wooded eminence, "and the policy of the state should be to 'spare the trees,' protect and improve the grounds by a good substantial fence and guard against the vandalism which prevails so generally in the state to destroy, that the succeeding generation may have something to do in repairing their ravages. Better, far better, at less labor and expense preserve the beautiful native groves of native growth, than in after years expend greater sums to replace them."

Parvin's advice was not heeded. There are only a few of these native trees left on the State House grounds, a lone basswood, some ash and a few oaks—all the rest are gone.

T. S. Parvin was a great constructive leader. Mr. Harlan says, "His vision was clearer than that of any other public official of his time, and his visions often were registered in documents prepared in whole or in part by him."

R. F. Weirick in a paper, "City Playgrounds,"²⁴⁰ considers it is most important to give the people an outlet and cites Kansas City playgrounds as an illustration of a city with a vision.

(Continued in April number.)

²³⁸ANNALS OF IOWA, Vol. XI, pp. 96-114, 1913; Vol. XIV, pp. 3-32, 1923.

²³⁹ANNALS OF IOWA, Vol. XIII, pp. 469-70, 1922.

²⁴⁰Report Ia. State Hort. Soc., Vol. XLIII, p. 89, 1909.

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