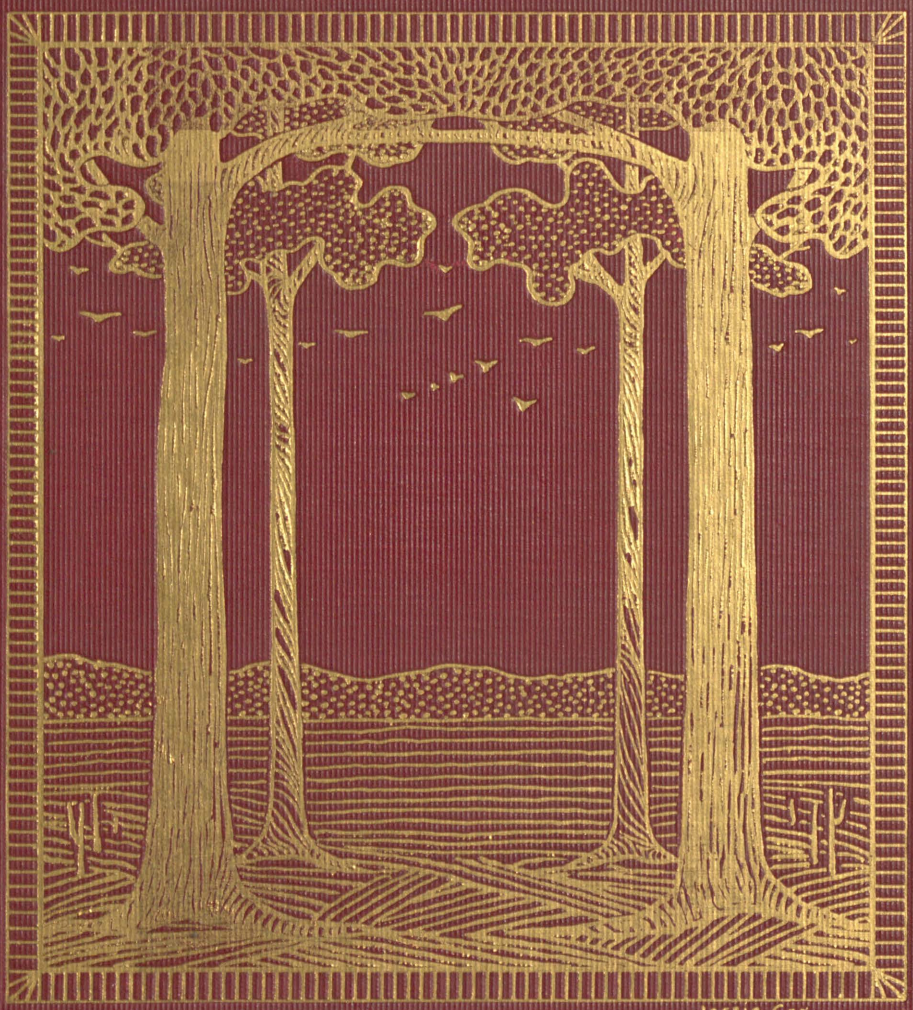
KENTUCKY ARBOR AND BIRD DAY 1914 - 1915



KENTUCKY

ARBOR AND BIRD DAY

1914--1915

COMPLIMENTS OF

Barksdale Hamlett

SUPERINTENDENT PUBLIC INSTRUCTION

COMPILED BY

MRS. V. O. GILBERT

ISSUED BY

BARKSDALE HAMLETT, LL. D.

STATE SUPERINTENDENT

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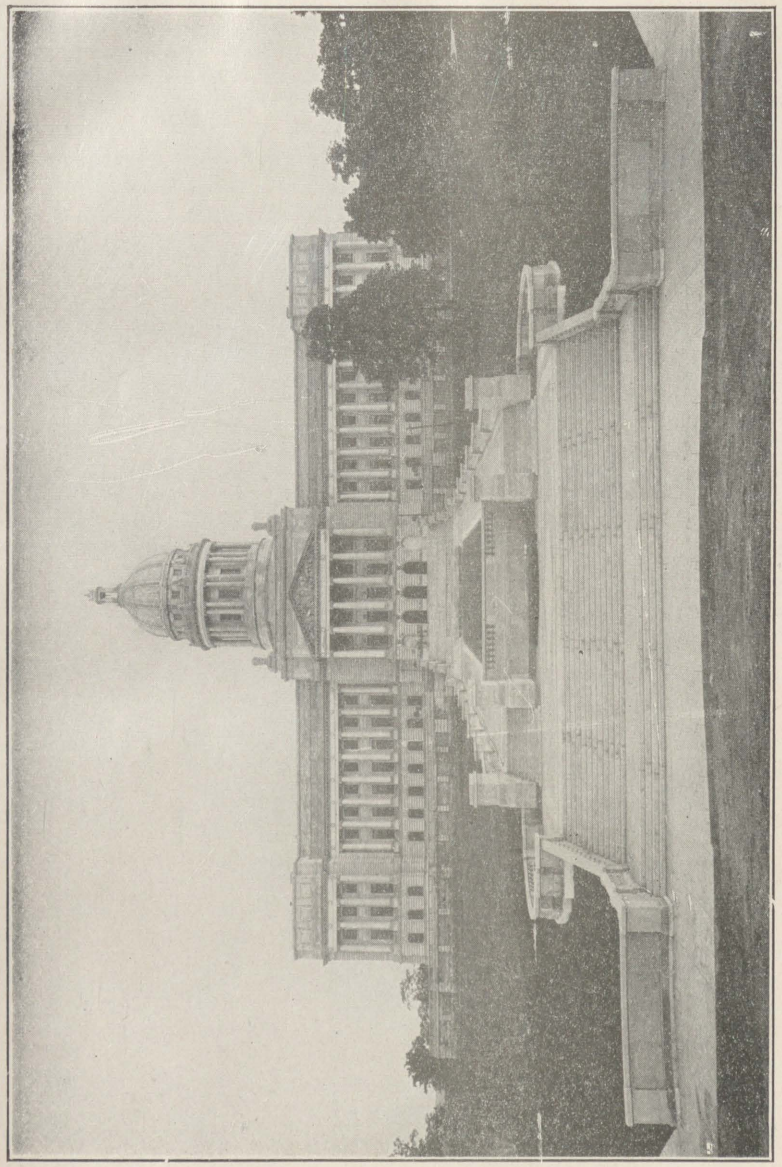
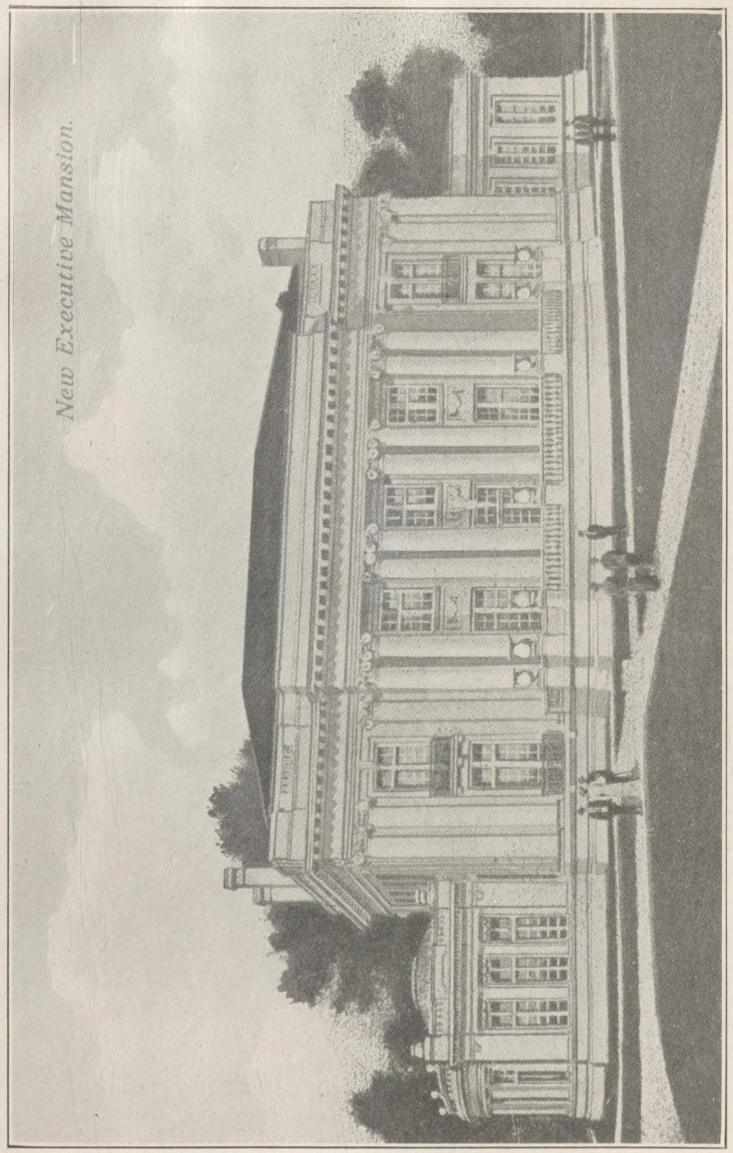


NEW STATE CAPITOL, FRANKFORT, KENTUCKY.



New Executive Mansion.

BARKSDALE HAMLETT, LL. D.
State Superintendent of Public Instruction.

COMMONWEALTH OF KENTUCKY

EXECUTIVE DEPARTMENT

ARBOR DAY PROCLAMATION BY THE GOVERNOR

I, James B. McCreary, Governor of the Commonwealth, do issue this proclamation, designating Friday, November 6th, 1914, as Arbor Day for the Commonwealth of Kentucky, and request its observance by the planting of trees and such other exercises as may be deemed proper.

The attention of all the people, and especially the teachers and pupils of all the colleges and schools, is called to the importance of planting trees. Every proper effort should be made for the renewal of our forests.

In the last decade there has been great development along forestry lines in the United States. The inauguration of forest management in the national forests, the activity of various states in public forestry and the interest of private owners in tree-growing have resulted in marked improvement in everything connected with forestry. There are now a number of colleges in the United States where forestry is included in the curriculum. In the last few years there has been a constantly increasing activity in the forestry of the various states, and now thirty states have some kind of organization for forestry work.

I call upon the people to give more attention to the observance of Arbor Day in Kentucky than has been given heretofore. I not only desire the students of all the colleges to take an active interest in the setting out of trees, but the pupils of

every common school in the State could render immense service by each of them setting out one tree on Arbor Day.

School house yards, home yards, public roads, pastures and fields should be beautified with trees. Our natural forests are diminishing, and we must not only save what is left of the forests, but we must re-forest the cut-over, the burnt-over and the unforested districts of the State.

In testimony whereof, I have caused these letters to be made patent and the seal of the Commonwealth to be hereunto affixed. Done at Frankfort, the fourteenth day of October, in the year of our Lord one thousand nine hundred and fourteen, and in the one hundred and twenty-third year of the Commonwealth.

[SEAL]

(Signed)

James B. McCreary

By the Governor,
(Signed) C. F. CRECELIUS,
Secretary of State.
(Signed) By CECIL H. VANSANT,
Asst. Secretary of State.

COMMONWEALTH OF KENTUCKY.

DEPARTMENT OF EDUCATION

FRANKFORT

August 24, 1914.

More attention should be given to the observance of Arbor Day.

Trees are our friends; they protect us from the glare of the sun in summer and shield us from the chilly blasts of winter. They clothe our mountain slopes and hill tops and husband our supply of water. They add beauty to the streets of our cities and towns. They adorn the green sward of our homes. Noble trees do not attain their growth in a day. The fullness of years is theirs.

From an acorn to a mighty oak is more than the span of a human life. The foresight and kindness of our fathers and forefathers have given us many of the trees most highly prized. With the unselfishness of our forebears, let us plant the forest, the shade and fruit trees and pass on to those who follow that which has been handed down to us. In this spirit and in accordance with established custom, I hereby designate and set aside as Autumn Arbor Day, Friday, Nov. 6, 1914, and earnestly urge that teachers and pupils in all public and private schools of this Commonwealth, with an appreciation of the needs and comforts of the coming generations, will observe this day by the planting of trees, and with suitable exercises.

Barksdale Hamlett

State Supt. of Public Schools.

TREES

TREES.

Trees are man's best friends, furnishing him with more of the necessaries of life than any other single plant and giving to him many of the keenest pleasures of his experience.

It is important that we come to understand and realize that a tree is a breathing, feeding, living thing, bearing in all respects, except the nervous system, a close resemblance to animal life, having a digestive, circulatory and breathing system.

Kentuckians, blessed beyond almost any other people in the world with the variety and beauty of their trees, have been most prodigal and wanton in the waste and destruction of her forests until the time is ripe for not only a conservation of her forests left, but for a reforestation of her denuded areas.

With a love for trees and a much greater love for the generations who are to follow, the compiler of this little Bulletin is anxious that it may stir the hearts of those into whose hands it may come to more appreciation and greater love for trees, so that the children shall know how to plant, protect and care for these trees so necessary to man's comfort and happiness.

We realize that it is no easy task to change the attitude of our people, which for two hundred years has been one of prodigality, to conservation and reforestation. "What we would have appear in the lives of the next generation, we must put into the lives of the children of this." This is largely the work of the teachers, and we earnestly appeal to the noble men and women of this profession to take this matter upon their hearts and at once begin to create an interest in and love for trees, not only in the lives of the children, but arouse the parents, as far as possible.

If each teacher of a rural school could have twenty trees planted in his district once a year, and this would be a light task, if every one should accomplish this much, it would mean the planting of 150,000 trees each year. What a blessing these trees would be to the next generation!

NATIVE TREES OF KENTUCKY.

PINE FAMILY—CONIFERS PINACEAE.

Short-leaf Pine	Pinus echinata.
White Pine	Pinus strobus.
Pitch Pine	Pinus rigida.
Scrub Pine	Pinus virginiana.
Canadian Hemlock	Tsuga canadensis.
Bald Cypress	Taxodium distichum.
Red Cedar	Juniperus virginiana.

WILLOW FAMILY—SALICIACEAE.

Cottonwood	Populus deltoides.
Swamp Cottonwood	Populus heterophylla.
Large-toothed Aspen	Populus grandidentata.
Black Willow	Salix nigra.
Long-leaf Willow	Salix fluviatilis.
Glaucous Willow	Salix discolor.

WALNUT FAMILY—JUGLANDACEAE.

Black Walnut	Juglans nigra.
White Walnut or Butternut	Juglans cinerea.
Shagbark Hickory	Hicoria ovata.
Kingnut	Hicoria laciniosa.
Black Hickory	Hicoria glabra.
Mockernut	Hicoria alba.
Pecan	Hicoria pecan.
Bitternut	Hicoria minima.

BIRCH FAMILY—BETULACEAE.

American Hornbeam	Carpinus caroliniana.
Ironwood	Ostrya virginiana.
Water Birch	Betula nigra.
Yellow or Gray Birch	Betula lutea.
Cherry or Black Birch	Betula lenta.

BEECH FAMILY—FAGACEAE.

American Beech	Fagus ferruginea.
Chestnut	Castanea dentata.
Chinquapin	Castanea pumila.
White Oak	Quercus alba.
Bur Oak	Quercus macrocarpa.
Post Oak	Quercus minor.
Overcup Oak	Quercus lyrata.
Chestnut Oak	Quercus prinus.
Chinquapin Oak	Quercus acuminata.
Swamp White Oak	Quercus platanoides.

Basket Oak	Quercus michauxii.
Red Oak	Quercus rubra.
Black Oak	Quercus velutina.
Scarlet Oak	Quercus coccinea.
Texan Oak	Quercus texana.
Pin Oak	Quercus palustris.
Spanish Oak	Quercus digitata.
Swamp Spanish Oak	Quercus pagodaefolia.
Black Jack	Quercus marilandica.
Shingle Oak	Quercus imbricaria.
Willow Oak	Quercus phellos.
Bear Oak	Quercus nana.
Water Oak	Quercus nigra.
Laurel Oak	Quercus laurifolia.

ELM FAMILY—ULMACEAE.

White Elm	Ulmus americana.
Slippery Elm	Ulmus pubescens.
Rock Elm	Ulmus racemosa.
Winged Elm	Ulmus alata.
Hackberry	Celtis occidentalis.
Sugarberry	Celtis mississippiensis.

MULBERRY FAMILY—MORACEAE.

Mulberry	Morus rubra.
Osage Orange	Toxylon pomiferum.

MAGNOLIA FAMILY—MAGNOLIACEAE.

Tulip Tree	Liriodendron tulipifera.
Cucumber Tree	Magnolia acuminata.
Umbrella Tree	Magnolia tripetala.
Ear-leaved Umbrella	Magnolia fraseri.
Large-leaved Umbrella	Magnolia macrophylla.

CUSTARD APPLE FAMILY—ANONACEAE.

Pawpaw	Asimina triloba.

LAUREL FAMILY—LAURACEDE.

Sassafras	Sassafras.

WITCH HAZEL FAMILY—HAMAMELIDAECAE.

Sweet Gum	Liquidambar styraciflua.
Witch Hazel	Hamamelis virginiana.

PLANE TREE FAMILY—PLATANACEAE.

Sycamore	Platanus occidentalis.

ROSE FAMILY—ROSACEAE.

Wild Black Cherry	Prunus serotina.
Wild Yellow Plum	Prunus americana.
Service Berry	Amalanchier canadensis.
Haws	Genus crataegus.

PEA FAMILY—LEGUMINOSAE.

Black Locust	Robinia pseudacacia.
Honey Locust	Gleditsia triacanthos.
Kentucky Coffee Tree	Gymnocladus dioicus.
Yellow Wood	Cladrastis lutea.
Red Bud	Cercis canadensis.

RUE FAMILY—RUTACEAE.

Three-leaved Hop Tree	Ptelea trifoliata.

HOLLY FAMILY—AQUIFOLIACEAE.

American Holly	Ilex opaca.
Mountain Holly	Ilex montana.
Deciduous Holly	Ilex decidua.

MAPLE FAMILY—ACERACEAE.

Sugar Maple	Acer saccharum.
Black Maple	Acer nigrum.
Silver Maple	Acer saccharinum.
Red Maple	Acer rubrum.
Mountain Maple	Acer spicatum.
Striped Maple	Acer pennsylvanicum.
Boxelder	Acer negundo.

BUCKEYE FAMILY—AESCULACEAE.

Ohio Buckeye	Aesculus glabra.
Yellow Buckeye	Aesculus octandra.

BUCKTHORN FAMILY—RHAMNACEAE.

Yellow Buckthorn	Rhamnus caroliniana.

LINDEN FAMILY—TILIACEAE.

American Linden	Tilia americana.
White Basswood	Tilia heterophylla.

GINSENG FAMILY—ARALIACEAL.

Angelica Tree	Aralia spinosa.

DOGWOOD FAMILY—CORNACEAE.

Tupelo Gum	Nyssa aquatica.
Black Gum	Nyssa sylvatica.
Flowering Dogwood	Cornus florida.

HEATH FAMILY—ERICACEAE.

Great Laurel	Ihododendron maximum.
Sour Wood	Oxydendron arboreum.

EBONY FAMILY—EBENACEAE.

Persimmon	Diospyrus virginiana.

STORAX FAMILY—STYRACACEOE.

Silver-bell Tree	Mohrodendron carolinum.

OLIVE FAMILY—OLEACEAE.

White Ash	Fraxinus americana.
Red Ash	Fraxinus pennsylvanica.
Green Ash	Fraxinus lanceolata.
Blue Ash	Fraxinus quadrangulata.
Black Ash	Fraxinus nigra.
Fringe Tree	Chionanthos virginica.

CATALPA FAMILY—BIGNONIACEAE.

Western Catalpa	Catalpa speciosa.
Catalpa	Catalpa bignonioides.

LIST OF TREES IN DOUBT.

Table-mountain Pine	Pinus pungens.
Ward Willow	Salix wardi.
Planer Tree	Planera aquatica.
Sweet Crab	Pyrus coronaria.
Mountain Ash	Pyrus americana.
Water Locust	Gleditsia aquatica.
Water Gum	Nyssa biflora.
Buckthorn Bumelia	Bumelia lycioides.

FOREIGN TREES THAT HAVE BECOME SPONTANEOUS IN KENTUCKY.

White Poplar	Populus alba.
White Willow	Salix alba.
White Mulberry	Morus alba.
Paper Mulberry	Morus papyrifera.
Tree of Heaven	Ailanthus glandulosa.
Paulownia Tree	Paulownia tomentosa.
English Hawthorn	Crataegus oxyacantha.

Each of the above trees is described minutely in the valuable little book from which this list was taken, "Native Trees of Kentucky," by Mrs. Sarah Webb Maury.

HISTORY OF ARBOR DAY.

The old Swiss chronicle relates that away back in the fifth century the people of a little Swiss village by the name of Brugg determined to secure a forest of oak trees on the common. More than a dozen sacks of acorns were sown and after the work was done each participant received a wheaten roll as a reward for his labors. For some reason unexplained the acorns refused to grow. The people, however, were determined to have an oak grove, so a day was appointed and the entire community, men, women and children, marched to the woods, where each very cheerfully dug up a sapling and transported it to the common, where a competent gardener superintended its planting. At the close of the tree planting each boy and girl was presented with a roll, and in the evening the grown people had a merry feast and frolic in the town hall. The saplings were well watered and cared for by details of citizens under direction of the gardener, the work being voluntarily done, but every one was expected to do his share. In the course of years a fine grove was the result, which furnished a place of shade, rest and recreation for the citizens and their descendants. For years the anniversary of this tree planting was observed by the people of this town with appropriate exercises, among them being a parade of the children carrying oak leaves and branches, at the close of which rolls and other eatables were distributed in commemoration of the event. It is said a similar feast still exists in this and other villages of Switzerland.

The rapid destruction of the forests in our country called attention of students of forestry to the dangers which confronted us and brought forth numerous publications on the subject of forest preservation. It devolved, however, upon "Treeless Nebraska" to institute systematic tree planting on a given day through the organized efforts of schools and citizens. The Hon. J. Sterling Morton is generally credited with originating the idea. In 1872, acting upon his suggestion, the Governor of the State issued a proclamation designating Arbor Day and asking that the schools and citizens generally observe the day by appropriate exercises and tree planting. The setting April sun saw over a million trees planted in Nebraska

soil as a result of the first Arbor Day celebration. In 1885, Arbor Day, April 22nd, Morton's birthday, was made a legal holiday in Nebraska.

The originator of the idea lived long enough to see Arbor Day adopted in more than forty States and Territories, to record millions and millions of trees added, to note thousands of school houses change cheerless surroundings for those of comfort and beauty, and to feel that in stimulating the planting of trees he had been an active factor in fostering a love for the school, the home and our country.—Illinois Arbor and Bird Day Manual.

THE SIGNIFICANCE OF ARBOR DAY.

Arbor Day in its broad significance has far outgrown the thought of its founders. In its beginning it signified little more than the planting of a tree. Today it is closely related to the whole "out-of-door" movement.

The great improvement in the appearance of school grounds during the last few years has been a direct result of the observance of Arbor Day. Only a few years ago in our larger villages and cities little thought was given to the grounds surrounding the school. Today, however, there are few schools in the State, even in the rural communities, where there is not a real pride in the school surroundings.

Such pride is proper. There is as real educational value in well-kept grounds as there is in appropriate decorations in the schoolroom. School boys and girls will become stronger and better men and women through the almost unconscious influence of the beautiful in nature.

Arbor Day should be a day of beginnings which should last through the entire year. If a tree or shrub is planted it must be given care. The setting of the roots in the soil is only the first step. The necessary watering, the placing of guards and the watching against injurious insects and other enemies give opportunity for the exercise of constant, intelligent thought. Without continuing throughout the year the work begun on Arbor Day the whole effort is lost and the lessons of real worth forgotten.

The question is often asked, "What trees shall we plant?" Select the trees of your own locality. It is a most interesting

study to search out the important species in any given section of the State and to note their habits. The list in many cases will be long and will include many ornamental trees. Such excursions might well be made the nature study work during the spring months and also furnish excellent material for classroom exercises. With the vast inroads which are being made upon our forests it may be only a few years until the virgin forest will be only a memory and our excursions will be limited to cultivated forests and ornamental trees.

We are only beginning to appreciate the great beauty of shrubbery. It not only has a distinct value in lawn treatment but may be used very effectively where trees would be undesirable. Shrubbery, or hedges, may be found today on many school grounds and doubtless the use of these will soon become much more general.

In selecting a special theme as has been done the past few years it is not the thought to limit the exercises in any way to the subject chosen. Local conditions may be found which will render an entirely different program of much more value. The school garden may be the center of outdoor activity. If so, let this be emphasized. It may be that the addition of small shrubs or hedges may add something in an ornamental way. This feature of school work which in so many places has given both pleasure and profit is doubtless a result of the Arbor Day movement. School gardens are daily teaching lessons which can be learned only by actual contact with nature and with the soil. In the observance of the day make use of any material at hand from which the best results may be secured. This may relate to the general appearance of the school grounds, ornamental trees, shrubbery, the school garden, the study of agriculture, fruit trees of the locality, the farm wood lot, or even the more general subject of our forests. The vital point is not so much the special subject considered as the relating of the day to the real activities of the life of your community. The work begun on Arbor Day, even though it may be the mere planting of a vine, must be only a beginning. The results must be enduring.

A. S. DRAPER,
Commissioner of Education, New York.

SUGAR MAPLE, ROCK MAPLE

SUGAR MAPLE, ROCK MAPLE

Rock Maples are found throughout the U. S., but most abundant in the primitive soils of New England, constituting the greater part of some of its forests. It is a tree of lofty proportion, 70 ft. in height and reaching a maximum of over 100 feet, with a trunk 3 feet in diameter. The bark is of a light-gray color, rough and scaly. The branches become numerous and finally ramified in open situation, and in summer are clothed with a foliage of uncommon luxuriance and beauty, on which account it is more extensively cultivated as a shade tree than any other, not even excepting the majestic and favorite elm. Maple sugar, perhaps the most delicious of all sweets, is mostly the product of this species. An ordinary tree will yield 5-10 pounds in a season. The wood is very strong and compact and makes the best of fuel. It is sometimes curled, like the red maple, but oftener presents that beautiful arrangement of fiber called bird's-eye maple, which is highly esteemed in cabinet work. The flowers are exceedingly abundant and, suspended on long, thread-like pedicels, are most delicately beautiful.

A MESSAGE FROM J. E. BARTON, STATE FORESTER.

(Prepared expressly for this Bulletin.)

Since the observance of Arbor Day has become so general throughout the United States, there seems danger that in the mere formalities of the day we shall lose track of the actual significance and the fundamental ideas underlying the custom.

In the Spring of 1913, we all remember, there were enormous floods over a large area of the Eastern United States. In Ohio, Kentucky and along the lower Mississippi, they were especially disastrous and caused a great deal of damage and loss to the people of the States involved. In no small measure these floods were directly attributable to the fact that the people of these States have been cutting away their timber from the headwaters of the streams and have done nothing to replace it, with the result that the water which falls in the form of rain and snow in the winter and spring washes very rapidly into the streams, so that now the engineers of the United States have an immense problem on their hands in the matter of the control of the floods, especially on the Ohio and Mississippi Rivers, a problem which is greater than that involved in the building of the Panama Canal. The damage which the lack of forests at the headwaters of the streams causes is this: (1) the rainfall instead of running off gradually goes off all at one time; (2) because the rainfall runs off all at one time the ground is eroded, great gullies are torn in the soil and large amounts of valuable soil are carried down into the streams, there to clog up the streams and destroy the purity of the water supply and interfere with navigation; (3) the cutting away of the forests increases the amount of evaporation and encourages high and destructive winds. The forest, in addition to its protective functions, furnishes an enormous amount of valuable material which is used in the manufacture of so many articles that the reading of a list of them would be exceedingly tiresome. Because of the extent of the use of wood, the drain on our forests is enormous. In Kentucky in 1913 the amount of lumber cut was 541,531,000 feet board measure, which does not include a large variety of uses of wood pro-

ducts such as poles, posts, cross ties, tan bark, etc. But this was over 100,000,000 feet B. M. less than in 1912. There was mined in Kentucky in 1913 approximately nineteen million tons of coal. It is estimated that for each ton of coal mined 3 ½ ft. board measure of timber is used, which means that over sixty-five million feet of board measure of timber was used in the form of mine timbers, lagging, etc. It is easy enough to see by this brief statement of the facts why timber is a valuable asset, since it enters into the numerous manufactures of the State, employs a vast number of people and furnishes a large revenue to the State and to the people engaged in the industry in the form of wages. It is certainly a foolish proposition for Kentucky as a State to observe the depletion of its forest resources and not take definite steps to protect and conserve the forests which remain and to replace the forests which have been cut and are now being cut.

The observance of Arbor Day serves to rivet the minds of all of us on this necessity, and such planting trees as may be done throughout the State is valuable insofar as it is an incentive to the preservation and extension of the forest wealth of the community. The single point of view of the forester with regard to the forests is that of utility. He can not afford to look at the matter from any other standpoint than the business standpoint. In our observance of Arbor Day, we are inclined to let the matter go simply with the planting of the trees and none of the features of the planting are carefully worked out, such as the preparation of the ground for the planting, the character and kind of trees planted and the care of the trees after the planting has been accomplished. It is to these features of forest planting which I desire to call attention briefly. The planting of the tree is not a haphazard operation. It needs as much care and attention as the planting of a rose bush on the front lawn receives from the gardener. In the first place, where a wild tree is taken from the forest to be planted, care should be taken that the tree is not too large. A tree three feet high is plenty large enough to obtain the best results. No advantage is gained by selecting the larger stock; in fact, the chances are that a tree of a large size will not live, and, if it does, it takes it a long time to recover from the operation of

transplanting. Second, the ground should be thoroughly prepared for the reception of the tree. The hole should be large enough so that the tree has plenty of chance to start and to push its root system out so that it can obtain the necessary moisture. The larger the hole the better chance the tree has. This is especially true with regard to beech trees. Third, the root system should not be allowed to dry out from the time the tree is removed from its original place until the time it is planted. This is one of the points with regard to which the greatest care should be used. Fourth, the tree should be planted at approximately the same depth as it originally occupied in the ground. The roots should be so placed that they will occupy about the same position that they did originally. Rich earth should be supplied for the tree to start in, and this should be firmly pressed around the roots of the tree except at the surface, where it should be left loose as a mulch. Fifth, the top of the tree should be very decidedly pruned back in order that the root system may have the least possible crown to support during the time when it is establishing itself. Sixth, the tree should be carefully looked after and watered after the planting, especially during the summer following the planting; otherwise, it is almost sure to die.

Trees may be secured either by transplanting them from the nursery or from the woods where they grew naturally or they may be raised from the seed. A suggestion from California with regard to the raising of trees for school planting is timely. Tin cans are secured of the quart size. One end of the can is removed either by a can opener or by melting the solder. In the bottom of the can two cuts are made at right angles either with a hatchet or with a can opener to provide drainage. Seeds are then planted in the can and allowed to germinate and grow. At the proper time the young trees are set out, can and all, in the ground at the place where the tree is desired. The tin can soon corrodes and disappears, leaving the tree to grow on undisturbed. There are a large number of varieties in Kentucky which lend themselves easily to forest planting, and a list of them is hereby given. This list includes only trees which are of commercial importance and are native to Kentucky.

Common Name.	Scientific Name.
Sugar Maple	Acer saccharum.
Tulip Poplar	Liriodendron tulipifera.
White Ash	Fraxinus americana.
White Elm	Ulmus americana
White Oak	Quercus alba.
Red Oak	Quercus rubra.
Cow Oak	Quercus michauxii.
Bur Oak	Quercus macrocarpa.
Chestnut	Castanea dentata.
Black Locust	Robinia pseudacacia.
Walnut	Juglans nigra.
Sweet Gum	Liquidambar styraciflua.
Wild Cherry	Prunus serotina.
Shagbark Hickory	Hicoria ovata.
Pecan	Hicoria pecan.
Beech	Fagus ferruginea.
American Linden	Tilia americana.
Cucumber Tree	Magnolia acuminata.
White Pine	Pinus strobus.
Red Cedar (Juniper)	Juniperus virginiana.

NATURE LOVER'S CREED.

I believe in nature and in God's out-of-doors.

I believe in pure air, fresh water and abundant sunlight.

I believe in the mountains, and as I lift up mine eyes to behold them, I receive help and strength.

I believe that below their snowy crowns their mantles should be ever green.

I believe in the forests where the sick may be healed and the weary strengthened; where the aged may renew their youth, and the young gather stores of wisdom which shall abide with them forever.

I believe that the groves were God's first temples, and that here all hearts should be glad, and no evil thought come to mar the peace; I believe that all who seek shelter within these aisles should guard the noble heritage from harm, and the fire fiend never be allowed to roam unwatched.

I believe in the highland springs and lakes, and would have noble trees stand guard around them; upon the mountain sides I would spread a thick carpet of leaves and moss through

WHITE OAK

WHITE OAK

Although not the largest, yet the White Oak is considered the most important of the American trees of the Oak family. It may be distinguished from the other oaks by the light color and scaly surface of the bark, which is without any deep corrugations. Its wood, which is hard, strong and close-grained, is in great demand for constructive purposes in naval, civil and military engineering. It stands next to the British Oak, Quercus robur, in the value of its timber. Its bark is used for tanning purposes. The leaves of the White Oak are marked by several oblong, rounded lobes, without deep sinuosities. In Autumn they turn to a pale, chalky-red, and only leave the tree when pushed off by the new foliage in the Spring.

which the water might find its way into the valleys and onward to the ocean.

I believe in the giant trees which have stood for thousands of years, and pray that no harm shall come nigh them.

I believe in the axe of the trained woodsman and would have it hew down the mature trees of today that we may secure lumber for our needs, and the trees of smaller growth have more light and air and space.

I believe in the seeds of the trees, and would gather and plant them, and I would care for the seedlings until they are ready to stand with their brothers in the forests and plains; then the wilderness and the dry land shall be glad and the desert shall rejoice.

I believe in protecting the birds and the animals that live amidst the trees, and the ferns and mosses and blossoming plants.

I believe in all the beautiful things of nature, and would preserve, protect and cherish them.

"Come let's to the fields, the meads, and the mountains,
The forests invite us, the streams and the fountains."

—By Mrs. P. S. Peterson, in Vick's.

ARBOR DAY.

(From Arbor Day Address, by Dr. T. J. Burrill, Vice President of the University of Illinois.)

The groves were God's first temples and they were man's first tabernacles. Here he first worshipped, first held conscious communion with the overshadowing and soothing spirit of the unseen world. Here he first found holy ground where he must needs put off the earth-stained sandals from his feet, and where he must make bare his head, while the summer breeze in the leafy canopy of overarching trees murmured like the still small voice of his inner being and of his aspiring soul. Here, as no where else, man in his earliest history met his Maker, as it were, face to face and being to being.

Long before Plato gave to his listening disciples those wonderful lessons upon human life and human destiny in the leafy shade upon the Athenian plain, man had found society and kinship in the century-telling trees. Ever since

> "Hand in hand alone they passed
> On to their blissful bower,"

as Milton describes our first parents, the leaf screened path, the shady woodland retreat have been in poetic idealization a place of the sweetest repose, the open gate-way of love, and the perfumed ante-chamber of uplifting devotion. Mahomet may indeed have received his revelation in a cave, from which he issued forth, as perhaps might have been predicted, with a drawn sword; but the Son of Man walked and taught and prayed on the olive crowned hills of Judea, and in the fullness of time found His sepulchre in a garden.

In our own country in early times, it was not the prairie, bedecked with flowers and carpeted with living green, undulating in gentle slopes, and stretching away to

> "That Horizon's fair deceit
> Where Heaven and Earth alas, appear to meet,"

that first invited the pioneer to build his cabin, and to start his new home. Despite their beauty, the wide open lands were to him wild and cold. Nature was full of display but was without benevolence; without welcome to the stranger seeking acquaintance and hoping to find some response to his instinctive longing for compansionship. To him the prairie was like the sea, and the white canvas he displayed, crossing from haven to haven in the groves, helped to complete the comparison. Indeed, it was not until man learned to master the stern reign of natural law, after centuries of education and experience, that he was able to make a home on the vast areas of our Grand Prairie region. Without the science and inventions of modern times, without the helps of the present century's production, this great portion of Illinois, fertile as we know it to be, would still be uninhabited by man, whatever the crowding of population elsewhere. It was not only because immigrants were more accustomed to wooded countries

that they sought such locations here. Neither was it from any sentimental attachment to trees. These men were ruthless destroyers by ax and by fire of the finest specimens constituting the primitive forests of our country. But they settled in and near the timber from the force of necessity. They had to have shelter to live. Their implements were poorly adapted to the subjugation of the prairie sod and to the cultivation of the prairie soil. For countless ages, the red men had found homes in the groves, but they never pitched their wigwams on the prairies; and the white man, when he first came, for the same reasons, followed the practice of his swarthy predecessors.

Now the pale faced intruder has learned in some respects more wisdom than had these children of the forests. Dominion of the earth and of the sea, even of this sea of land, has been gained and what was before inaccessible and unconquerable, is converted into the richest agricultural domain of the world. The asters and the sunflowers, the showy golden rod and the brilliant asclepias are gone; but a new generation of a thriving populace, and these out of inherited love and an abiding sense of the fitting and desirable, are planting and caring for trees to help adorn the home grounds and to make a home something to the inmates besides a mere place. Here the hunger of the aesthetic sense is to be satisfied, as well as that of the stomach. Here the family is to live in a true and full sense. Here the children are to find attachments which no subsequent allurements of earth can destroy.

The prairies no longer exist. The treeless expanse can no longer be found. Civilized man is in possession, and where he now goes the landscape soon bears testimony to his love for trees in connection with his rural abode.

The time surely ought to be at hand when similar attention should be paid, and for similar reasons, to the proper planting of school grounds. For the most part, little has been done in this direction, though it would seem that as places provided and set apart for educational purposes, for the training of the rising generation not only for the three Rs, but for all that makes life better, more wholesome, more satisfying, and more worthy of educated people, they should have been thought of first and foremost in this respect. It is thoroughly

well understood and readily acknowledged that the silent influences of surroundings, of environment, in the later form of the expression, is a large element in the mental and moral nurture of human beings of all ages, and especially of the young, when impressions are most easily made and when they prove most enduring. We live much of life in memory. There are no pictures which so appeal to those who have passed the meridian as those which "fond recollection presents to the view." This is the well of living water from which not only the old oaken bucket may be drawn, but from which comes, bidden or unbidden, as from a perennial fountain, never failing draughts, bitter or sweet, each after its kind, according to the sources of the original supply. How important it is that the emotional side of youthful persons be properly educated or developed! This does not come as direct instruction; it is not a matter of question and answer in the class room; it is personal contact and association; it is the pervading and penetrating influences of the beautiful, or heart touching endearment, of inspiring and ennobling uplifts from the selfish and the sordid enthrallments of ordinary living. If we wish to add happiness to human life let us see to it that youthful loves are stimulated in the best direction, and that when so stimulated, that they are made strong and enduring.

ARBOR DAY.

PLANNING AND WORKING.

A little systematic thinking and planning for the future will make our Arbor Day celebrations doubly valuable. Too many of the trees, shrubs and plants are placed in the school yard on such occasions without reference to any general plan or thought for the future. Have a plan for the betterment and beautification of your school grounds. You may not and probably cannot carry it out completely this year, but see that a plan—the best one possible under the circumstances—is made as a guide for future work. Read all you can concerning well arranged school grounds. Get some definite simple plans in mind, then call a meeting of those interested. Have plans of

your school ground drawn on the blackboard, call for suggestions and improvements. Do not attempt anything too elaborate or expensive. A modest plan is much easier to carry out and frequently just as satisfactory. Settle on some simple, yet definite, plan for improvement and then work to its accomplishment.

In general the plan should be arranged to protect the school house, to set it off to the best advantage and at the same time leave ample play grounds. Trees scattered here and there through the grounds will be in the way and are likely to be broken by the boys in their play. It is better to mass the trees on the sides, leaving the center of the play ground open.

The outbuildings should receive attention. It may be necessary to move them to less conspicuous positions, to places where they can better be hidden by trees or vines. In case of an exposed position, it is well to plan for a mass of trees on the north and west sides of the ground for protection, unless the front of the school makes such an arrangement impossible. In any case a mass of foliage makes a good background for the house and furnishes shade for the pupils. The side next to the street should be brightened by small shrubs and flowers.

The yard immediately in front of the school house should not be used as a play ground nor should it be solidly planted with trees, shrubs or flowers. The planting of the front yard offers opportunity for a display of judgment and good taste. The first view of the school ground should be inviting and the entrance to it should be made as attractive as possible. In drawing your plan note your surroundings and leave openings in your planting to give views of any attractive farm houses, shady groves or pleasing bits of scenery.

Having drawn your plans you are ready for work.

BEGIN EARLY.

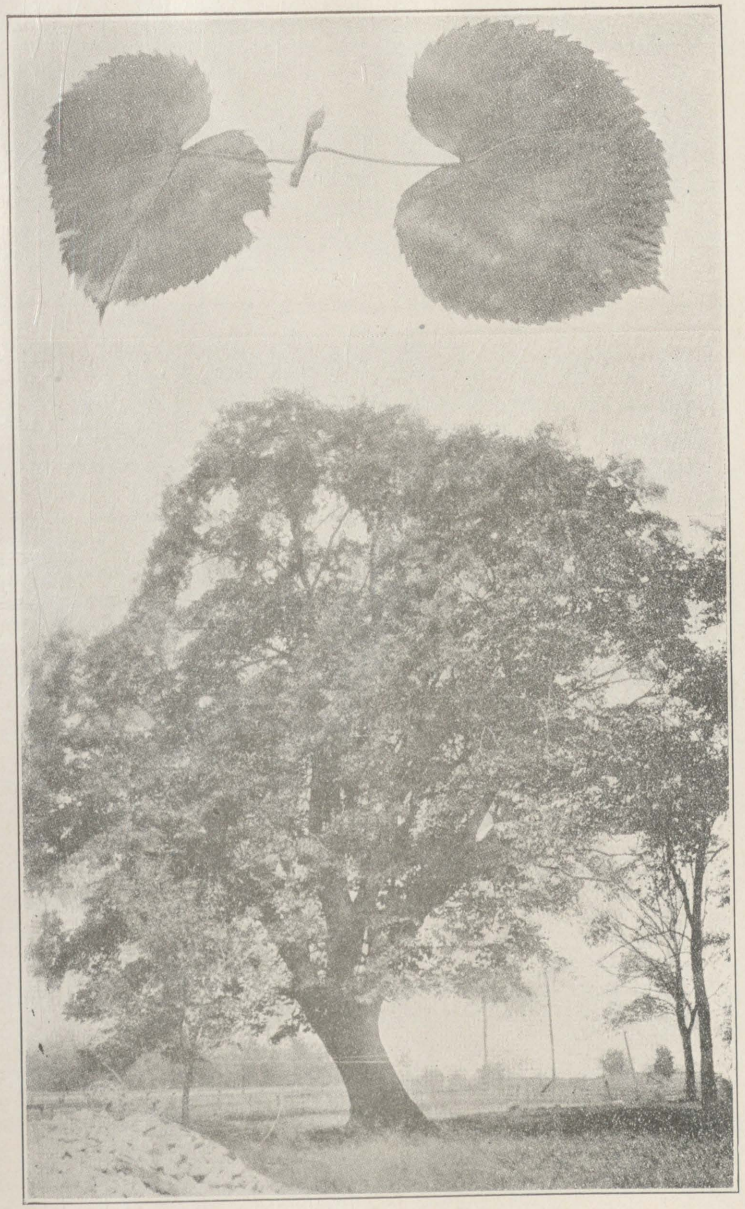
Interest the pupils in the work by short talks, exhibiting pictures and showing what has been accomplished by others. Give a holiday hour, or quarter day, in which every pupil participates in "clearing up" the yard preparatory to Arbor Day. Visit and talk with parents, securing their interest and cooperation. They will usually readily respond. In the country

districts it will be an easy matter to secure any needed assistance beyond that which can be given by the pupils. "A" will furnish a team to haul away rubbish; "B" another to go to the woods for trees and shrubs, or to the nursery when they cannot be readily obtained from nearby timber. "C" will send a man and team to do any necessary plowing. "D" will lend a hand to fix up the fence. Others will be equally ready and helpful. Let this work be done before Arbor Day date, so that on that day the patrons may see some definite results from Arbor Day spirit and be more ready to co-operate in the work of the future.

THE INFLUENCE OF ARBOR DAY.

The influence of Arbor Day exercises should be cumulative and cause continued activity in school ground improvement and home adornment. Not infrequently trees planted with imposing ceremonies on Arbor Day are soon forgotten and neglected and September finds but dead trunks, disappointing memorials of the occasion. It is not a difficult matter to interest the pupils and patrons of a district in an Arbor Day program. All will like the change from the regular work to that which partakes of the nature of a holiday celebration, but it is not so easy to arouse enthusiasm which will extend through the term into vacation time, which will care for trees in season and out of season and continue to work from term to term. Much depends on the teacher in starting the right kind of movement, but as the teacher's tenure of office is frequently of short duration, the responsibility must be shared and the work carried on by pupils and patrons.

In planning for Arbor Day look to the future and do not be content with simply a fine program. The exercises of the day should be pleasing, but they should be more, or they will fail of reaching the desired object. They should be interesting, but they should do more than cause the passing of a pleasant hour. They should contain sentiment, but that sentiment expressed should cause action. They must be inspiring and develop enthusiasm for comfortable and beautiful surroundings.



BASSWOOD, AMERICAN LINDEN, WHITE WOOD

BASSWOOD, AMERICAN LINDEN, WHITE WOOD

A common forest tree in the Northern and Middle-States. It grows to a height of from 60 to 125 feet; the trunk is often straight and naked for more than half this height (it varies in the field) and may reach a diameter of 2-3 feet. Leaves 4-5 inches; those of the young shoots often twice these dimensions. Fruit woody, greenish, of the size of pease. The inner bark is very strong and is manufactured into ropes. The wood is white, soft and clear, much used in cabinet work and in paneling of carriages.

They must stimulate organized continued effort by teachers, pupils and patrons for better things in the school district and in the home.

Arbor Day exercises of 1914 should result in the conversion of many treeless and cheerless school grounds into places of comfort and pleasure, should inaugurate numerous school gardens, and cause the transformation of innumerable unsightly back yards to gardens of profit and unkept front yards to bowers of beauty.

THREE KINDS OF PLANTING.

Plant Trees; by all means, Plant Trees. That's number one. But don't forget to

Plant also the Love of Trees. That's number two. For this kind of planting, the best soil is the heart of childhood and of youth. And while you are about it

Plant likewise Knowledge concerning Trees. That's number three. Not necessarily the Forester's technical knowledge; just a comfortable "working knowledge," you know. The leading species and how to distinguish them; how, and what kind, to select for planting—or to reject; how to set out a Tree; how to care for and protect it; and so on. Not very recondite knowledge this, and easy to impart—also easy to take in. And useful? Yes, masters, eminently useful; and, if Kentucky is to do its best in trees, indispensable.

Now, of the three plantings above recommended, number one would mean in time a Kentucky adorned throughout its length and breadth with stately trees. Number two would mean a Kentucky of tree-loving, tree-fostering, tree-protecting people. And number three a Kentucky noted for, and profiting by, its sound judgment in tree matters—its intelligence in the conservation of trees and in their planting, care, and protection.

Trees, love of trees, knowledge of trees, these three; and the greatest of these (one ventures to think) is Knowledge. For to know trees is to love them; and to love trees is to plant, care for, protect and conserve them. So the last becomes first; heads the shining list; leads unfailingly to the other two. And,

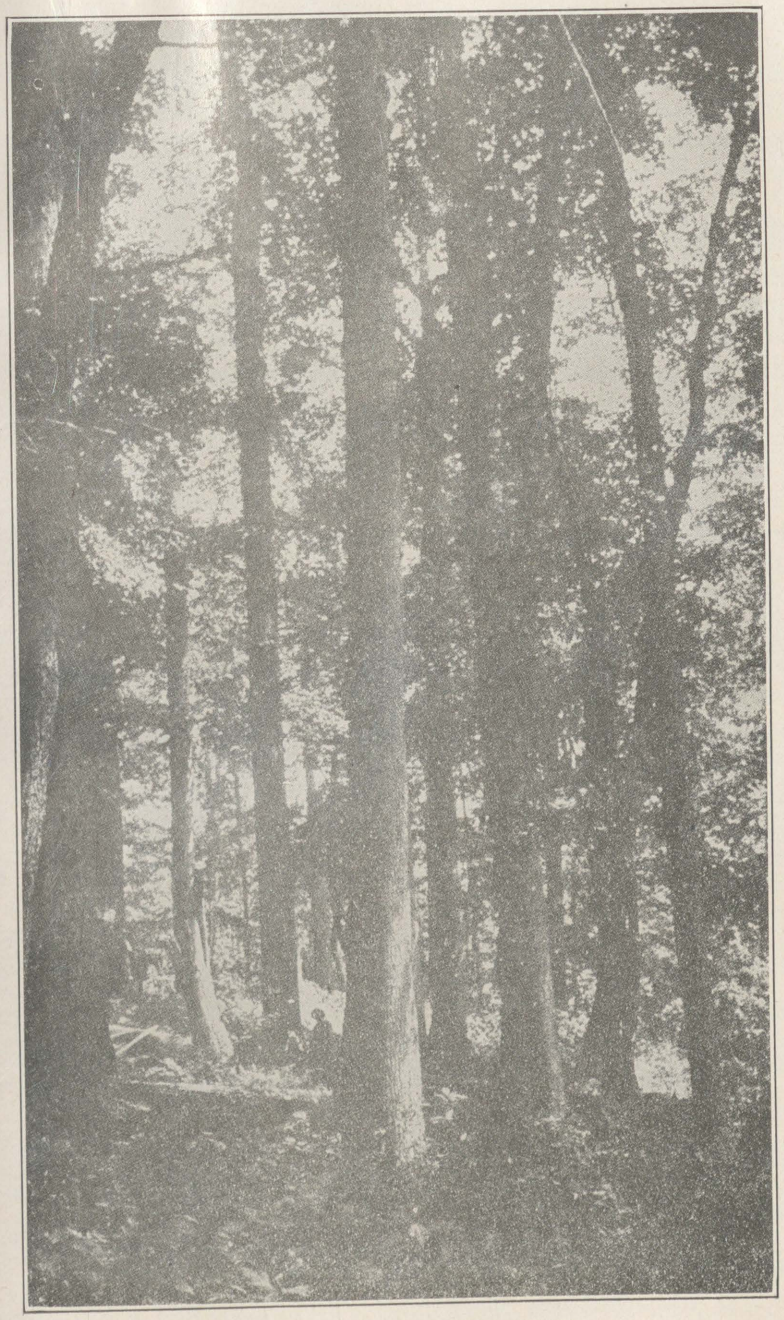
indeed, without Knowledge, love would be helpless and planting of little avail. "My people perish," 'twas said of old, "for lack of knowledge." And as with the people, so with the people's trees. Selah!—Adapted from Eighth Annual Report of the Newark Shade Tree Commission.

The average American does not seem to realize the significance of such truths as these:

1. Our native forests are rapidly diminishing.
2. As a consequence, our streams are drying up.
3. The soil is being robbed of its fertility.
4. The number of our native birds has decreased 46 per cent in the last 15 years.
5. Insects destroy consequently annually in this country alone $300,000,000 to $400,000,000 worth of produce.
6. It is almost a question of "Save our Birds," or "Lose our Trees."
7. Saving our birds means that cats, the English sparrows and crows must go.
8. To save our birds and better our trees and crops, we must consider bird life and encourage the birds in more friendly relations with us. —Atlantic Educational Journal.

TULIP TREE—LIRIODENDRON TULIPIFERA.

Originally, the Tulip Tree was found abundantly in all parts of the State; for years Eastern Kentucky supplied the world's market; in Western Kentucky it rivaled the White Oak in size and number; it was abundant in the Trade Water district of Northwestern Kentucky and was prominent among forest trees in the southern part of the State. In the early part of the Nineteenth century, Michaux reported a pure forest of Tulip Trees from Bardstown to Louisville. The great height, straightness and uniform diameter of its long clear trunk, easily placed the Tulip Tree in the foremost rank of Kentucky's valuable commercial trees. These facts, together with its special property of floating easily, brought it into the lumber market soon after the Walnut, so that the Tulip Tree today is found only in limited quantities in accessible parts of the State. Government experts are of the opinion that old



STATE TREE—TULIP TREE

cuttings, if protected from fire, furnish ideal conditions for a second growth, and that old deformed unsound seed trees, left standing, offer excellent opportunity for establishing new forests by natural reproduction, if the seedlings are given sufficient light and protection from fire and grazing.

The wood, which is easily worked, is used for ship-building, house construction, and is fast becoming prominent for exterior trimmings, cornices, porch posts and weather boarding. Curly growth is occasionally found, usually on one side of the tree, although Tulip Trees have recently been cut with the curl extending throughout the circumference. This curly wood brings a good price from veneer factories.

The Tulip Tree, or "Yellow Poplar of the Ohio River" meets successfully the severe requirements of the vehicle manufacturers, both on account of the high quality of its wood and the valuable aid given by the action of the water in seasoning it while the logs are floated down the river.

In former days the Indians made a choice of the Tulip wood for canoes because of its lightness; the early settlers made a drug from the bark with the tonic effect of Cinchona.

For planting in parks and along roadsides, the Tulip Tree is of exceptional excellence. There is no season when this tree is not full of beauty and interest, both to the tree lover and the botanical student.

The Tulip Tree has three names in common usage:

1. Yellow Poplar—from its supposed similarity in appearance to trees of the Poplar family.
2. Saddle Tree—from the shape of the leaves.
3. Tulip Tree—from the resemblance of its flower to the garden tulip, which it equals in size and shape. The flower is a bright greenish yellow with orange patches at base.

Tree—tall, 80 to 200 feet high; trunk large, continuous, tapering like a shaft; deeply furrowed with age.

Bark—close, thick, brown, aromatic.

Leaves—width and length nearly equal; shiny, leathery, with square tip.

Fruit—cone-like, with many flat-winged dry seeds attached to a central column.—Ky. Arbor and Bird Day, 1910.

THE VALUE OF THE TREE AND HOW TO PLANT IT.

(Written expressly for this Bulletin.)

THE VALUE OF A TREE.

Almost every school child in the State of Kentucky is familiar with the vast amount of property damaged, to say nothing of the anguish and suffering caused by the floods of the Ohio river and its tributaries. Do you boys and girls know that the floods that are becoming an almost annual occurrence, are directly the result of cutting away the forests at the headwaters of the Ohio River? Do you know that the long droughts throughout our own State, which are becoming so common during the summer months, are largely traceable to our own carelessness in cutting timber from our native woods?

When God created this old earth to give to us as a place of habitation, He was ever mindful of the needs of man. Deep down in her bosom, He placed beds of coal and veins of precious ores sufficient for the use of this and all succeeding generations. He created oceans, lakes and rivers and clothed the hillsides with the verdure of a thousand forests. So perfect was the architecture of the earth that there was an ever constant proportion in the distribution of water, land and forest. Then, that the plants might grow and blossom and the world be made fresh and green, He caused his gentle rain to fall, and the thirsty earth, kept mulched by the fallen leaves, drank up the trickling drops. Slowly forming into streams, they found their way to the ocean, where, by process of evaporation, they were carried up to the clouds and again fell as rain.

Before the greedy hand of man unbalanced this proportion there were few floods and few droughts, for the rain fell only as fast as the streams could carry it away. But, man not content with taking the trees he needed, destroyed the young with the old and laid bare the great forests and left the sun to bake the soil. The ground, now hardened, no longer absorbs the falling rain, but like a roof turns it into the valleys where it washes off the soil, swells the rivers and floods the land.

Until we stop this ruthless destruction of the trees and reforest our mountain sides, we must expect these floods and droughts. And it is the duty of every school child in the state to help in the work. Let us protect our forests and restore them to their natural order. By this it is not meant that you are never to cut a tree or use the timber, but that you are to be very careful that you do not destroy the young growth. Plant a new tree for every one that you take. Learn to love the trees; plant them, and watch them grow; protect them; care for them and they will some day pay you for your pains. How many of you have read the beautiful poem by a man from your own state, "Woodman, Spare That Tree?"

TIME TO PLANT.

Generally speaking, trees are divided into two classes; viz., decidious and evergreens, the former consisting of those varieties that shed their leaves with the approach of the autumn frosts. The latter class represented by the cedars, pines, spruces and hollies, includes all the varieties that retain their foliage throughout the whole year.

With all trees there are certain periods where they are said to be dormant or quiescent, which means that they are done growing for the season. In this climate most trees become dormant in the fall and remain so until the warm spring days start the sap to flowing.

During the dormant stage trees can be planted successfully, the latter part of October, the month of November and December being the best time.

Evergreens can, however, be transplanted with safety at any time when not in an active state of growth, if dug with a ball of earth. Holly trees are an exception to the rule and should be planted in the early spring, dug with a ball of earth, and all the foliage removed.

SELECTION.

In our Kentucky woods are many varieties of trees possessed of grace and dignity worthy of the most prominent position in any of our beautiful parks. From these a choice collection can be easily obtained. In making a selection, choose

as far as possible those trees that have grown in the open and have straight trunks and well shaped heads. The amateur will have better success with trees not over two and one-half inches in diameter, and for the average town or school grounds he may choose several varieties.

The maple, elm, ash, tulip tree or yellow poplar, sycamore, sassafras, persimmon, linden and willow are all very easy to transplant, while oaks, chestnut, dogwood, hickory, sweet gum, and pepperage are more difficult to move. If the latter are desired, smaller sizes should be used.

DIGGING.

After a well-shaped tree has been chosen, with a sharp spade dig a circular trench around it about three feet from the trunk, going deep enough to sever all the roots. Then with a fork throw out all the earth being careful not to wound the roots. When all the roots have been exposed, shake the tree to see that it is thoroughly loosened, and if a tap root remains, pull the tree to one side, sever the root with a sharp axe, leaving the smooth cut on the tree.

The tree may now be lifted from the hole, and the roots should be immediately covered with damp straw or burlap to prevent the sun and wind from drying them.

PRUNING.

Since a portion of the roots has of necessity been destroyed in digging, it is now essential that a corresponding portion of the top be removed. With a saw, pair of clippers, or knife take out from one-third to one-half the top growth. It is best to retain the general shape of the tree, cutting off about one-third the growth of each branch, and to remove entirely any branch that chafes another or tends seriously to interfere with the ultimate shape of the tree. Make all cuts smooth and close to the crotch, leaving no stub. After the top has been well shapened, go over the root system carefully, cutting off all bruised or split roots, making a diagonal cut.

PLANTING.

Dig a hole two feet larger in diameter than the spread of the roots and twice as deep as is really necessary to contain them. Remove all stones and poor soil. Fill up to required depth with good loam, containing a liberal quantity of chopped up sod or well-rotted manure. Fresh manure should always be avoided.

In planting be sure the tree is not set too deep, for by such carelessness many a fine specimen is completely smothered. No tree should be planted more than two inches deeper than the original earth line.

While it is advisable in the moving of large trees to retain the original points of the compass, with small ones this is not necessary.

Place the tree in a vertical position a little deeper than the point at which it is to remain and carefully spread out all the roots. Now shovel in the earth until the roots are covered about two inches; lift the tree up and down until the soil settles in well and no cavities remain; throw in some more earth and with a blunt stick work it in well under the roots, and then press down the soil with the feet, beginning next to the tree and working out to the edge. When the hole is filled to within three or four inches of the top, two or three buckets of water should be used. Allow this to settle and then fill up the hole, leaving a slight depression around the trunk. Never bank the earth around a newly planted tree.

WATERING AND MULCHING.

After the tree has been planted, it should be mulched with straw, chaff or old leaves to prevent evaporation of the soil's moisture. Frequent loosening of the earth will also answer the same purpose.

Unless the ground becomes very dry, artificial watering of fall-planted trees will be unnecessary, but in case of prolonged drought give the tree a thorough watering, and see that a mulch is placed around it.

WALTER E. CAMPBELL,
New Haven, Conn.

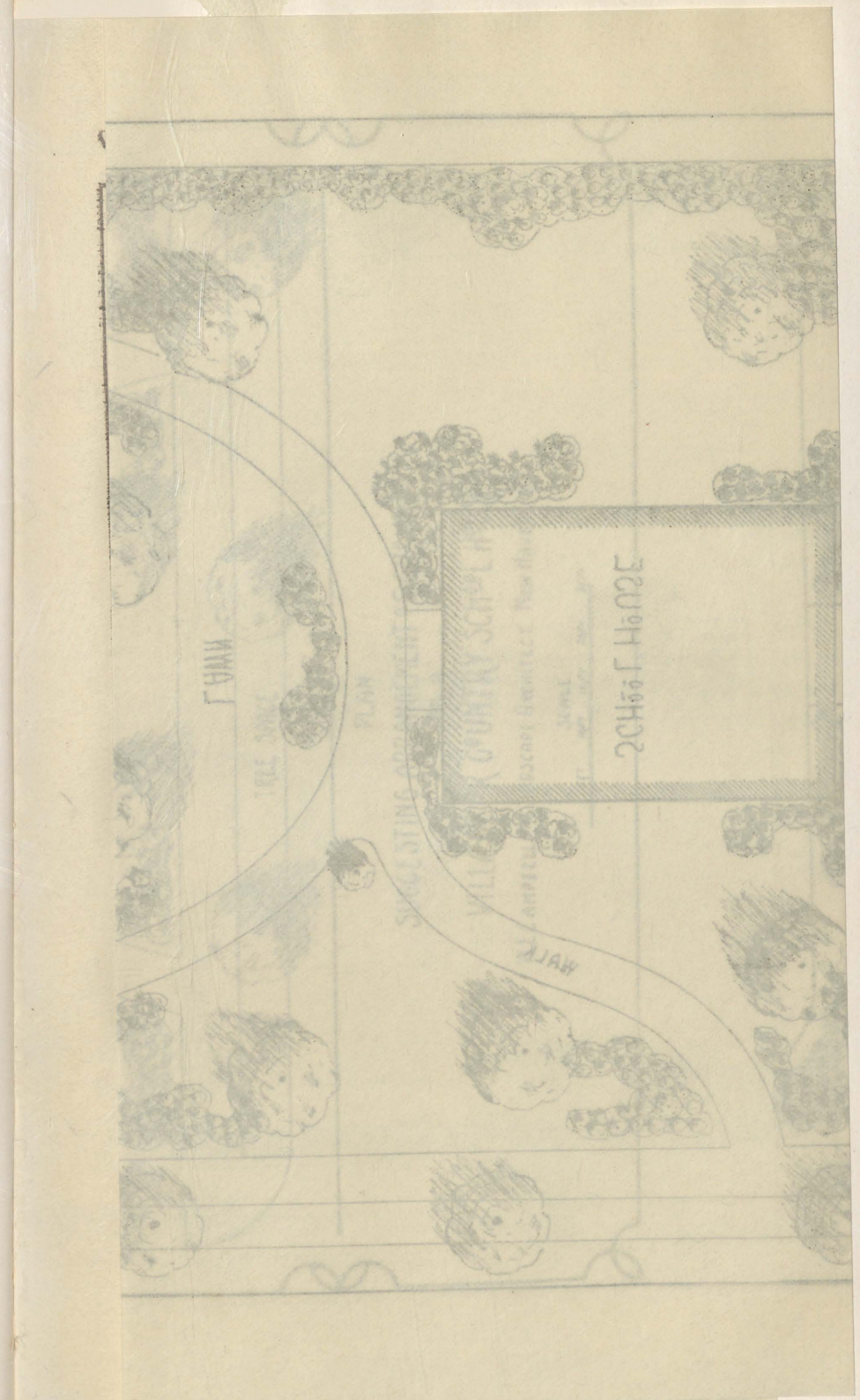
This drawing is not submitted as a model, but merely as a typical design, intended to show the principles involved in school ground planting. One of the fundamental principles is a free and open lawn and that the massings of shrubbery be confined to the borders and corners. The function of trees on the lawn is to give shade where needed, especially at certain windows, and not to form geometrical patterns, the most inexcusable of which is the straight row. The massings around the building serve to soften harsh architectural lines, uniting, as it were, the contrasting horizontal and vertical planes. Obviously all objectionable features should be screened by heavy plantings. The walks should be made broad, with easy curves and ample space allotted to the playground. The trees and shrubs may be obtained from the woods, but nursery stock, being more uniform in size and quality, will give better results.

W. E. C.

TREE PARTY.

For a June entertainment nothing could be more suitable than a tree party, for at this season the new leaves are all out and everything looks fresh and green. Trim the house with branches and blossoms, having as many varieties of trees represented as possible. When all the guests have arrived, give to each one a strip of cardboard (having a pencil tied to it with a bit of green ribbon) upon which are written the following questions for them to answer:

1. What's the social tree,	1. Pear.	Tea.
2. And the dancing tree,	2. Hop.	
3. And the tree that is nearest the sea?	3. Beech.	
4. The daintiest tree,	4. Spruce.	
5. And the kissable tree,	5. Tulip.	Yew.
6. And the tree where ships may be?	6. Bay.	
7. What's the telltale tree,	7. Peach.	
8. And the traitor's tree,	8. Judas.	
9. And the tree that's the warmest clad?	9. Fir.	
10. The languishing tree,	10. Pine.	
11. The chronologist's tree,	11. Date.	



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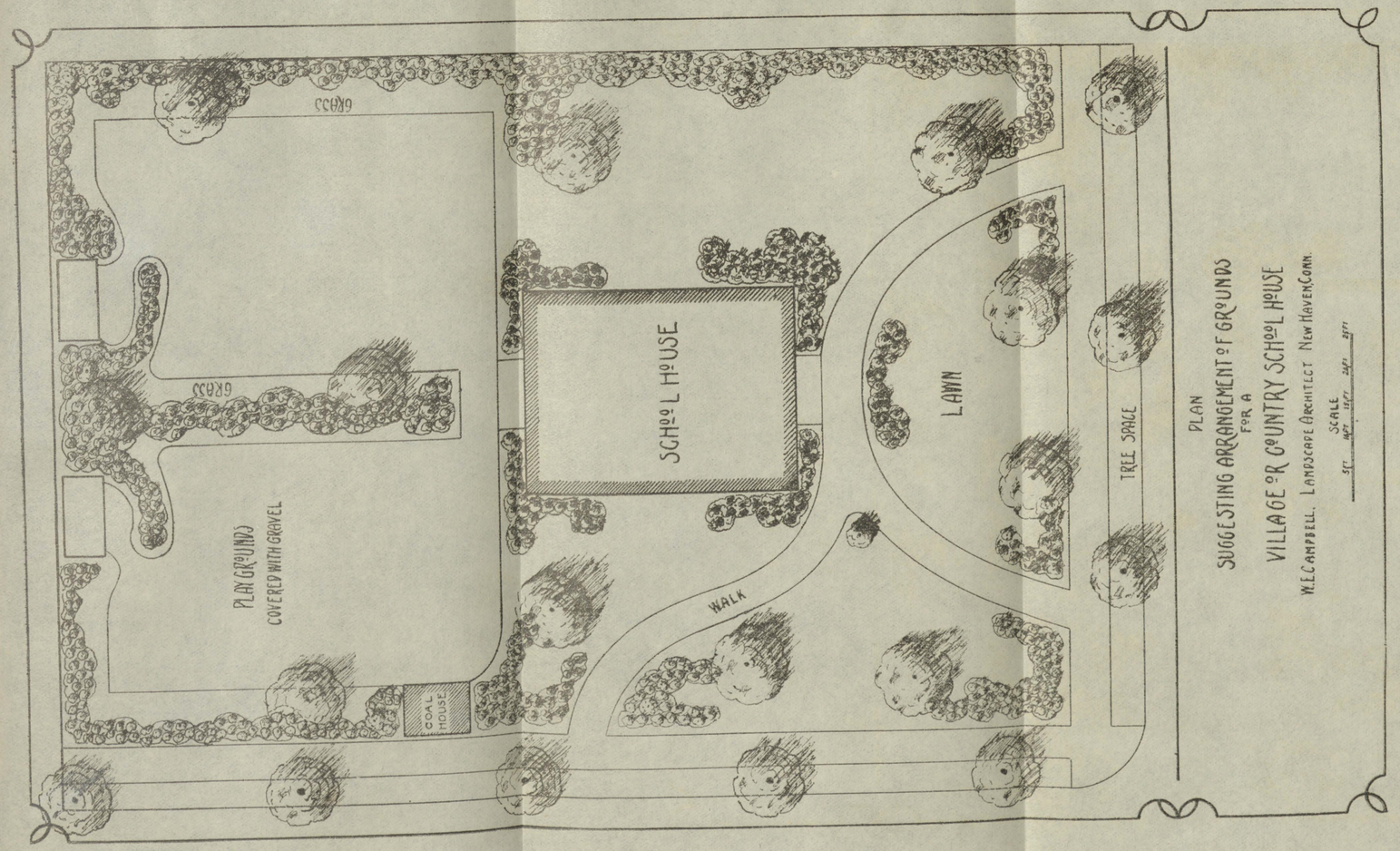
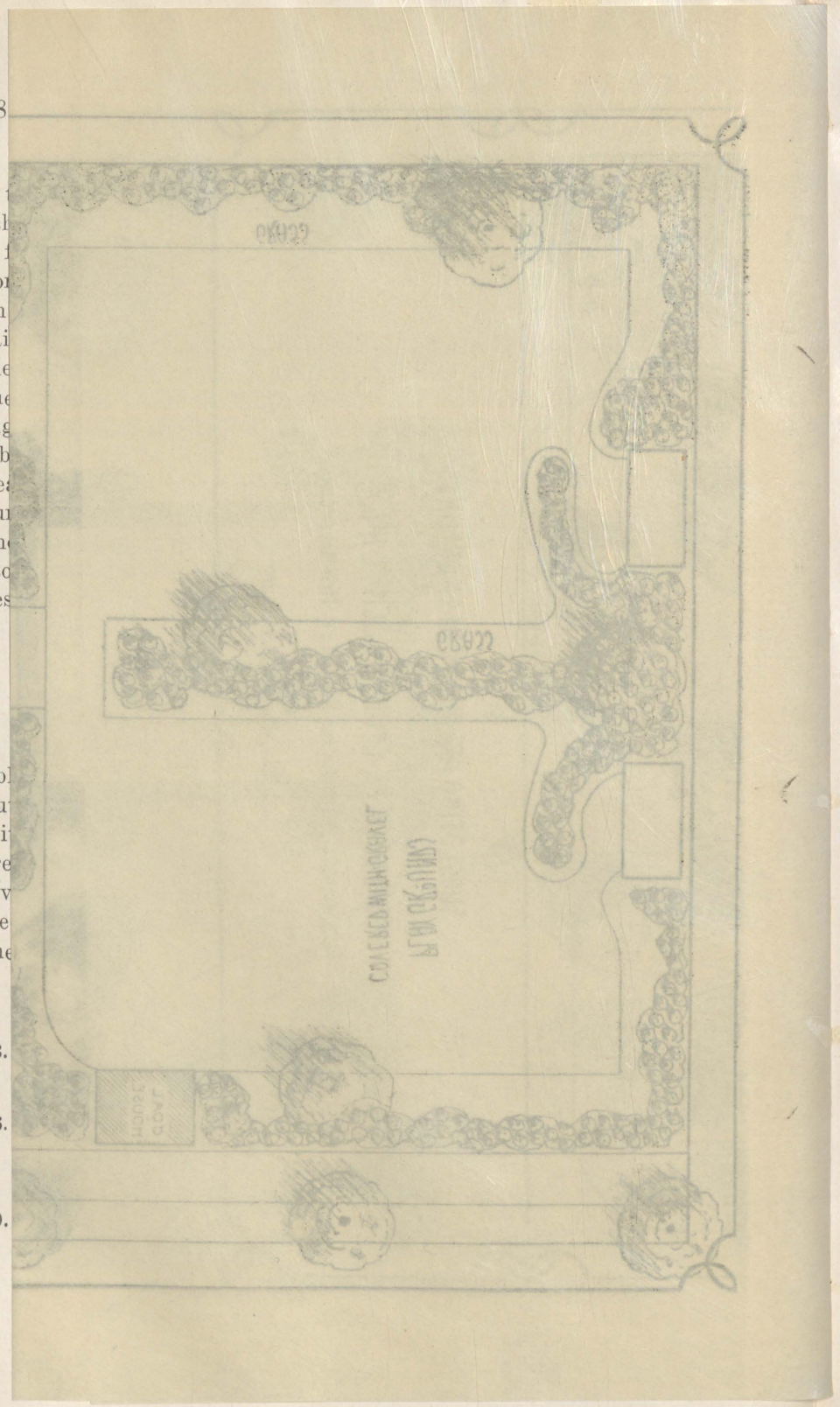




3.

6.

9.

12.	And the tree that makes one sad?	12. Weeping Willow.
13.	What's the emulous tree,	13. Ivy.
14.	The industrious tree,	14. Spindle-tree.
15.	And the tree that will never stand still?	15. Caper.
16.	The unhealthiest tree,	16. Sycamore.
17.	The Egyptian-plague tree,	17. Locust.
18.	And the tree neither up nor down hill?	18. Plane.

ARBOR DAY AND OUR FRUIT TREES.

(Written especially for this Bulletin.)

Tree planting is receiving more and more attention. This is true not only in regard to reforesting large areas, but it is also true of orchards and home grounds.

Fruit trees are not only beautiful; they are also useful. Orchards add beauty to every landscape and value to every farm. Every farmer should be a fruit grower. If he does not produce fruit extensively he should produce it intensively. Even those living in villages and towns may gain pleasure and profit from a few fruit trees.

It does not take great areas of land in order that one may produce fruit. A score of trees well selected, well cared for, will give more pleasure and profit than acres of careless, haphazard orcharding.

Kentucky folk know too little regarding their home possibilities, especially as regards fruit growing. Scientific men tell us, and some experience has taught us, that many sections of our State are the finest fruit growing areas of the world. Apples, pears, peaches and many varieties of plums, grapes and berries, such as the gooseberry, blackberry, raspberry and strawberry can be grown more successfully in Kentucky than almost anywhere else in this great country of ours. A little thought, a little planting and careful cultivation would produce much beauty and profit to our homes. There is no better time to give serious thought to our fruit trees than Arbor Day. Every tree has its place and function.

On our school grounds many trees have been planted. They have been mostly ornamental trees. It is quite right that they should be. While many of them have been well cared for, unfortunately a large number have received little attention.

The planting of fruit trees may result in more care being given to all trees both on the school grounds and at home.

We think that a good proportion of lawn trees might well be fruit trees. These would not only serve to furnish shade and beautify the grounds, but have value also as wholesome food producers. With one or more fruit trees on every school ground the opportunity to study the tree and its fruit at first hand would be quite valuable. This would not only add interest to the school but would arouse community interest in fruit culture. Again the pupil will learn more and better by one season of actual contact and observation than can be gained in a much longer period from text books.

The appearance of the early buds, the first blossoms, the first fruit formation and the mature fruit form a most interesting series of chapters.

Where the ground is available the school orchard may be made not only a thing of beauty and pride, but a great educational factor for the community.

The care of the trees would be in the hands of the pupils. They would learn the principles of pruning. They would be taught how to fight the various enemies and pests. This knowledge would in many cases be applied to the home orchards.

It is not necessary to own a farm in order to be a fruit grower. About almost any home may be grown a few choice fruit trees which would not only add beauty but profit by furnishing the family with good, fresh, healthful fruit.

A fruit tree is a symbol of home and comfort and good cheer.

I often wonder what must have been the loss of the child that had no fruit to shelter it. There are no days like the days under the old apple tree.

Every bird of the field comes to it sooner or later to sport and sing and often build among its branches. The sweet smells

of spring are sweeter there, and the flowery beauty of the blossoming, as the gentle breezes shake down the fragrant petals—who can ever forget?

And the mystery of the fruit that comes out of a blossom is beyond all reckoning, the magic growing week by week until the green young balls show themselves among the leaves —the leaves that hold the tang of summer in them. And who has not watched the first red that comes on the side that hangs towards the sun, and waited for the first fruit that was soft enough to yield to the thumb? Verily, the old apple tree carries all the memories of the years. The worth of a fruit tree can not be valued in dollars and cents, for it really is a great factor in true character building.

While planting trees would it not be a good idea to plant a few fruit trees?

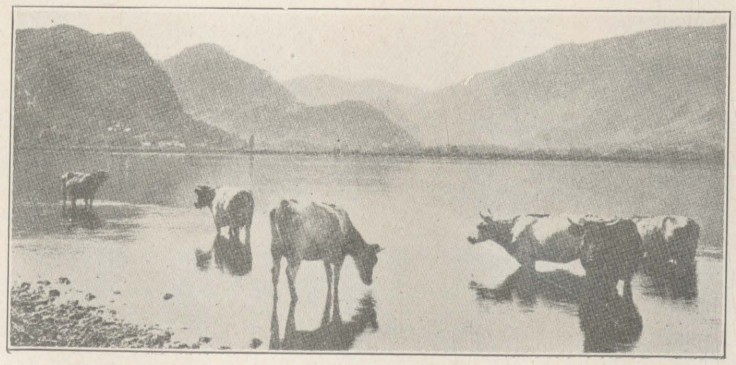
APPLE-BLOSSOM TIME.

The sky is rich in shimmering sheen
Of deep, delicious blue;
The earth is freshly, softly green,
Of one translucent hue;
The choir of birds in wood and field
Ring out a happy chime;
The trees their fairest foliage yield
In apple-blossom time.

The orchard rows are all ablush,
The meadows all aglow;
On every bough a vivid flush,
A drift of petalled snow;
The clustered bloom, with faint perfume,
Wreathes many a garland fine,
And many a rosy, nodding plume
In apple-blossom time.

The fulness of our early dreams,
Tho' fresh and pure and sweet
When the glad earth with beauty teems,
Soon trembles to our feet;
Richer, tho' rarer, comes the fruit
To crown a golden prime,
Fulfilling pledges proffered us
In apple-blossom time.

Elaine Goodale
From Apple Blossoms



SO RESTFUL

BIRDS

BIRD DAY.

(By Mrs. Lewis Pritchard, Des Moines, Iowa.)

While much is being said and done to stimulate the minds of both old and young to a greater appreciation of the flowers and trees, we must not forget to give equal attention to the other feature of our annual Nature Day. It is quite as necessary that the birds be preserved, known and loved, as that our eyes and hearts be open to the beauty of the flowers.

The first Bird Day was celebrated in 1894 on the first Friday in May through the influence of Mr. Charles A. Babcock, but the day is generally observed in connection with Arbor Day. The two go hand in hand—we can scarcely think of Arbor Day without the glad note of a robin's song.

Much has been done during the last twenty-five years to foster and protect our native birds through the national and State organizations of the Audubon Societies. This organized effort for the protection of our feathered friends was brought about by the destruction of bird life throughout the country for commercial purposes. In 1886 Mr. Frank Chapman of New York found forty species of the most beautiful birds on women's hats. Milliners' agents were destroying the sea bird colonies for the wings, breasts, aigrettes, etc.; song birds were being caged and sold, and large numbers of non-game birds were sacrificed annually for food. Much of this needless destruction has been stopped by the efforts of this society, which strives first to educate and secondly to legislate. It realizes that ignorance is at the root of this evil, as it is in the case of most evils—that as soon as a boy has learned to know the birds and their habits, he will learn to love and protect them from harm.

The Audubon Society was organized in New York in 1886 and named for John James Audubon (1780-1851), who gave to the world "The Birds of America" in ten volumes, one of the greatest contributions to the study and record of our native birds. State organizations soon began to be formed and are now found in most of our states. Iowa's organization was

begun in 1898 in Keokuk, and continues its work and headquarters at Waterloo. Much good is being done throughout our state by lectures and the use of lantern slides.

It is interesting to know that during the last few years more than fifty places have been set aside in the United States for the conservation of bird life. These places are located in all parts of the country, both inland and along the coasts. One of the most unique homes for the birds was established by the federal government on two islands in the Hawaiian group, thousands of miles from the beaten path of commerce. Here on Bird and Laysan islands several million sea birds are bred yearly, undisturbed by man save an occasional visitor to the islands for the purpose of scientific study of their life and habits. In addition to all that our federal government is doing toward the preservation of the birds, many individuals have given liberally to the work of the Audubon Society, and also to individual states. We cannot all contribute as Mrs. Russell Sage and Mr. Charles Willis Ward have done recently to the State of Louisiana, but the least of us can love and protect the birds about our schools and home. Like the flowers of the field, the birds of the air belong to each one of us—they are ours for the loving.

BIRD STUDY.

(W. H. Wiseman, New Paris, Ohio.)

In order to carry on the work of bird study with any degree of success, experience has taught me that the subject must continually be kept before the pupils in all of its phases. This means actual work among birds, with eyes sharpened for every movement and ears tuned to every sound.

The first essential, I think, is for the pupil to know the bird by sight—that is, at close range—and to be able to give a minute description, paying attention to details in markings, especially in cases where distinctive markings determine the species.

Our work in autumn consists in a sharp lookout for the warblers, that are returning toward the Southland at the beginning of the school term. This requires careful observation,

and pupils are encouraged to be watchful at this time and report any small bird they may be able to find on their way to or from school, or at home. A record is kept, and pupils are urged to compete for the longest list of different species.

Later in the season, when the leaves are well off the trees, we start a nest-hunting contest, the object being to see who can find the greatest number of nests in a specified time. Samples of nests are secured and put up in the school room.

When cold weather comes the question of food supply is considered. Shelters for the birds are constructed, and feeding places are prepared. One method is to place a feeding board outside a south window, and fastening a good-sized branch of a tree outside the window, upon which pieces of suet are fastened. The remains of the children's lunches, together with seeds, kernels of nuts, etc., are placed upon the board, and birds soon learn to come to the banquet prepared for them.

Monthly bird lists are kept, showing the kinds of birds that may be seen each month, and pupils are required to keep notebooks in which anything of interest may be noted.

In the spring the question of housing the birds is considered, and pupils are taught to construct simple bird houses, and all are interested in placing these boxes about their homes.

In connection with this field work, attention is given to the literature upon this subject. Scrap-books are kept, and any article relating to birds found in papers or magazines is clipped and pasted in this book.

We have in the school room over one hundred and fifty pictures in colors of the birds to be found in this section of the State, and using these as a basis, I give frequent "lectures" on the habits or any other points of interest concerning these birds.

The pupils are very enthusiastic in the work, and the influence has not only extended throughout the entire district, but other teachers and pupils in the surrounding districts have caught the spirit and much is being done along this line throughout the township.—Reprint from Nature and Culture.

THE BLUEBIRD'S SONG.

I know the song that the bluebird is singing,
Out in the apple tree where he is swinging.
Brave little fellow! the skies may be dreary—
Nothing cares he while his heart is so cheery!

Hark! how the music leaps out from his throat!
Hark! was there ever so merry a note?
Listen awhile, and you'll hear what he's saying,
Up in the apple tree swinging and swaying.

"Dear little blossoms down under the snow,
You must be weary of winter I know;
Hark while I sing you a message of cheer!
Summer is coming! and spring time is here!"

"Little white snowdrop! I pray you arise;
Bright little crocus! come open your eyes;
Sweet little violets, hid from the cold,
Put on your mantles of purple and gold;
Daffodils! daffodils! say do you hear?
Summer is coming! and spring time is here!"

WHY STUDY BIRDS?

A Cincinnati teacher in one of the big intermediate schools recently discussed with her class the question of studying birds. She reminded them that they are city children living in a densely populated district, and that they could hardly expect to see the live birds unless they went into the country, but agreed to forming a bird-study class if the children could give good reasons for doing so.

One child called attention to the fact that they read and studied about many things all over the world that they never hoped to see, why not about birds also? One boy thought it just as necessary for city children to know what was to be seen in the country, as for country children to know what could be seen in the city. There were other reasons offered equally as good, but behind it all was a real live desire, a natural desire, that need give no reasons for its existence, to learn something about the wild birds. The teacher saw this, and being one who realizes that schools are maintained for the

BLUEBIRD.
Sialia sialis. (Linn.)
Life-size.

benefit of children rather than that children are born and reared to serve a school system, consented to the organization of a Junior Audubon Class.

Bird study in some measure should be given to every class in every school, city and country. Not just because it is new, not just because it is a branch of the now popular nature-study, not just because the children are eager for it, all of which are good reasons, but because of the great need of a national change of attitude toward the wild birds if we are to succeed in preserving this absolutely essential part of our natural resources.

—Eugene Swope.

BIRDS OF KENTUCKY.

Through the kindness of the Kentucky State Historical Society, this list of birds is taken from "Birds of Nelson County," by Kentucky's famous Ornithologist, the late Charles Wickliffe Beckham, of Bardstown, Ky. The list represents barely two-thirds of the birds that are found here at one season or another, but it is thoroughly trustworthy, for no species has been admitted on any but the best evidence.

ORDER PASSERES—PERCHING BIRDS.

Wood Thrush	Hylocichla mustelina.
Wilson's Thrush	Hylocichla fuscescens.
Grey-checked Thrush	Hylocichla aliciae.
Olive-backed Thrush	Hyolichla ustulata swainsoni.
Hermit Thrush	Hyloichla unalscae pallasi.
American robin	Merula migratoria.
Mocking Bird	Mimus pollyglottus.
Cat-bird	Galeoscoptes carolinensis.
Brown Thrasher	Harporhynchus rufus.
Blue Bird	Sialia sialis.

FAMILY SYLVIIDAE: OLD WORLD WARBLERS.

Blue-gray Gnat-catcher	Polioptila caerulea.
Ruby-crowned Kinglet	Regulus calendula.
Golden-crowned Kinglet	Regulus Satrapa licht.

FAMILY PARIDAE: TITMICE, ETC.

Tufted Titmouse	Lophophanes bicolor.
Carolina Chickadee	Parus carolinensis.

FAMILY SITTIDAE: NUT-THATCHES.

White-bellied Nut-thatch	Sitta carolinensis gmel.
Red-bellied Nut-thatch	Sitta canadensis.

FAMILY CERTHIDAE: CREEPERS.

Brown Creeper	Certhia familiaris rufa.

FAMILY TROGLODYTIDAE: WRENS.

Carolina Wren	Thryothorus ludovicianus.
Bewick's Wren	Thryomanes bewicki.
Winter Wren	Anorthura hiemalis.
Short-billed Marsh Wren	Cistothorus stellaris.

FAMILY MOTACILLIDAE: WAGTAILS AND TITLARKS.

American Titlark	Anthus ludovicinianus.

FAMILY MNIOTILTIDAE: AMERICAN WARBLERS.

Black and White Creeper	Mniotilta varia.
Blue-winged Yellow Warbler	Helminthophila pinus.
Golden-winged Warbler	Helminthophila chrysopetera.
Nashville Warbler	Helminthophila ruficapilla.
Orange-crowned Warbler	Helminthophila celata.
Tennessee Warbler	Helminthophila peragirina.
Blue Yellow-backed Warbler	Compsothylpis americana.
Cape May Warbler	Perissoglossa tigrina.
Summer Yellow-bird	Dendroeca aestiva.
Black-throated Blue Warbler	Dendroeca caerulescens.
Black and Yellow Warbler	Dendroeca maculosa.
Yellow-rumped Warbler	Dendroeca coronota.
Caerulean Warbler	Dendroeca caerulea.
Chestnut-sided Warbler	Dendroeca pennsylvanica.
Bay-breasted Warbler	Dendroeca castanea.
Black-poll Warbler	Dendroeca striata.
Blackburniaen Warbler	Dendroeca blackburniae.
Sycamore Warbler	Dendroeca dominica albilora.
Black-throated Green Warbler	Dendroeca. virens
Pine-creeping Warbler	Dendroeca pinus.
Red-poll Warbler	Dendroeca palmarum
Prairie Warbler	Dendroeca discolor.
Golden-crowned Thrush	Siurus auricapillus.
Small-billed Water Thrush	Siurus noveboracensis.
Large-billed Water Thrush	Siurus motacilla.
Connecticut Warbler	Oporornis agilis.
Kentucky Warbler	Oporornis formosa.
Mourning Warbler	Geothylpis philadelphia.
Maryland Yellow-throat	Geothylpis trichas.
Yellow-breasted Chat	Icteria virens.
Hooded Warbler	Sylvania mitrata.
Black-capped Yellow Warbler	Sylvania pusilla.
Canadian Fly-catching Warbler	Sylvania canadensis.

American Redstart	Setophaga ruticilla.
Red-eyed Vireo	Vereosylvia olivacae.
Philadelphia Vireo	Vireosylvia philadelphica cassin.
Warbling Vireo	Vireosylvia gilva.
Yellow-throated Vireo	Lanivires flavifrons.
Blue-headed Vireo	Lanivireo solitarius.
White-eyed Vireo	Vireo noveloracensis.

FAMILY AMPELIDAE: WAXWINGS.

Cedar Waxwing	Ampelis cedrorum.

FAMILY HIRUNDINIDAE: SWALLOWS.

Purple Martin	Progne subis.
Cliff Swallow	Petrochelidon lunifrons.
Barn Swallow	Chelidon erythrogastra.
Bank Swallow	Clivicola biparia.
Rough-winged Swallow	Stelgidopteryx serripenis.

FAMILY TANAGRIDAE: TANAGERS.

Scarlet Tanager	Piranga erythromelas.
Summer Red-bird	Piranga rubra.

FAMILY FRINGILLIDAE: FINCHES, SPARROWS.

Purple Finch	Carpodacus purpureus.
American Crossbill	Loxia curvirostra americana.
American Gold-finch	Spinus tristis.
Pine Gold-finch	Spinus pinus.
English House Sparrow	Passer domesticus.
Savanna Sparrow	Passerculus sandwichenis savanna.
Grass Finch	Pooecetes gramineus.
Grasshopper Sparrow	Coturniculus savannarum.
Henslow's Sparrow	Coturniculus henslowi.
Lark Finch	Chondestes grammacus.
White-crowned Sparrow	Zonotrichia leucophrys.
White-throated Sparrow	Zonotrichia albicollis.
Tree Sparrow	Spizella monticola.
House Sparrow	Spizella socialis.
Field Sparrow	Spizella pusilla.
Snowbird	Junco hyemalis.
Bachman's Finch	Peucaea aestivalis bachmani.
Song Sparrow	Melospiza fasciata.
Swamp Sparrow	Melospiza georgiana.
Lincoln's Finch	Melospiaz lincolni.
Fox-colored Sparrow	Passerrella iliaca.
Towhee "Joree"	Pipilo erythrophthalmus.
Cardinal Grosbeak	Cardinalis cardinallis.
Rose-breasted Grosbeak	Habia ludovinciana.
Indigo Bunting	Passerina cyanae.
Black-throated Bunting	Spiza americana.

FAMILY ICTERIDAE: AMERICAN STARLINGS.

Cow-bird	Molothrus ater.
Red and Buff-shouldered Blackbird	Agelaius phoeniceus.
Meadow Lark	Sturnella magna.
Orchard Oriole	Icterus galbula.
Baltimore Oriole	Icterus galbula.
Rusty Blackbird	Scolecophagus carolinus.
Bronzed Grackle	Quiscalus purpureus aeneus.

FAMILY CORVIDAE: CROWS AND JAYS.

Crow	Corvus americanus.
Blue Jay	Cyanocitta cristata.

FAMILY ALAUDIDAE: LARKS.

Prairie Lark	Otocoris alpestris praticola.

FAMILY TYRANNIDAE.

King Bird	Tyrannus tyrannus.
Great-crested Fly-catcher	Myriarchus crinitus.
Pewee	Sayornis phoebe.
Wood Pewee	Contopus varens.
Yellow-bellied Fly-catcher	Empidonax flaviventris.
Acadian Fly-catcher	Empidonax acadicus.
Least Fly-catcher	Empidonax minimus.

ORDER PICARIAE—PICARIAN BIRDS.

FAMILY TROCHILIDAE: HUMMING BIRDS.

Ruby-throated Humming-bird	Trochilus colubris.

FAMILY CYPSELIDAE: SWIFTS.

Chimney Swift	Chaetura pelagica.

FAMILY CAPRIMULGIDAE: GOATSUCKERS.

Whipporwill	Caprimulgus vociferus.
Night Hawk	Chordeiles virginianus.

FAMILY PICIDAE: WOODPECKERS.

Hairy Woodpecker	Dryobates villosus.
Downy Woodpecker	Dryobates pubescens.
Yellow-bellied Woodpecker	Sphyrapicus varius.
Pileated Woodpecker	Ceophloeus pileatus.
Red-bellied Woodpecker	Centurus carolinus.
Red-headed Woodpecker	Melanerpes erythrocephalus.
Yellow-shafted Flicker	Colaptes auratus.

FAMILY ALCIDINIDAE: KINGFISHERS.

Kingfisher	Ceryle alcyon.

FAMILY CUCULIDAE: CUCKOOS.

Yellow-bellied Cuckoo	Coccyzus americanus.
Black-billed Cuckoo, Rain Crow	Coccyzus erythrophthalmus.

ORDER RAPTORES—BIRDS OF PREY.

FAMILY STRIGIDAE: OWLS.

American Barn Owl	Aluco flammeus pratincolos.

FAMILY STRIGIDAE: OWLS.

Short-eared Owl	Asio accipitrinus.
Little Screech Owl	Scops asio.
Great Horned Owl	Bubo Virginanus.
Snowy Owl	Nyctea Nivea.

FAMILY FALCONIDAE: BIRDS OF PREY.

Sparrow Hawk	Falsco sparverius.
Cooper's Hawk	Accipiter cooperi.
Chicken Hawk	Buteo lineatus.
Bald Eagle	Halietus lencocephalus.

FAMILY PANDIONIDAE: OSPREYS.

Fish Hawk	Pandion halietus carolinensis.

FAMILY CATHARTIDAE: AMERICAN VULTURES.

Turkey Buzzard	Cathartes aura.
Black Vulture	Catharista atrata.

ORDER COLUMBAE—COLUMBINE BIRDS.

FAMILY COLUMBIDAE: PIPEONS AND DOVES.

Passenger Pigeon	Ectopistes migratoria.
Mourning Dove	Zenaidura carolinensis.

ORDER GALLINAE.

FAMILY MELEAGRIDIDAE: TURKEYS.

Wild Turkey	Mealeagris gallopavo.

FAMILY TETRAONIDAE: GROUSE.

Pheasant	Bonasa umbellus.

FAMILY PERDICIDAE: PARTRIDGES AND QUAILS.

Bob White, American Quial	Colinus virginianus.

ORDER HERODIONES.

FAMILY ARDEIDAE: HERONS.

Great Blue Heron	Ardea herodias.
American Egret	Herodias egretta.
Snowy Heron	Garzetta candidissima.
Green Heron	Butorides virescens.
Black-crowned Night Heron	Nyoticorax griseus naevius.
American Bittern	Botaurus lentiginosus.

ORDER LIMICOLAE—SHORE BIRDS.

FAMILY CHARADRIIDAE: PLOVERS.

Kildeer	Oxyechus vociferus.

FAMILY SCOLOPACIDAE: SNIPE, ETC.

Woodcock	Philohela minor.
Wilson's Snipe	Gallinago wilsoni.
Solitary Sandpiper	Rhyacophilus solitarus.
Spotted Sandpiper	Actitis macularia.

ORDER ALECTORIDES—CRANES, RAILS, ETC.

FAMILY RALLIDAE: RAILS AND COOTS.

Virginia Rail	Rallus virginianus.
Sora Rail	Porzana carolina.
Little Yellow Rail	Porzana noveboracensis.
American Bittern	Botaurus lentiginosus.

THE SECRET.

We have a secret, just we three,
The robin, and I, and the sweet cherry tree;
The bird told the tree, and the tree told me,
And nobody knows it but just we three.

But of course the robin knows it best,
Because he built the—I shan't tell the rest;
And laid the four little—something in it—
I'm afraid I shall tell it every minute.

HOW BIRDS PROTECT TREES.

(Florence A. Merriam.)

Trees are like great hotels—they are so alive with their busy little insect people. Like hotels, when we are looking for rooms, there is a choice between outside ones and dark inside ones. The outside ones are in cracks in the bark. Here, in the fall, visiting moths stow away their eggs in snug winter bedchambers, and sleepy butterfly children wind themselves in their silken covers and rest quietly till spring calls them to unfold their wings and seek the flowers.

Beneath the bark, in the inside rooms, live the wood borers, and up and down the long hallways boring ants run busily to and fro.

In the spring the eggs left in the bark hatch into hungry worms, and thousands of these new guests climb up to the airy

roof gardens of the tree hotels to dine in the green banquet halls on fruit and leaves. Indeed, so many hungry insect folk board in the hotels, and live on the wood and leaves, that if no bound were put on their work the boarders would quite eat up their hotels.

One small wood borer alone can kill a whole great tree, and thousands and thousands of hungry worms and insects are always at work in our shade trees.

Wood ants finds the holes the borers have made, and go on from them, tunneling deeper and deeper into the heart of the trees, till they have honeycombed the timber with their galleries. Anyone who goes to the woods can see their work. Did you never find a pile of sawdust at the foot of a tree, or see a streak of the dust on the bark? That is the work of the ants, and while you watch, one of the little black workmen will often come out of a hole in the bark, drop its load of dust, and hurry back inside for more. The poor trees suffer sorely, but, fortunately, there are not only hungry insects, but also hungry birds; and the birds, knowing full well that the trees are their best banquet halls, flock to them eagerly.

The woodpeckers spend most of their time chiseling through the bark for insects, so well hidden in the wood that only such sharp bills and barbed tongues as theirs can reach them. In winter they join the cheery chickadees, searching here and there over the crannies of the bark for insect's eggs. The champion of their band has such a good appetite that it thinks nothing of eating five thousand eggs a day.

Besides the special bark and wood birds that meet over the trunks and branches, protecting the body of the tree, there are other birds that guard its head and feet.

Every country boy knows how mice girdle the apple trees, gnawing their bark just above the snow in winter. They do so much harm we would often have to go without apples if it were not for the hawks and owls; but these birds are great mousers, and work night and day to save the orchards.

The tree-top protectors are more numerous than any of the other tree birds, and when the leaves come out in the spring they fall to work with a will.

When an army of insects descends upon an orchard or grove, baring the trees of leaves, nearly all the birds in the whole neighborhood come to the rescue. And so the birds work all through the year—the tree-trunk birds and owls in winter, and the tree-top birds in summer—all working to protect the trees, which the insects are trying to destroy.

THE MOCKING BIRD.

He didn't know much music
When first he come along;
An' all the birds went wonderin'
Why he didn't sing a song.

They primed their feathers in the sun,
An' sung their sweetest notes;
An' music jest come on the run
From all their purty throats!

But still that bird was silent
In summer time an' fall;
He jest set still an' listened
An' he wouldn't sing at all!

But one night when them songsters
Was tired out an' still,
An' the wind sighed down the valley
An' went creepin' up the hill;

When the stars was all a-tremble
In the dreamin' fields o' blue,
An' the daisy in the darkness
Felt the fallin' o' the dew,—

There come a sound o' melody
No mortal ever heard,
An' all the birds seemed singin'
From the throat o' one sweet bird!

Then the other birds went playin'
In a land too fur to call;
Fer there warn't no use in stayin'
When one bird could sing fer all!

—Frank L. Stanton.

MOCKING BIRD.
(Mimus polyglottos.)
3-5 Life-size.

CATBIRD.
3-5 Life-size.

THE CATBIRD.

He sits on the branch of yon blossoming tree,
This mad-cap cousin of Robin and Thrush,
And sings without ceasing the whole morning long;
Now wild, now tender, the wayward song
That flows from his soft gray, fluttering throat;
But oft he stops in his sweetest note,
And shaking a flower from the blossoming bough,
Drawls out: "Mi-eu, mi-ow!"

—Edith M. Thomas.

HOW AND WHY DO BIRDS TRAVEL.

(From "The Story of the Birds," James Newton Baskett—Courtesy of D. Appleton & Company, New York.)

The question that most concerns us is how the bird travels. Flight of course is the usual means, though a few such as quails, turkeys, etc., move southward afoot often. But flight makes extensive migration possible. It is said that some plovers that nest in Labrador, winter in Patagonia, their long wings easily carrying them this great distance. But even short-winged birds make long flights at this season. There are doubtless some long migrations made in a single continuous flight, while others consist of a sort of straggling from place to place, with stops for food, water or rest. The migrations of the same birds may differ in this respect at different seasons or different stages of the journey. Or different flocks or individuals may differ much from others in their migrating habits for the time.

Where the flights are long and continuous it frequently happens that birds go in great flocks or streams, some that are solitary at other times, being very social now.

Such flights are apt to be at great altitudes, so far as to be usually out of sight. Star gazers have seen them pass their telescopes in the night (for these long flights extend over nights, especially if the moon shines), and they are able to estimate by the sharpness of the focus how high these bird nebulae are. Two, three, and even more miles have been asserted. An observer on a certain island where birds rest, speaks also of single birds coming down from the unseen heights and alighting.

Often after approaching land and nearing the end of their journey, our little birds stop short of home and drift up, singing and feeding. Thus we may note the loitering of the Peabody sparrow, purple finch, and various thrushes, etc. The Baltimore oriole rides upon the great spring wave of the opening leaf and expanding catkin, and the warblers, vireos, etc., wait till the full flush of summer is here, and beat northward part of the way through tree top and tangle to the music of the insect's gauzy wings.

While over the water or great stretches of land where they do not care to alight the route of the birds may be rather direct between points far apart, unless, as is the case, they are often deflected by the winds; but where there are coast lines tending in the right direction they are apt to be roughly followed, and inland great streams and wooded borders are followed. This last is likely for the opportunities of rest, food, and shelter or proper haunt that they may offer. Even at sea birds are apt to lay their journeys by islands, and these islands will lie for ages in their routes. Ordinary land birds are recorded as resting sometimes by simply floating for a while upon the water in mid-ocean.

The Island of Heligoland, in the North Sea (or German Ocean), has for generations been the resting place for migrants to and from northern Europe. It is said that the bird routes now over the Mediterranean Sea are over shallow places that once were isthmuses. Bird routes even through the air are apt to be very permanent when once established, and these over the Mediterranean were probably set up by following the land beneath when visible, and are followed now by the heritance of habit. Columbus was influenced in his voyage by following one of these bird "aerial lines," and was led on to the West Indies instead of Florida. These bird flights are said to be there today at the same season of the year.

But by far the most interesting question about the migration of birds is, what guides them. There is quite a tendency among modern students to assert that the bird is guided by the topography of the land, the stars, the waves, etc., attributing the direction taken solely to the reasoning powers of the

bird, just as it knows how to flee when you approach it. But there are some statements concerning certain practices in migration that are much in the way of this view. It has been maintained that the old birds guide the young, but observers upon the Island of Heligoland and other places often find the young birds preceding the old ones. Again the old ones in other instances precede the young ones so far as to be in no sense a guide. Thus the European cuckoo is said to be out of England and into Africa, while its fledgeling is yet being fed by some duped finch or warbler at the north.

There can be no doubt, however, that birds reason about their course, as we have seen, turning aside to feeding grounds and laying their courses by or alongside of great landmarks. It is claimed also that homing pigeons are guided wholly by the "lay of the land," etc., in taking up their direction, since they often circle for a while.

But with all this the knack of returning quickly, often in a direct line, to the old home so frequently displayed by lower animals when carried away in sacks by circuitous routes is in all probability instinctive or intuitive.

So the capacity of the young bird for starting in the proper direction is no more remarkable than the fact that without instruction it should desire to go. Both may be inherited habit, or, if you choose, an instinct. Birds, however, often lose their routes and grow confused in fogs, darkness, storms, etc. Their instinct of direction is not unerring. They are certainly within limits reasoning creatures, and a yielding to the influences may sometimes confuse instinct as well as aid it. We cannot here enter into any discussion of instinct. It is not impossible, however, for its pure manifestations to be more nearly unerring than we think. But it is an inheritance from the past out of which all present experience and intelligence tend to lead, and the Great Beyond of all creatures lies above it. If we could separate it, we might find it perfect for its purposes and unerring only when its promptings were obeyed. Especially would this be true if the same conditions and environment could prevail now which were present when the instinct was evolved.

CHICKADEE.

No saucier, happier, jollier or more useful bunch of feathers haunts our trees than the little black-capped chickadee. He is about 5 inches long, has a gray back, a black cap and black under his chin, a whitish breast and buffy sides, and may be known from other winter birds by his tireless activity.

He is quite a wonderful acrobat, being equally at home hanging by his toes, swinging on a cone or vine, standing on his head, running like a fly on the under side of branches or flitting gaily about from twig to twig among our orchard or shade trees.

No fair weather friend is he, but teaches us the valuable lesson of never repining, let the weather be what it may. No matter how cold or stormy the day, chickadee is always about cheerily singing "de-dee, de-dee, chickadee-dee-dee." He is a good citizen, being a permanent resident leaving us only long enough in the summer to go into the nearby woods to nest.

To prove that he wants to pay his way he hunts continually for insects and their eggs, and one little fellow has been known to dispose of 5,500 canker-worm-moth eggs in one day.

If you wish to learn to know these feathered neighbors and help them through the cold weather just nail a raw beef bone, with some suet attached, to a tree or pole near the house. Be sure it is high enough to be out of the reach of dogs. When the birds find it they will pay you with amusing antics and joyful carols, and you will have the satisfaction of knowing that you have made life a little happier for them.

E. C. MUNGER,
President of Michigan Audubon Society.

BIRD PUZZLE.

(From Kentucky Arbor and Bird Day.)

1. There's a bird whose name tells if he flies fast or slow.
2. One which boys use when with long strides they go,
3. There is one that tells tales, although he can't sing,
4. And one who flies high, but is held by a string.

CHICKADEE
Life-size

5. By one a high rank in the army is held;
6. There's another whose name with one letter is spelled.
7. There is one that a farmer in harvest would use;
8. And one you can easily fool if you choose.
9. What bird, at dessert, it is useful to hold?
10. And which in the chimney place oft hung of old?
11. Which bird wears a bit of sky in its dress?
12. Which one always stands in the corner at chess?
13. There is one built a church, of London the pride;
14. We have one when we talk with a friend by our side.
15. What bird would its bill find useful at tea,
16. And which would its tail use to steer with at sea?
17. Which proudly a musical instrument wears?
18. And which the same name as a small island bears?
19. Which bird is called foolish and stupid and silly?
20. And which always wanting to punish poor Billy?
21. Which bird is an artisan, works at his trade?
22. And which is the stuff of which flags are made?
23. One, we're told by the poet, at Heaven's gate sings?
24. There's one which in Holland the new baby brings.
25. What bird have we with us in eating and drinking?
26. One, used for a fence, you can say without thinking.
27. What bird is a scoffer, a scorner, a jest?
28. Which one is too lazy to build her own nest?
29. From a high wind at evening one name is inferred.
30. Guess these, and you're wise as Minerva's own bird.

ANSWERS TO BIRD PUZZLE.

1. Swift
2. Stilt
3. Tattler
4. Kite
5. Adjutant
6. Jay
7. Thrasher
8. Gull
9. Nut-cracker
10. Crane
11. Blue Bird
12. Rook
13. Wren
14. Chat
15. Spoon-Bill
16. Rudder-duck
17. Lyre-bird
18. Canary
19. Loon
20. Whippoorwill
21. Weaver
22. Bunting
23. Lark
24. Stork
25. Swallow
26. Rail
27. Mocking bird
28. Cuckoo
29. Nightingale
30. Owl

THE CARDINAL.

(By William Dutcher, President of National Association of Audubon Societies. Educational Leaflet No. 18.)

The Cardinal is one of the most brilliant of American birds; the name is derived from its color, which is a deep red, somewhat less vivid than scarlet. This color is supposed to be named from the vestments of a cardinal, an ecclesiastic of high rank in the Roman Church. The female bird, while not so conspicuous as her mate, is clad in a rich brown with just enough of red to light it up. They are indeed a striking pair, and wherever they are found soon become favorites. They are known as Cardinal Grosbeaks, Red-birds, crested Red-birds, Virginia Nightingales, and lately James Lane Allen has made familiar Kentucky Cardinal. The illustration shows the Cardinal's most prominent features—a very large strong bill, a conspicuous crest, which can be erected or depressed at will, short rounded wings and a long tail. The length of the Cardinal is a little over eight inches from tip of bill to end of tail.

Once seen, the Cardinal can never be mistaken for any other bird, especially as its plumage virtually never changes but remains much the same at all seasons of the year. Cardinals are resident wherever they are found, and their center of abundance is in the southern portion of the United States. The northern limit of its range is approximately a line drawn from a point in the vicinity of New York City, westward to southeastern Nebraska; thence southward to Texas, where it is found in the greater part of the state. These lines are arbitrary, but are given in order that a teacher may show scholars in a general way where Cardinals can be found. Further, they give teachers and pupils who reside outside these limits an opportunity to extend the Cardinal's known range by proving that it lives in their locality.

There have been records of the Cardinal made as far north as Nova Scotia and Southern Ontario, but it is believed that these were escaped cage birds, the Cardinal, probably owing to its beauty of plumage and richness of song, having long been a favorite cage bird. Alexander Wilson, in American Ornithology (Vol. II, page 145), which was published in 1828, says, "This is one of our most common cage birds, and is very

CARDINAL.
(Cardinalis cardinalis.)
⅞ Life-size.

generally known, not only in North America, but even in Europe; numbers of them having been carried over both to France and England, in which last country they are usually called Virginia Nightingales.''

Dr. Russ, the great German aviculturist, says, ''Beloved in its home by both Americans and Germans, it is protected and caught only for the cage bird fancy. Had been bred in Holland a century and a half ago and later in England.'' It is true that until recently large numbers of Cardinals were caught or taken from the nest while young, for shipment to foreign countries by bird dealers. Owing to the efforts of the National Association, this traffic is a thing of the past. The Model Law, which is in force in all the States where the Cardinal is found, prohibits all traffic in these birds and forbids their being shipped from the State.

The Cardinal is too beautiful and valuable a bird to be confined within the narrow limits of a cage, where its splendid spirit is soon broken by its unavailing attempts to escape. Mrs. Olive Thorne Miller, in one of her charming pictures of bird life, says of a captive Cardinal, that, ''He is a cynic, morose and crusty.'' Such a character cannot be attributed to the Cardinal when it is at liberty. Its wild, free song, its restless activity and its boldness are the antithesis of a depressed cage captive. Even when it receives the best care from its human jailer it is still a prisoner confined in a space so small that it never has an opportunity to stretch its wings in flight, nor can it ever bathe in the bright sunshine or view the blue skies above it. The whisperings of the winds through the sylvan shades is lost to the captive forever. Is it strange that the nature of this wild free spirit changes?

The writer has seen many hundreds of these beautiful birds in cages ready to be shipped, each one doomed to a short existence, a prisoner and an exile. Fortunately, this condition is now changed; and, had the National Association accomplished no other good, the stopping of the cage-bird traffic would be a sufficient reason for its organization.

In the South, where the Cardinal is one of the most abundant birds, it is a special favorite, rivaling the Mockingbird in the affections of the people. It is commonly found in the towns

as well as the rural districts. The female bird builds the nest, which is loosely constructed of leaves, bark, twigs, shreds of grape-vine, and is lined with dry grasses. The nest is placed in bushes or vines from eight to ten feet from the ground. Three or four white eggs, speckled with brown, are laid, and it is probable that in the South two broods are raised each season. The home life of Cardinals is a pattern of domestic felicity, so true are the sexes to each other. Even in winter they seem to be paired, for a male and a female are always seen together. However, during the season of incubation the tender solicitude of the male for his mate is best shown. In fact, his extreme anxiety that the home and its inmates should not be discovered excites him so much that he actually leads the visitor to the nest in the attempt to mislead.

The song of the male Cardinal is loud and clear, with a melodious ring, "What cheer! What cheer!" winding up with a peculiar long-drawn out e-e-e. Contrary to the usual custom in bird families, the female Cardinal is an excellent singer, although her notes are in an entirely different key from those of her gifted mate, being lower and to some ears more sweet and musical.

Audubon's "American Orinithological Biography" is so rare at the present day, being found only in the largest libraries, and is consequently so inaccessible to the ordinary reader, that his description of the song of the Cardinal is quoted in full.

"Its song is at first loud and clear, resembling the finest sounds produced by the flageolet, and gradually descends into more marked and continued cadences, until it dies away in the air around. During the love season the song is emitted with increased emphasis by this proud musician, who, as if aware of his powers, swells his throat, spreads his rosy tail, droops his wings, and leans alternately to the right and left, as if on the eve of expiring with delight at the delicious sounds of his own voice. Again and again are those melodies repeated, the bird resting only at intervals to breathe. They may be heard from long before the sun gilds the eastern horizon, to the period when the blazing orb pours down its noonday floods of heat and light, driving the birds to the coverts to seek re-

SCARLET TANAGER.
Life-size

pose for a while. Nature again invigorated, the musician recommences his song, when, as if he had never strained his throat before, he makes the whole neighborhood resound, nor ceases until the shades of evening close around him. Day after day the song of the Red-bird beguiles the weariness of his mate as she assiduously warms her eggs; and at times she also assists with the modesty of her gentler sex.

In addition to its great aesthetic value of song and plumage, the Cardinal has another important character which should endear it to the husbandman. Its food is varied, consisting of wild fruits such as grapes, berries, mulberries, cedar berries; grasshoppers, crickets, flies, ants and their larvae; it is especially fond of rose-bugs. The Cardinal is from every point of view a bird of great interest and value, and any person who makes its intimate acquaintance will form a life-long friendship.

THE AMERICAN QUAIL.

(From News from the Birds, L. S. Keyser—Courtesy D. Appleton & Company, New York.)

While you are young and live in the country where you can hear the blithe whistle of the Bob White and his sweet, tender love call, you do not need to wish yourself a grown person. They are among the most charming sounds of our rural districts, and after you have come to middle life or old age, every time you have a chance listen to them, you will wish yourself a light-hearted boy or girl again, skipping over the green hills and meadows. I think if I had my life to live over I should never again become discontended as long as I could hear those rural sounds.

Nest and Eggs of the Bob White.

Audubon describes a most interesting habit of these birds. He says they often roost on the ground in the grass or beneath a bent log, and this is the way they go to bed: They arrange themselves in a circle, with their heads extending outward, and then they move backward, making the circle smaller, until they almost touch, when they settle down and are ready for a jaunt into dreamland. But why do they choose such a position? Because if danger should approach, each bird can start up on the wing without colliding with his neighbors and dash away in his own direction. There is so much calculation in this habit, that it is difficult to believe that the birds are not endowed with a fair degree of reason.

BIRD PICTURES FREE TO TEACHERS.

The sum of $15,000 has been contributed to the National Association of Audubon Societies for the purpose of helping teachers to give simple instruction in bird study to their pupils during the year 1914. The Audubon plan to help teachers in this connection is as follows:

Any teacher or other person who will interest not less than ten children in contributing a fee of ten cents each to become Junior Members and will send this to the office of the National Association, will receive for each child ten of the best colored pictures of wild birds which have ever been published in this country. With each one of these ten pictures goes an outline drawing intended to be used by the child for filling in the proper colors with crayons. Each picture is also accompanied with a four page leaflet discussing the habits and general activities of the bird treated. Every child also receives an Audubon button. The cost of publishing and mailing this material is a little more than twice as much as the child's fee.

The teacher who forms such a class receives without cost to herself, one full year's subscription to the beautiful illustrated magazine, "Bird-Lore." This is the leading publication in the world on bird study. To the teacher also there is sent other free literature containing many hints on methods of putting up bird boxes, feeding birds in winter and descriptions of methods for attracting birds about the home or school house.

The accompanying illustration will give some idea of the character of these pictures, but remember they are all in natural colors, are much larger than are here indicated and are printed on cards of sufficient size to make attractive school room decorations.

The ten subjects supplied to children this year are as follows: Nighthawk, Mourning Dove, Meadowlark, Flicker, Sparrow Hawk, Screech Owl, Purple Martin, Cuckoo, Humming Bird and Robin.

Endorsing this work, Dr. P. P. Claxton, United States Commissioner of Education, says: "I consider the work of the Junior Audubon Classes very important for both educational and economic results, and I congratulate you upon the opportunity of extending it. The bird clause in the Mosaic Law ends with the words, 'That it may be well with thee, and that thou mayest prolong thy days.' The principle still holds. I hope that through your efforts the American people may soon be better informed in regard to our wild birds and their value."

In 1913 school children to the number of 53,157 availed themselves of this opportunity. Hundreds of enthusiastic letters have been received from teachers.

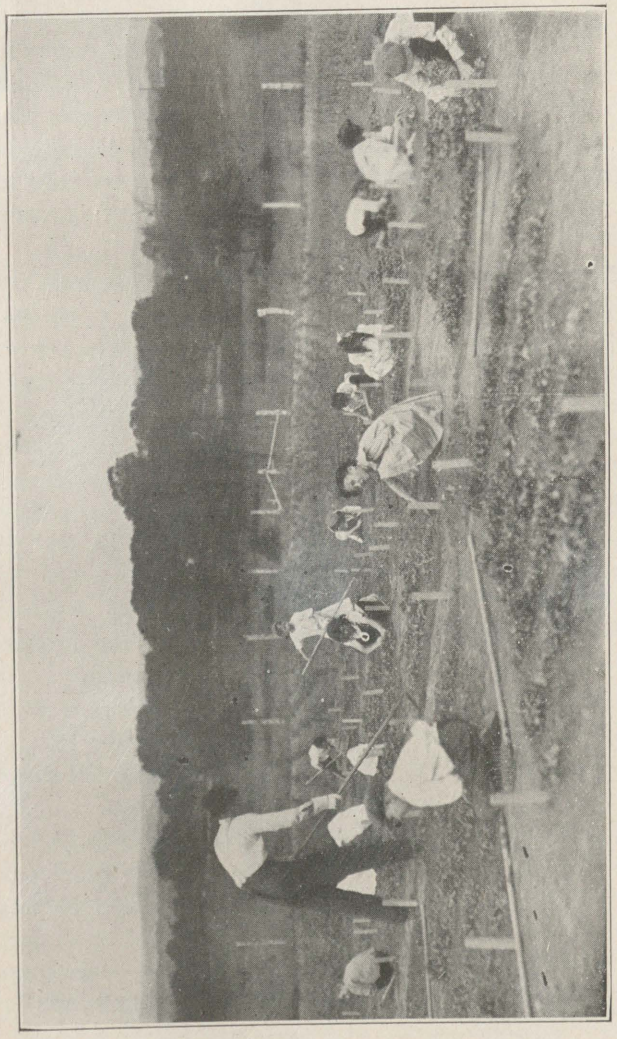
As long as the Association's special fund for this work holds out this offer is open to any teacher in the United States or Canada. Any teacher reading this notice may immediately form a class, send in the dues and receive the material, or further information will be gladly furnished upon request.

T. GILBERT PEARSON, Secretary.
1974 Broadway, New York City, N. Y.

VALUE OF SCHOOL GARDEN WORK.

"To own a bit of ground, to scratch it with a hoe, to plant seeds and watch their renewal of life, this is the commonest delight of the race, the most satisfactory thing a man can do."
—Charles Dudley Warner.

In any phase of educational work, the first question which presents itself is, What is the effect of the exercise or the study upon the pupil? Those who have had most experience in the school garden movement are emphatic in their statements regarding the educational value of this work. It is claimed that quick discrimination is one of the pronounced qualities resulting from it. Skill with the hands is necessarily an outcome. The handling of small seeds and of various tools naturally develops skill and agility. Systematic methods also follow from the natural order in which the operations conducted in the garden must be taken up. This not only develops a very important faculty, but at the same time teaches the young mind a logical sequence based upon the natural order of things. Industry is not an unimportant result which comes from school garden work. The idea of ownership and the rights of ownership which comes from the possession of a garden, induce the pupil to exercise his ability to make his possession as good or better than that of his neighbor. The natural result of this is industry. Business experience is an important result of harvesting and accounting for the products which are grown. The right of ownership and a respect for property rights are more largely developed from the possession of individual gardens than in community gardens. The idea that "what's mine is my own" becomes very strongly developed, with the natural sequence



TRAINING SCHOOL—WESTERN NORMAL—THE SCHOOL GARDEN

Third grade children weeding their lettuce beds. During the past season the following crops were cultivated by the different grades: second grade, radishes; third grade, lettuce; fifth grade, beans; fourth and sixth grades, tomatoes. Besides a share of the products which the children took home, vegetables were sold to the amount of $35.00. Some of the beans and tomatoes raised were canned by the older girls in the classes in Domestic Science.

that such possessions must be properly protected and all rights concerned respected. On the other hand, a party interest in a community garden does not so emphatically develop the idea of individual responsibility, and each one has a tendency to care less for the plants which another has shared in producing, with the result that responsibility is shirked, and there is lack of interest, with a consequent lack of industry. For this reason, in our work from the very inception, the individual garden idea has been emphasized and strictly adhered to.

The individual garden has the advantage of allowing each one possessing a garden to perform each and every operation connected with the preparation, planting and care of the plants grown in that garden. This, as before stated, not only develops system, but it furnishes a basis of very valuable knowledge, if the operations connected with these crops in regard to preparation of soil, depth of planting, date of planting, and manner of harvesting and training are all carefully observed, the young mind has indelibly fixed upon it impressions which will be retained throughout life. The cultivation and management of these crops in future years will be looked upon as a sort of instinct, the time and manner of acquiring this knowledge having, perhaps, long ago been forgotten. The skill and ability resulting from the use of various implements connected with the cultivation of crops are of no mean significance.

In connection with these operations, the teacher can illustrate the good and evil effects from certain methods of cultivation, of working soil when in good and bad condition, with the consequent effects upon growing crops; can demonstrate the value of deep and shallow tillage, together with the importance of maintaining a loose soil mulch for the conservation of moisture. In fact, the school garden should be looked upon as a laboratory in which the different steps in the life of the plant are to be illustrated and demonstrated. The nature of soil, the importance of fertilization, and the conditions essential to germination, as well as the conditions conducive to growth, can all be illustrated in a logical and impressive manner in the school garden.

Field excursions may be an ideal way for conducting nature study with reasoning minds that have been trained to a

logical system and in a consecutive, systematic fashion, but school gardens offer facilities not to be approached in field excursions. Field excursions give disconnected fragments of the history of natural objects, while the school garden furnishes opportunities for observing plants from seed time to harvest. In addition to the actual operations in the school garden, a number of school room studies and experiments may be conducted, which will be of decided interest and value.

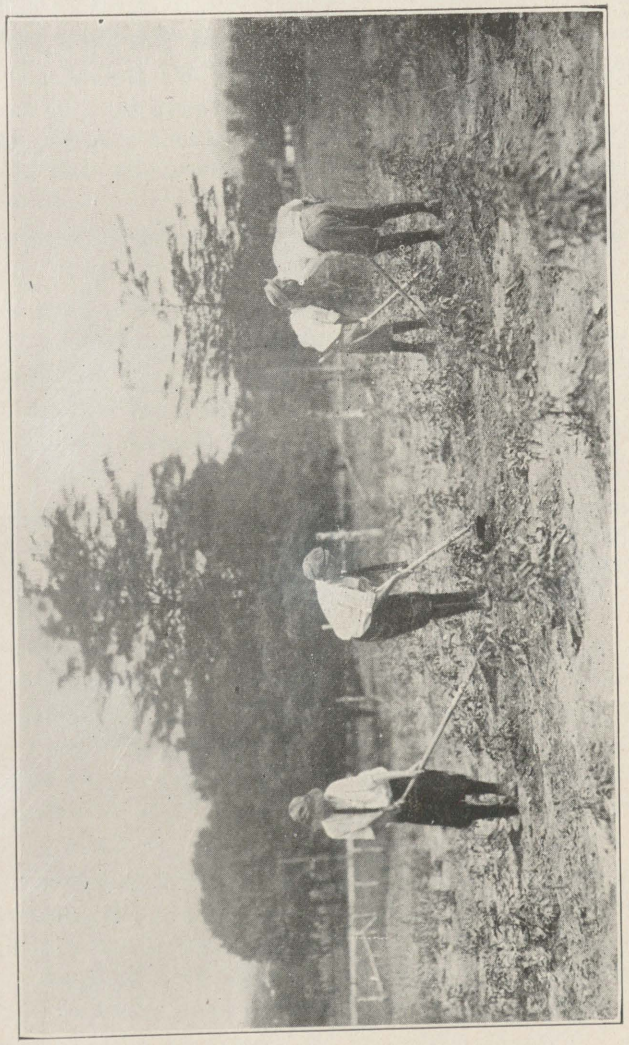
L. C. CORBETT, Horticulturist,
Washington, D. C.

GARDENS FOR SCHOOL CHILDREN.

Much has been said and written during the past five or six years on the subject of school gardens, and many efforts have been made by teachers and pupils to carry out the suggestions of these speakers and writers. In the majority of cases these efforts have not been crowned with the success that the enthusiastic teacher and her equally enthusiastic pupils had reason to expect. Why this?

In the first place, few teachers and pupils should attempt to grow anything to maturity in a school garden. The reason for this is plain. Schools close during the latter part of May and early June; the teacher goes to her home, and the little garden in which all have taken such pleasure and pride, lies neglected and forgotten, during the very weeks in which it needs most attention and care. In a few days, at this rapidly growing season of the year, the weeds have overrun the garden and a little later have completely starved out the plants. The garden, once a pleasant spot to look upon, becomes an offense to the eye and an object of derision to the passerby, perhaps to the children themselves. What, then, is the use of a school garden?

The school garden's sole and only use is that of an experimental plot with which to teach the conditions influencing the growth of plants and in which to interest children in the study of plant life. Here the soil may be properly fertilized, carefully prepared, thoroughly pulverized, and the seed-bed made



TRAINING SCHOOL—WESTERN NORMAL—THE SCHOOL GARDEN.
Sixth grade boys cultivating tomatoes.

by the children themselves under the guiding hand of the teacher. In this plot the seeds may be placed at the proper distances apart, covered to the right depth, and their germination and growth watched and carefully studied from day to day.

Each pupil may keep a note book in which he records the date of planting, the date when the first plants appear, the progress of their growth, and the time of the successive cultivations. He may also keep a record of the weather conditions from the date of planting, noting the morning, noon, and evening temperature, if a thermometer is at hand, and whether the day is clear, cloudy, or rainy. In this note book he may keep a record of all of his work in this garden.

To each pupil may be assigned a particular portion and several pupils may be encouraged to cultivate the same kind of plants and vie with each other in trying to force them to make the most rapid growth. The teacher may encourage this competition and assist the less successful to find the cause of their failures.

This garden should not be large, its size depending upon the number of pupils in the school. In no case should any pupil have more space allotted to him than he can easily care for in the best possible manner.

When school is about to close, all plants should be pulled up and the plot sown down to clover and oats or some other quick-growing crop, to keep it from weeds and that it may be in good condition for the next year's garden. In no case should it be left to grow up to weeds and become an eyesore and a disappointment to the pupils who planted it. Better not plant a garden at all.

In conjunction with the school garden, and of far greater importance, the pupil may be encouraged to grow plants to complete maturity in the garden at home. Here, too, he may have a small plot, all his own, on which to exercise the same industry and care he has been taught to use at school. In this home garden he may profit by his school experience and by better planting, more thorough cultivation, careful thinning and the like, bring his plants to complete and more nearly perfect maturity.

Each county superintendent should see to it that there are prizes offered by the county fair authorities for grains, vegetables, and fruits grown by school children in their home gardens. When this is done, and rightly done, parents will not complain that their children take no interest in gardening and teachers will not give voice to that wail now too often heard, "O, what can I do to interest my pupils in the study of agriculture?"

K. L. HATCH,
Principal of the Winnebago County School
of Agriculture, Winneconne, Wis.

"One purpose of the school garden in the country school should be to help in beautifying the grounds. Flowers should abound, for they are educators, and make us sensitive to all that is lovely, whether in the field, along the roadside or in the deep woods.

"To beautify the school ground with the flower garden does not mean that all the wild vines, wild shrubs or wild flowers are to be eliminated and a straight row of geraniums planted across the front of the yard or a bed of nasturtiums made in the middle of the open space of the school grounds. Save all that is of a wild nature. Study how nature plants, and imitate her example. Leave the open spaces for the playground, and plant along the fences, walks or at the base of the school building. I visited one of my schools recently where the directors were allowing the wild grape vines, wild blackberry and raspberry, wild flowers, etc., to flourish. Thus a bit of wild woodland is available for observation work. Here birds may nest and sing their songs, and the modest wild flower find a refuge and protection. Here children may learn lessons about animal and plant life in a very practical way."—By O. J. Kern.

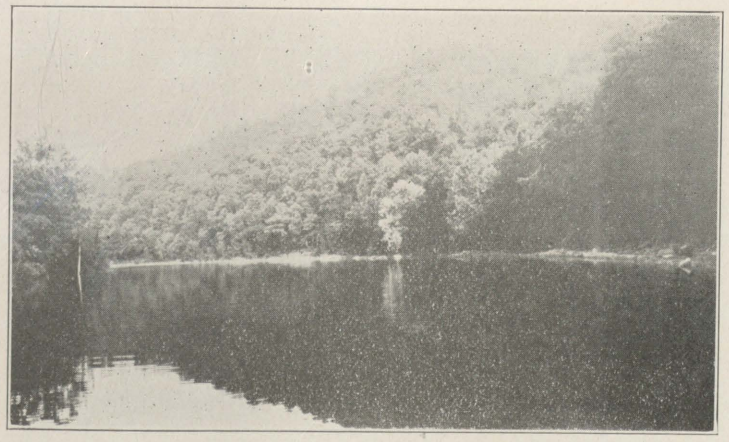
SUN AND RAIN.

Down falls the pleasant rain,
To water thirsty flowers;
Then shines the sun again,
To cheer this earth of ours.

If it were always rain,
The flowers would be drowned;
If it were always sun,
No flowers would be found.

THE COUNTRY BOY'S CREED.

"I believe that the Country which God made is more beautiful than the City which man made; that life out of doors and in touch with the earth is the natural life of man. I believe that work is work wherever I find it, but that work with nature is more inspiring than work with the most intricate machinery. I believe that the dignity of labor depends not on what you do, but on how you do it; that opportunity comes to the boy on the farm as often as to a boy in the city; that life is larger and freer and happier on the farm than in town; that my success depends not upon my location, but upon myself. I believe in working when you work, and playing when you play, and in giving and demanding a square deal in every act of life."—Northwest Journal of Education.



BEAUTIFUL KENTUCKY RIVER

THE FARMER'S CREED.

I believe in a permanent agriculture; a soil that will grow richer rather than poorer from year to year.

I believe in 100-bushel corn and in 50-bushel wheat, and I shall not be satisfied with anything less.

I believe that the only good weed is a dead weed, and that a clean farm is as important as a clean conscience.

I believe in the farm boy and in the farm girl, the farmer's best crops, the future's best hope.

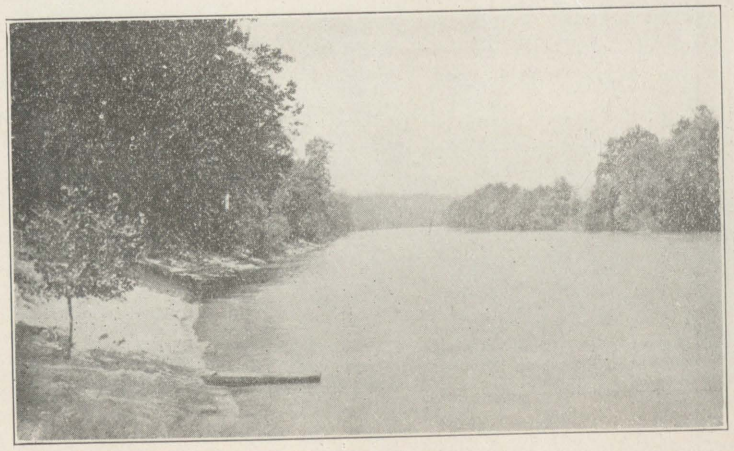
I believe in the farm woman, and will do all in my power to make her life easier and happier.

I believe in the country school that prepares for country life, and a country church that teaches its people to love deeply and live honorably.

I believe in community spirit, a pride in home and neighbors, and I will do my part to make my community the best in the State.

I believe in the farmer, I believe in farm life, I believe in the inspiration of the open country.

I am proud to be a farmer, and I will try earnestly to be worthy of the name.—By Frank I. Mann.



A SCENE ON KENTUCKY RIVER

SUGGESTIVE PROGRAM FOR ARBOR DAY.

Song, by School—America.
Reading—Governor's Proclamation.
Recitation—The Heart of the Tree.
Why We Plant the Tree—Four Little Boys.
Recitation—The First Blue Bird.
Trees of the Fragrant Forest—Seven Children.
Recitation—How to Make a Whistle.
Talk—Some Practical Suggestions as to Treatment of School Grounds With Trees and Shrubbery—County Superintendent.
Song—Selected.
Talk, Protection of Birds—By School Trustee.
Arbor Day Acrostic—Eight Children.
Tree Planting, with Appropriate Quotations.

SUGGESTIVE PROGRAM.

Song, by School—A Hymn for Arbor Day.
Devotional Exercises—Responsive Readings.
Song—Selected.
Reading—The Significance of Arbor Day (from Annual).
Recitation, by a very small boy—"The Kind of Trees to Plant."
Recitation—Plant a Tree.
Address of the Birds—For Five Pupils.
Recitation—The Blue Jay.
Trees I'll Plant—By Three Children.
Reading.
Nature Lover's Creed.
Planting of Trees.

SUGGESTIVE PROGRAM.

Song, by School—An Anthem for Arbor Day.
Devotional Exercises—Quotations from the Bible.
Why We Should Plant Trees—By School Trustee.
My Favorite Tree—By Five Pupils.
Recitation—Arbor Day Workers.
Essay—By Pupil.
Recitation—Little by Little.
Recitation—Small Beginnings.
Song—Selected.
Recitation—The Bonnie Brown Quail.
An Arbor Day Visit.
Tree Planting, with Quotations.

THE HEART OF THE TREE.

What does he plant who plants a tree?
He plants the friend of sun and sky;
He plants the flag of breezes free;
The shaft of beauty towering high;
He plants a home to heaven anigh,
For song and mother-croon of bird
In hushed and happy twilight heard—
The treble of heaven's harmony—
These things he plants who plants a tree.

What does he plant who plants a tree?
He plants cool shade and tender rain,
And seed and bud of days to be,
And years that fade and flush again;
He plants the glory of the plain;
He plants the forest's heritage;
The harvest of a coming age;
The joy that unborn eyes shall see—
These things he plants who plants a tree.

What does he plant who plants a tree?
He plants, in sap and leaf and wood,
In love of home and loyalty
And far-cast thought of civic good—
His blessings on the neighborhood,
Who in the hollow of His hand
Holds all the growth of all our land—
A nation's growth from sea to sea
Stirs in his heart who plants a tree.

Henry Cuyler Bunner
(From Poems of H. C. Bunner)

WHY WE PLANT THE TREE.

FIRST PUPIL.

We plant the tree for the shade it gives;
For the shade of a leafy tree
On a hot summer's day when the hot sun shines,
Is pleasant for all to see.

SECOND PUPIL.

We plant the tree for the dear birds' sakes,
For they can take their rest,
While the mate sings of love and cheer
To the mother on her nest.

THIRD PUPIL.

We plant the tree to please the eye,
For who does not like to see,
Whether on hill or plain or dale,
The beauty of a tree?

FOURTH PUPIL.

We plant the tree for the wood to use
In winter to keep us warm,
And for hall and church and store and house,
To have shelter from the storm.

—Primary Education.

THE FIRST BLUEBIRD.

Jest rain and snow! and rain again!
And dribble! drip! and blow!
Then snow, and thaw! and slush! and then
Some more rain and snow!

This mornin' I was 'most afeard
To wake up—when, I jing!
I seen the sun shine out and heerd
The first bluebird of spring!—
Mother sh'd raised the winder some—
And in acrost the orchard come,
Soft as an angel's wing,
A breezy, treesy, beesy hum,
Too sweet for anything!

The winter's shroud was rent apart—
The sun burst forth in glee,—
And when that bluebird sung, my heart
Hopped out of bed with me!

—James Whitcomb Riley.

TREES OF THE FRAGRANT FOREST.

(For seven children. As they take their places upon the stage, those in the seats recite the first stanza.)

Trees of the fragrant forest,
With leaves of green unfurled,
Through summer's heat, through winter's cold,
What do you do for our world?

First—
Our green leaves catch the raindrops
That fall with soothing sound,
Then drop them slowly, slowly down,
'Tis better for the ground.

Second—
When rushing down the hillside,
A mighty freshet forms,
Our giant trunks and spreading roots
Defend our happy homes.

Third—
From burning heat in summer,
We offer cool retreat,
Protect the land in winter's storm
From cold, and wind, and sleet.

Fourth—
Our falling leaves in autumn,
By breezes turned and tossed,
Will make a deep sponge carpet warm
Which saves the ground from frost.

Fifth—
We give you pulp for paper,
Our fuel gives you heat,
We furnish lumber for your homes,
And nuts and fruit to eat.

Sixth—
With strong and graceful outline,
With branches green and bare,
We fill the land through all the year
With beauty everywhere.

All—
So, listen from the forest,
Each one a message sends
To children on this Arbor Day,
"We trees are your best friends."

—Primary Education.

HOW TO MAKE A WHISTLE.

First take a willow bough,
Smooth and round and dark,
And cut a little ring
Just through the outside bark.

Then tap and rap it gently
With many a tap and pound,
To loosen up the bark,
So it may turn round.

Slip the bark off carefully,
So that it will not break,
And cut away the inside part,
And then a mouthpiece make.

Now put the bark all nicely back,
And in a single minute
Just put it to your lips,
And blow the whistle in it.

—Selected.

ARBOR DAY—ACROSTIC.

First Pupil—
All the year the beauteous trees
Yield us fruit and flowers,
Shelter from the winter winds
Or shade for summer hours.

Second Pupil—
Ruby grow the autumn leaves
Beneath the mellow sun,
And then, again, the tender green
Tells us sweet spring has come.

Third Pupil—
Beneath the maple's grateful shade
The toiler loves to rest,
And among its lithesome boughs
The robin builds her nest.

Fourth Pupil—
O'er our dear ones' rest they wave,
And sweeter seems their sleep,
That the friends they loved in life
Their watch above them keep.

Fifth Pupil—
Regally the forests stand
As ages pass away;
Above our hoary heads they'll rise,
Lithe as in childhood's day.

Sixth Pupil—
Dear to us each branch and bud,
Dear each flower and leaf;
They make our gleeful hours more bright,
They soothe the hour of grief.

Seventh Pupil—
All hail our noble forest trees,
The orchard and the grove!
They are to us as friends indeed,
And claim our warmest love.

Eighth Pupil—
You and I, then, will defend
Our friends from useless harm,
We'll thank them that such gifts they bring
And lend to life a charm.

All Together—
Now, if our letters you will read,
I'm very sure you'll say,
"Come and help us plant a tree,
For this is Arbor Day."
—Elva J. Smith, in Oregon Teachers' Monthly.

A HYMN FOR ARBOR DAY.

(Issued by American Civic Association, Union Trust Building, Washington, D. C.)

(To be sung by Schools to "America.")

God save this tree we plant!
And to all nature grant
Sunshine and rain.
Let not its branches fade,
Save it from axe and spade,
Save it for joyful shade—
Guarding the plain.

When it is ripe to fall,
Neighbored by trees as tall,
Shape it for good.
Shape it to bench and stool,
Shape it to square and rule,
Shape it for home and school,
God bless the wood.

Lord of the earth and sea,
Prosper our planted tree,
Save with thy might.
Save us from indolence,
Waste and improvidence,
And in thy excellence,
Lead us aright.
—Henry Hanby Hay.

THE KIND OF TREES TO PLANT.

"I'll help to plant trees,
I'll plant apples, and peaches and cherries and plums,
So I'll always have plenty to give my chums;
But not for the world and all of its riches
Will I help to plant any tree that grows switches."
—Frances Frey.

DAME NATURE'S RECIPE (APRIL).

Take a dozen little clouds
And a patch of blue;
Take a million raindrops,
As many sunbeams, too.

Take a host of violets,
A wandering little breeze,
And myriads of little leaves
Dancing on the trees.

Then mix them well together,
In the very quickest way,
Showers and sunshine, birds and flowers,
And you'll have an April day.
—Selected.

PLANT A TREE.

He who plants a tree
Plants a hope.
Rootlets up through fibers blindly grope;
Leaves unfold into horizons free.
So man's life must climb
From the clods of time
Unto heavens sublime.
Canst thou prophesy, thou little tree,
What the glory of thy boughs shall be?

He who plants a tree
Plants a joy.
Plants a comfort that will never cloy—
Every day a fresh reality.
Beautiful and strong,
To whose shelter throng
Creatures blithe with song.
If thou couldst but know, thou happy tree,
Of the bliss that shall inhabit thee!

He who plants a tree,
He plants peace.
Under its green curtains jargons cease;
Leaf and zephyr murmur soothingly;
Shadows, soft with sleep,
Down tired eyelids creep,
Balm of slumber deep.
Never hast thou dreamed, thou blessed tree,
Of the benediction thou shalt be.

He who plants a tree,
He plants youth:
Vigor won for centuries, in sooth;
Life of time, that hints eternity!
Boughs their strength uprear,
New shoots every year
On old growths appear.
Thou shalt teach the ages, sturdy tree,
Youth of soul is immortality.

ADDRESS OF THE BIRDS.

AN EXERCISE FOR FIVE PUPILS.

The Robin—

I am a robin, very brown
And big and plump and smooth and round.
My breast is pretty, bright and red
And see this top-knot on my head!
I heard the boys awhile ago
Shooting robins o'er the snow,
And flew away in trembling fear
And thought I'd hide from them in here.

The Blue Bird—

I'm a blue bird. Don't you see
Me sitting on this apple-tree,
I left my nest an hour ago
To look for bugs and worms, you know;
And now I know the very thing—
That while I'm waiting I will sing,
Oh! beautiful and balmy spring.

The Woodpecker—

I'm a woodpecker—a bird
Whose sound through wood and dale is heard.
I tap, tap, tap, with noisy glee,
To test the bark of every tree.
I saw a rainbow stretching gay,
Across the sky, the other day;
And some one said, "Good-bye to rain,
The woodpecker has come again."

The Lark—

I'm the lark and early rise
To greet the sun-god of the skies,
And upright cleave the freshening air,
To sail in regions still more fair.
Who could not soar on lusty wing,
His Maker's praises thus to sing?

The Nightingale—

In music I excel the lark,
She comes at dawn, I come at dark,
And when the stars are shining bright,
I sing the praises of the night.

In Concert—

Oh! in a chorus sweet we'll sing,
And wake the echoes of the spring.

THE BLUE JAY.

O Blue Jay in the maple tree,
Shaking your throat with such bursts of glee,
How did you happen to be so blue?
Did you steal a bit of the lake for your crest,
And fasten blue violets into your vest?
Tell me, I pray you—tell me true!

Did you dip your wings in azure dye,
When April began to paint the sky
That was pale with winter's stay?
Or were you hatched from a blueball bright,
'Neath the warm, gold breast of a sunbeam light,
By the river one blue spring day?

O Blue Jay up in the maple tree,
A-tossing your saucy head at me,
With ne'er a word for my questioning.
Pray cease for a moment your "ting-a-iink,"
And hear when I tell you what I think,
You bonniest bit of the spring!

I think, when the fairies made the flowers
To grow in these mossy fields of ours,
Periwinkles and violets rare,
There was left of the spring's own color, blue,
Plenty to fashion a flower whose hue
Would be richer than all, and as fair.

So, putting their wits together, they
Made one great blossom, so bright and gay
The lily beside it seemed blurred;
And then they said: "We will toss it in air;
So many blue blossoms grow everywhere,
Let this pretty one be a bird!"

—S. W. Swett.

TREES I'LL PLANT.

First Child—
Because I love the robins well,
I'll plant a cherry tree;
Then when farmers roughly scold,
They'll come and live with me.

Second Child—
Because I love the pretty squirrels,
So frisky and so gay,
I'll many nut trees plant around,
Then they'll come near to play.

Third Child—
Because I love the shady spots
That leafy limbs can make,
A dozen trees I'll plant each year,
Just for their own sweet sake.

Together—
Because we love the whole wide world
And every living thing,
We'il plant, and bless, and keep the trees
For all the good they bring.

—Lettie Sterling.

AN ANTHEM FOR ARBOR DAY.

Tune—"America."

Joy for the sturdy trees!
Fanned by each fragrant breeze,
Lovely they stand!
The song birds o'er them trill,
They shade each tinkling rill,
They crowd each swelling hill,
Lowly or grand.

Plant them by stream and way,
Plant where the children play
And toilers rest,
In every verdant vale,
On every sunny swale,
Whether to grow or fail,—
God knoweth best.

Select the strong, the fair,
Plant them, with earnest care—
No toil is vain.
Plant in a fitter place,
Where, like a lovely face,
Let in some sweeter grace,
Change may prove gain.

God will His blessing send—
All things on Him depend.
His loving care
Clings to each leaf and flower
Like ivy to its tower.
His presence and His power
Are everywhere.

—Samuel F. Smith.

SUBJECTS FOR COMPOSITIONS FOR ARBOR DAY.

1. A Few Birds Most Useful to Man.
2. Why We Should Be Interested in Arbor Day.
3. School Gardens.
4. Home Gardens.
5. How to Make Bird Houses.
6. Birds As Insect Destroyers.
7. The Wild Flowers of Our District.
8. My Favorite Tree.
9. What Trees Do For Us.
10. Our State Flower.

MY FAVORITE TREE.

(If possible, let each pupil carry a branch of the tree he describes.)

First Pupil—

"I speak for the elm. It is a noble tree. It has the shape of a Greek vase and such rich foliage running down the trunk to the very roots, as if a vine were wreathed about it."

Second Pupil—

"My favorite is the maple. What a splendid cupola of leaves it builds up into the sky. And in autumn, its crimson is so rich one might call it the blush of the woods!"

Third Pupil—

"The birch is a tree for me. How like a shaft of ivory it gleams in the daylight woods! How the moonlight turns it into pearl!"

Fourth Pupil—

"What a tree is the oak! First a tiny needle, rising toward the sun, a wreath of green to endure for ages. The child gathers the violet at its foot; as a boy he pockets the acorns; as a man he looks at its towering height and makes it the emblem of his ambition."

Fifth Pupil—

"The oak may be the king of the lowlands, but the pine is king of the hills. There he lifts his haughty head like a warrior and when he is roused to meet the storm, the battle cry he sends down the wind is heard above all the voices of the greenwood."

All—

Hail to the trees!
Patient and generous, mothers of mankind;
Arching the hills, the minstrels of the wind,
Spring's glorious flowers and summer's balmy tents.
A sharer in man's free and happier sense.
The trees bless all, and then, brown-mantled, stand
The sturdy prophets of a golden land.

ARBOR DAY WORKERS.

An acorn was dropped by a gay little squirrel
As he scampered along on his way;
Oh, say, did he know he had planted a tree,
Doing his part to keep Arbor Day?

From the bill of a robin, a cherry stone dropped;
That stone to a cherry tree grew;
Said the bird, "Tho' the season for Arbor Day's past
I wish you would count me in, too."

And the gay wind had scattered full many a seed
He had gathered in frolicsome play;
He shouted, "O, what would you do without me,
To help you keep glad Arbor Day?"

"I tumble the apples and peaches all down,
The pears and the plums that you see;
I know they are hiding full many a seed
Which will grow to a beautiful tree."

And all the children together exclaimed,
"We wish to help, too, if you please—
To help the dear birds and the squirrels and the wind
In planting the beautiful trees."

—Selected.

LITTLE BY LITTLE.

"Little by little," the acorn said,
As it slowly sank in its mossy bed,
"I am improving every day,
Hidden deep in the earth away."
Little by little each day it grew;
Little by little it sipped the dew;
Downward it sent out a threadlike root;
Up in the air sprung a tiny shoot,
Day after day, and year after year,
Little by little the leaves appear;
And the slender branches spread far and wide,
Till the mighty oak is the forest's pride.

"Little by little," said the thoughtful boy,
"Moment by moment, I'll well employ,
Learning a little every day,
And not misspending my time in play;
Whatever I do I will do it well.
Little by little, I'll learn to know
The treasured wisdom of long ago;
And one of these days, perhaps, will see
That the world will be the better for me."

—Selected.

A TOAST TO OUR NATIONAL BIRDS.

The American eagle,
The Thanksgiving turkey;
May one give us peace in all our states,
And the other, a piece for all our plates.

THE WISE OLD OWL.

"A wise old owl lived in an oak,
The more he saw the less he spoke.
The less he spoke, the more he heard;
Why can't we all be like that bird?"

SMALL BEGINNINGS.

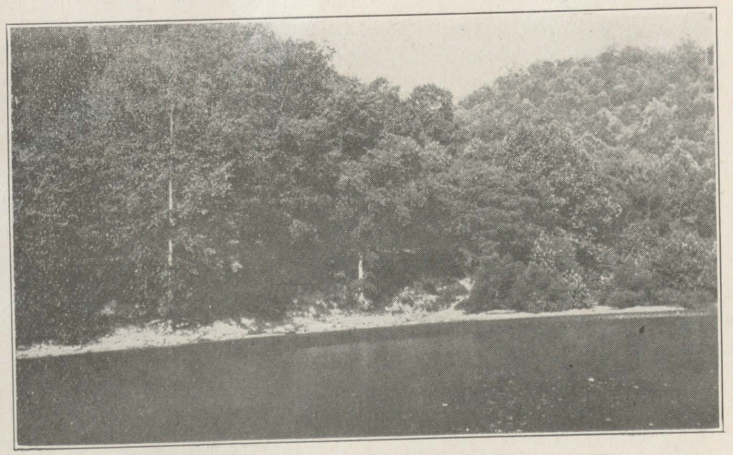
(1) A traveler through a dusty road strewed acorns on the lea;
And one took root and sprouted up, and grew into a tree.
Love sought its shade, at evening time, to breathe its early vows;
And age was pleased, in heats of noon, to bask beneath its boughs;
The dormouse loved its dangling twigs, the birds sweet music bore;
It stood a glory in its place, a blessing evermore.

(2) A little spring had lost its way amid the grass and fern,
A passing stranger scooped a well, where weary men might turn;
He walled it in, and hung with care a ladle at the brink;
He thought not of the deed he did, but judged that toil might drink;
He passed again, and lo! the well, by summers never dried,
Had cooled ten thousand parched tongues, and saved a life beside.

(3) A dreamer dropped a random thought; 'twas old, and yet 'twas new;
A simple fancy of the brain, but strong in being true.
It shone upon a genial mind, and, lo! its light became
A lamp of life, a beacon ray, a monitory flame;
The thought was small, its issue great; a watch-fire on the hill,
It sheds its radiance far adown, and cheers the valley still.

(4) A nameless man, amid a crowd that thronged the daily mart,
Let fall a word of hope and love, unstudied from the heart;
A whisper on the tumult thrown,—a transitory breath,—
It raised a brother from the dust; it saved a soul from death.
A germ! O fount! O word of love! O thought at random cast!
Ye were but little at the first, but mighty at the last.

—Charley Mackay.



WOODLANDS ON THE KENTUCKY RIVER

THE BONNY BROWN QUAIL.

The song, the song of the bonny brown quail!
My heart leaps up at the joyous sound,
When first the gleam of the morning pale
Steals slowly over the dewy ground;
Ere yet the maples along the hill

Are draped with fringes of sunlight gold,
I hear the notes of his piping shrill,
From hill, and valley, and field, and wold—
"'Tis light! 'Tis light!
Bob White! Bob White!"
Then up he springs to the topmost rail,
And struts and sings in his proud delight,
The song of the bonny brown quail.

Thus all day long in the tasseled corn,
And where the willowy waters flow,
In field by the blade of the reaper shorn;
In copse, and dingle and vale below;
Where star-crowned asters delight to stand,
And golden-rods in their robes of state;
And in the furrows of fallow land,
He calls aloud to his dusky mate;
"All right! All right!
Bob White! Bob White!"
And from her nook where the brambles trail,
She guides the course of her whirring flight
By the song of the bonny brown quail.

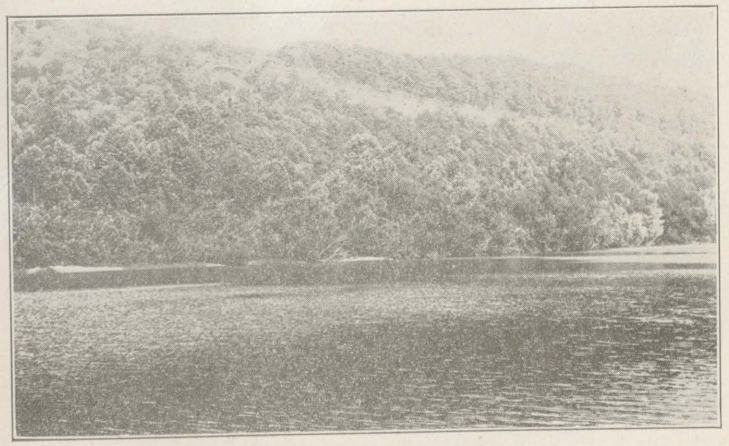
O bonny bird with the necklaced throat,
The song you sing is but brief and shrill,
And yet methinks there never was note
More sweetly tuned by a master's skill.
And like the song of a vanished day,
It fills my heart with a subtle joy,
Till, all forgetting my locks of gray,
I mock your whistle, again a boy:
"You're right! You're right!
Bob White! Bob White!"
The hair may whiten, the cheek may pale;
Time only mellows the old delight
In song of the bonny brown quail.

When gliding slowly from east to west,
The long black shadows begin to crawl;
Ere dew has wetted his speckled breast,
The brown quail whistles his loud recall:
"Come home! Come home! The wind is still;
The light is paling along the sky;
The maples are nodding below the hill;
The world is sleepy and so am I."
"Good night! Good night!
Bob White! Bob White!"
The stars keep watch when the sunbeams fail,
And morn will waken the golden light,
And the song of the bonny brown quail.

A whirr of the wings o'er the stubble brown;
A patter of feet below the hill;
A close brown circle, all nestled down—
"Bob White! Good night!" and all is still.
The rabbit passes with velvet tread,
And eyes of wonder that wink and peep;
The winds sing lullaby overhead,
And put the bonny brown quail to sleep.
"Good night! Good night!
Bob White! Bob White!"
Would I could hide in the dewy vale,
And bid the care of the world good-night,
In song, like the bonny brown quail.

—Lee O. Harris.

Indiana Arbor and Bird Day.



LOVER'S LEAP ON KENTUCKY RIVER.

AN ARBOR DAY VISIT.

(By Bertha E. Bush, Osage.)

Characters—

Arbor Day.
Schoolchildren, any number.
Dryads, four leaders with any number desired following.

Costumes—

Schoolchildren, ordinary dress. Arbor Day, white dress with ribbon or tissue paper decorations of pink. Dryads, green dresses, or dresses trimmed with green tissue paper rosettes and bands; flowing hair with a twist of green tissue paper forming a coronet about it.

The verses may be given singly or by each group in concert. At the opening of the piece, a knocking is heard at the door.

Schoolchildren—

Who knocks upon the schoolroom door?
(A pupil goes to the door and opens it.)

Arbor Day (outside)—

'Tis Arbor Day. 'Tis Arbor Day.

Pupil Who Opened Door—

A guest we gladly greet once more!
Come in, dear Arbor Day.
(Arbor Day enters, followed by dryads.)

Schoolchildren—

O welcome, welcome, Arbor Day!
And who are these who come with you?

Arbor Day (Bringing dryads forward)—

These are the dryads of the trees;
A message they would bring to you.

Schoolchildren—

O dearly do we love the trees,
Their swaying branches, all astir,
Their fair leaves rustling in the breeze.
Right welcome is each messenger.

Dryads—

We thank you for your welcome kind.
The messages we bear
Are greetings full of kindly love
And thanks for friendly care.

First Dryad—

From splendid forests stretching wild,
To ruthless choppers' axes prey,
We bring a greeting to each child
Whose voice would bid destruction stay.

Second Dryad—

From countless newly planted trees,
Growing and glad, a happy throng,
We bring you messages of thanks
For helping the good work along.

Third Dryad—

From every tree that bears you fruit,
Or any kind of nut uplifts,
From maples, rich in sweetest sap,
We bring the proffer of their gifts.

Fourth Dryad—

From every tree that lifts its head,
Little or big or young or old,
We bring you thanks for taking thought
Their strength and beauty to uphold.

Schoolchildren—

We thank you, dryads; to the trees
Please carry back this word, and say
That we will love and care for them
On Arbor Day and every day.

All (joining hands and circling around Arbor Day while they sing to the tune of "Jolly Old St. Nicholas")—

Welcome, welcome, Arbor Day,
Harbinger of Spring!
Trees and children love you well;
Happiness you bring.
Flowers and birds and rustling leaves
Follow in your way.
Joyfully we greet you here!
Welcome, Arbor Day.

SUPPOSE.

(From Williams' Choice Literature.)

Alice Cary.

Alice Cary was born in Ohio in 1820. She began writing both prose and poetry when only eighteen years old.

Suppose, my little lady,
  Your doll should break its head,
Could you make it whole by crying
  Till your nose and eyes are red?
And wouldn't it be pleasanter
  To treat it as a joke,
And say you're glad "'Twas Dolly's,
  And not your head that broke?"

Suppose you're dressed for walking,
  And the rain comes pouring down,
Will it clear off any sooner
  Because you scold and frown?
And wouldn't it be nicer
  For you to smile than pout,
And so make sunshine in the house,
  When there is none without?

Suppose your task, my little man,
  Is very hard to get,
Will it make it any easier
  For you to sit and fret?
And wouldn't it be wiser,
  Than waiting like a dunce,
To go to work in earnest,
  And learn the thing at once?

Suppose that some boys have a horse,
  And some a coach and pair,
Will it tire you less, while walking,
  To say, "It isn't fair?"
And wouldn't it be nobler
  To keep your temper sweet,
And in your heart be thankful
  You can walk upon your feet?

And suppose the world don't please you,
  Nor the way some people do,
Do you think the whole creation
  Will be altered just for you?
And isn't it, my boy or girl,
  The wisest, bravest plan,
Whatever comes or doesn't come,
  To do the best you can?

DRILL.

The following may be given by six girls. Each wears a crown made of colored leaves (cut from paper). Around her waist she wears a bright scarf of scrim (of the color of the crown). In her hand each carries a branch of laurel.

FIRST PUPIL.

(Green crown and sash.)

A stately elm with leaves of green,
  O'er-spreading far on high
Its canopy of fresh spring leaves,
  All hail the elm! I cry.

SECOND PUPIL.

(Crown of pink and pink sash.)

I'd crown the peach with blossoms pink
  And fruit so luscious sweet;
Bending low the pale pink buds
  Of the peach tree, I would greet.

THIRD PUPIL.

(Crown of white and white sash.)

A crown for the cherry blossom pure,
With its little petals, white;
A pure white carpet nature dons;
'Tis a rare and happy sight.

FOURTH PUPIL.

(Red crown and sash.)

The early maples in the swamp,
So bright, so red are they,
My eye delights to gaze on these
Throughout the fresh spring day.

FIFTH PUPIL.

(Gray crown and sash.)

And I the catkins seek and love
With early buds of gray;
Each silvery bud this new-born spring,
Seems dearer every day.

SIXTH PUPIL.

(Yellow crown and sash.)

The yellow leaves of birch I like,
All fluttering in the breeze,
Turning, twisting, chasing fast
And quivering as they please.

ALL REPEAT.

We have a crown for every tree,
And beg each tree to stay.
Our boughs, unchanging as our hearts,
All wave this Arbor Day.

Music, "Marching Through Georgia." Branches wave and the six girls march around in a circle, each depositing her bough on a rustic flower stand. Sashes (which have been tied about the waist but loosely) are untied and grasped in the hands about six inches from the ends. All stand in line. Music changes to "Hail Columbia." 1. Sash held in front horizontally, arms' length. 2. Sash held against waist horizontally. Repeat four times. Sash held above the head at arms' length horizontally. 4. Sash resting on head, held horizontally. Repeat four times. 5. Hold sash perpendicular at right side. 6. Sash raised horizontally above head. Repeat four times. 7. Sash held perpendicularly at left side. 8. Sash raised horizontally at left side. Repeat four times. Repeat the same motions while kneeling.

Repeat first movement, followed by the third, four times. Repeat second movement, followed by the fourth, four times. Repeat fifth movement, followed by the seventh, four times. Repeat sixth movement, followed by the eighth, four times. All rise, passing out to music.

WHAT THE TREES TEACH US.

(For fourteen small pupils.)

First Pupil—
I am taught by the Oak to be rugged and strong
In defense of the right; in defiance of wrong.

Second Pupil—
I have learned from the Maple, that beauty to win
The love of all hearts, must have sweetness within.

Third Pupil—
The Beech, with its branches wide spreading and low,
Awakes in my heart hospitality's glow.

Fourth Pupil—
The Pine tells of constancy. In its sweet voice
It whispers of hope till sad mortals rejoice.

Fifth Pupil—
The nut-bearing trees teach that 'neath manner gruff,
May be found as "sweet kernels" as in their caskets rough

Sixth Pupil—
The Birch, in its wrappings of silver and gray,
Shows that beauty needs not to make gorgeous display.

Seventh Pupil—
The Ash, having fibers tenacious and strong,
Teaches me firm resistance, to battle with wrong.

Eighth Pupil—
The Aspen tells me with its quivering leaves,
To be gentle to every sad creature that grieves.

Ninth Pupil—
The Lombardy Poplars point upward in praise
My voice to kind Heaven they teach me to raise.

Tenth Pupil—
The Elm teaches me to be pliant yet true;
Though bowed by rude winds, it still rises anew.

Eleventh Pupil—
I am taught generosity, boundless and free,
By the showers of fruit from the dear Apple tree.

Twelfth Pupil—
The Cherry tree blushing with fruit crimson red,
Tells of God's free abundance that all may be fed.

Thirteenth Pupil—
In the beautiful Linden, so fair to the sight,
The truth I discern: It is inwardly white.

Fourteenth Pupil—
The firm-rooted Cedars like sentries of old,
Show that virtues deep-rooted may also be bold.

—Helen O. Hoyt, in the Teachers' World.
From Nebraska Special Day Program.

RED-EYED VIREO.
9-10 Life-size.

FLOWERS

THE USE OF FLOWERS.

God might have made the earth bring forth
  Enough for great and small,
The oak tree and the cedar tree,
  Without a flower at all.
He might have made enough, enough
  For every want of ours,
For luxury, medicine, and toil,
  And yet have made no flowers.

The ore within the mountain mine
  Requireth none to grow;
Nor does it need the lotus flower
  To make the river flow.
The clouds might give abundant rain,
  The nightly dews might fall,
And the herb that keepeth life in man
  Might yet have drunk them all.

Then wherefore, wherefore were they made,
  All dyed with rainbow light,
All fashioned with supremest grace,
  Upspringing day and night,—
Springing in valleys green and low,
  And on the mountain high,
And in the silent wilderness,
  Where no man passes by?

Our outward life requires them not,
  Then wherefore had they birth?—
To minister delight to man,
  To beautify the earth;
To comfort man, to whisper hope
  Whene'er his faith is dim;
For Whoso careth for the flowers
  Will much more care for him.

—Mary Howitt.

GOLDEN ROD.

Golden rod nodding a welcome, golden rod, bonny and bright,
You bring to my mind a picture, as you wave in the wind tonight—
Glory of August sunshine, music of birds and bees,
Hum of a thousand insects, shadow of apple-trees.

Close by a dusty road-side, perched on a railing high,
Right where the scorching sun-kiss darts from a blazing sky.
Two happy, sunbrowned children, careless and glad and gay,
Dream out their dreams of Elfland through the long summer day.

Hats at their feet are lying—they do not heed the glare,
While to their passing fancies, visions throng, passing fair.
Each is a fairy princess, mounted on steed so fleet
Scarcely the ground he touches with his fast flying feet.

Each is a fairy princess, each has a golden crown,
Pressing the sunburnt forehead, guiltless of care's dark frown.
Each has a fairy sceptre—sceptres that sway and nod;
Sceptres and crowns are blossoms—blossoms of golden rod.

Is there a spell still hidden, deep in your cells of gold,
Such as give peasant children castles and lands to hold?
Such as transformed a fence-rail into a panting steed?
Such as made yellow blossoms sceptres of gold, indeed?

Golden rod nodding a welcome, weave once again the spell,
And, with your time-old magic, heal me and make me well.
Soothe my tired brain with fancies—dreams that have never been;
Show me again the glories, I have in Elfland seen.

What have the long years brought me that is worth half as much?
Come back, child-heart, still hidden safe from the world's rude touch.
We will forget earth's struggles sitting on yon green sod;
We will go back to Elfland, here, with the golden rod.

—C. A. Fiefe.

THE LITTLE PLANT.

In the heart of a seed,
  Buried deep, so deep!
A dear little plant
  Lay fast asleep!

"Wake!" said the sunshine,
  "And creep to the light!"
"Wake!" said the voice
  Of the raindrops bright.

The little plant heard
  And it rose to see
What the wonderful
  Outside world might be!

—Kate L. Brown.

DO APPLE SEEDS POINT UP OR DOWN?

When teacher called the apple class, they gathered round to see
What question deep in apple lore their task that day might be.
"Now tell me," said the teacher, to little Polly Brown,
"Do apple seeds grow pointing up, or are they pointing down?"
Poor Polly didn't know, for she had never thought to look
(And that's the kind of question you can't find in a book.)
And of the whole big Apple class not one small pupil knew
If apple seeds point up or down! But then, my dear, do you?

—Carolyn Wells in St. Nicholas.

DON'T FORGET THE HOME.

The school which does not reach the life of the community is a failure. It should be made a medium for directing the best there is in a neighborhood. Teachers should strive to have the pupils carry the teaching as to planting and beautifying to the home premises. Teachers themselves belong to homes and should take the lead in making these homes reflect high ideals. Consider these things and do it now.

QUOTATIONS.

"When we plant a tree, we are doing what we can to make our planet a more wholesome and happier dwelling place for those who come after us, if not for ourselves."

—Oliver Wendell Holmes.

"I tasted the odor of a hundred blossoms and the green shimmering of innumerable leaves and the sparkle of sifted sunbeams and the breath of highland breezes and the song of many birds and the murmur of flowing streams,—all in a wild strawberry."

—Henry Van Dyke.

"A growing appreciation of the aesthetic and educational value of birds has sent many cultured folk to the woods, fields, and shores."

—"Nature and Culture."

"It is a happy circumstance that the pure air of the countryside is beginning to blow through our affairs, that by many means of quick and easy transportation the farm is being made neighbor to the city, and that the calm thought of the unheeded fields, the thought of men in little hamlets and remote homesteads, is becoming part of the

thought of the nation as it never was before. We shall be a happy people only when we are a united people, when class is not set against class, when no man seeks any privilege except the privilege of common service."

—Woodrow Wilson.

"One impulse from a vernal wood
May teach you more of man,
Of moral, evil and of good
Than all the sages can."

—Wordsworth.

"There is something unspeakably cheerful in a spot of ground which is covered with trees, that smiles amidst all the rigors of winter, and gives us a view of the most gay season in the midst of that which is the most dead and melancholy."

—Addison.

"We may shut our eyes but we cannot help knowing
That skies are clear and grass is growing,
The breeze comes whispering in our ear,
That dandelions are blossoming near,
That maize has sprouted, that streams are flowing,
That the river is bluer than the sky,
That the robin is plastering his house hard by."

—Lowell.

"Let me but do my work from day to day,
In field or forest, at the desk or loom,
In roaring market-place or tranquil room;
Let me but find it in my heart to say,
When vagrant wishes beckon me astray,
'This is my work; my blessing, not my doom;
Of all who live, I am the one by whom
This work can best be done in the right way.'"

—Henry Van Dyke.

"Summer or winter, day or night,
The woods are an ever-new delight;
They give us peace and they make us strong,
Such wonderful balms to them belong:
So, living or dying, I'll take mine ease
Under the trees, under the trees."

—Selected.

"It is better to be true than to be popular; better to be sincere than to be sought after; better to be kind than to be brilliantly witty and entertaining."

—Selected.

"We shall be so kind in the afterwhile,
But what have we been today?"

"He who loves most is the richest of mankind; not the worthy alone; not the lovely alone; not the attractive alone—but the unworthy, the unlovely, the unattractive and those who can offer no return, also; love is its own highest reward."

—Selected.

"The sunshine and the gentle rain,
The clear bird song that hails the morn,
The meadow land which flowers stain,
The swaying banners of the corn,
The grass that whispers to the breeze—
What common, common things are these?
No common thing is held apart
From us, or pent with lock and key,
But all are made for you and me.
It always seems God loves the best
The Things He makes the commonest."

—Selected.

"Not what we say, tells, nor does what we do always speak truly; but what we are is as inevitable as life itself—we can neither deny nor evade that."

—Selected.

"Not always in loud praise or cheer
We find the gratitude sincere;
But in the handclasp clinging tight,
The misting tears that blur the sight!"

—A. W. P.

"Happiness is not found on the wide, bright highway of pleasure, but rather in the quiet lanes and byways of daily duty."

"Once trying is usually an experiment; twice, and we begin to get the hang of it; three times and we win."

"Time enough to call things a failure after they fail."

"What a lot of rubbish passes for argument!"

—Selected.

"The genius of this country has marked out her true policy—hospitality; a fair field and equal laws for all; a piece of land for every son of Adam who will sit down upon it; then, on easy conditions, the right of citizenship and education for his children."

—Emerson.

"A little nature history teaching in the rural schools would add much to the joy of country life. To teach boys and girls to know the birds, the wild flowers, the trees and shrubs is to strengthen their affection for their native fields and woods and to make them less likely to leave the farm."

"Do not scoff at the groundless fears of little children. They are very real to them. Endeavor by patient explanation to prove that the dreadful bugaboo is harmless."

"One of the worst habits that we can acquire is waiting till tomorrow. Tomorrow is a dream of the future and seldom comes. Today is the field of opportunity, and every man should be ready to grapple the tasks before him."

"The school is an important factor in the life of any neighborhood."

"Good buildings, well kept fences around school grounds, nice walks, trees and a neat lawn, are things really worth while."

—Fannie Wood, in Farm Journal.

"It took old nature some fifty years
To give a tree its majesty and power,
And now some fool with an axe appears
And cuts it down in a short half hour."

—W. G. D.

"How can a man help loving a fruit tree?
And if he does, how can he neglect it?"

"The New Testament is a nature book—the power of the parables lies in the fact that they deal almost wholly with country life."

"Clean out your foul cellars. Burn your rubbish heaps. Make everything sweet about you. Surround yourselves with the beautiful. Grow the trees and multiply the good, and so you will become an inhabitant of the New Jerusalem because you are a child of God."

—Selected.

REFERENCE BOOKS.

Books which would be useful in school for games, etc.

"Games for the Playground, Home, School and Gymnasium" by Jessie Bancroft. This book contains about 150 games suitable for every occasion, is indexed in eight sections, besides a general index, so a game is found with ease when wanted. It is considered the best book published for the purpose. MacMillan Co. $1.50.

"Education by Plays and Games" by George Ellsworth Johnson. This suggests a course of play for children and contains much that is valuable concerning the meaning of play, the periods of play and play in education. Ginn & Co.

The Playground Magazine, published monthly by the Playground and Recreation Association of America. 1 Madison Ave., New York, N. Y. $2.00 per year.

"Occupation for Little Fingers," Sage and Cooley, Scribners, New York, N. Y.

"Busy Hands—Construction Work," Isabelle F. Bowker, A. Flannagan Co., Chicago.

"Games for Rural Schools," published by Berea Normal School, Berea, Ky., 25 cents.

MUSIC

Sing, Joyous Bird.

LIZZIE DEARMOND. CHAS. H. GABRIEL.

ff *pp*

1. Hark! hark! hark! Hark! hark! hark! Hear the merry
2. Hark! hark! hark! Hark! hark! hark! Echoes clear and
3. Hark! hark! hark! Hark! hark! hark! Full of joy it

song as it floats a - long, By the balm - y breez-es stirr'd, Wak - ing
sweet, swift the strains repeat From each dew-y nook and dell; Thro' the
sings, while on shining wings It soars to heights a - bove; Hear the

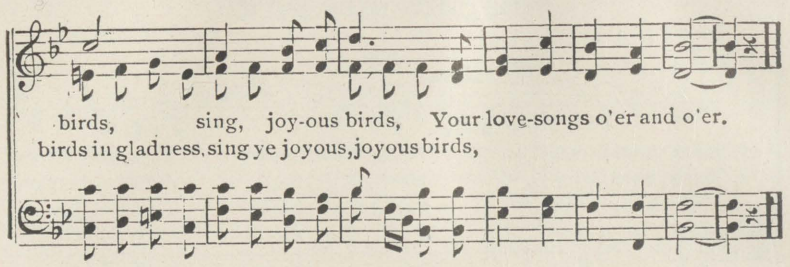
sleep - y flow'rs in their fragrant bow'rs, Sweetest notes that e'er were heard.
mist - y blue, ringing glad and true, Loud and long the cho-rals swell.
notes sub-lime, like a sil - v'ry chime, Breathing mel-o - dies of love.

DUET OR SOP. SOLO.

All the earth in si - lence lies,
Like the bil - lows of the sea,
Smil - ing pleas-ure crowns the morn,

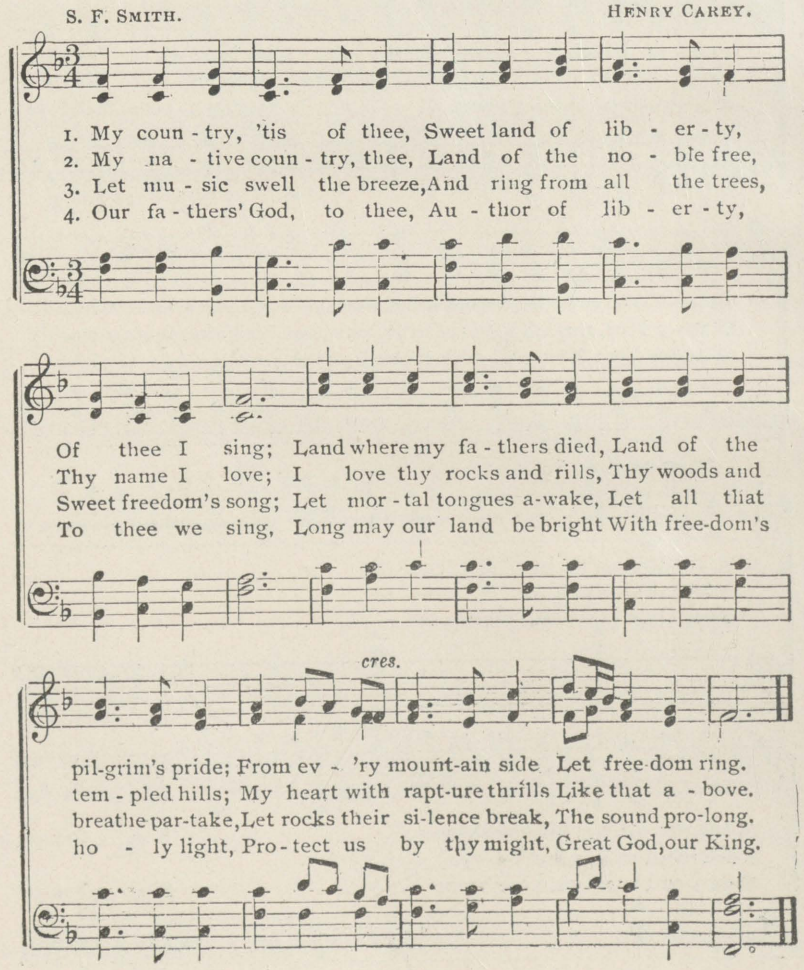
While the mu-sic fills the skies; Sing, hap-py
Rolls the thrilling har-mo-ny;
Gold - en hopes again are born; Sing, ye hap-py

Sing, Joyous Bird.



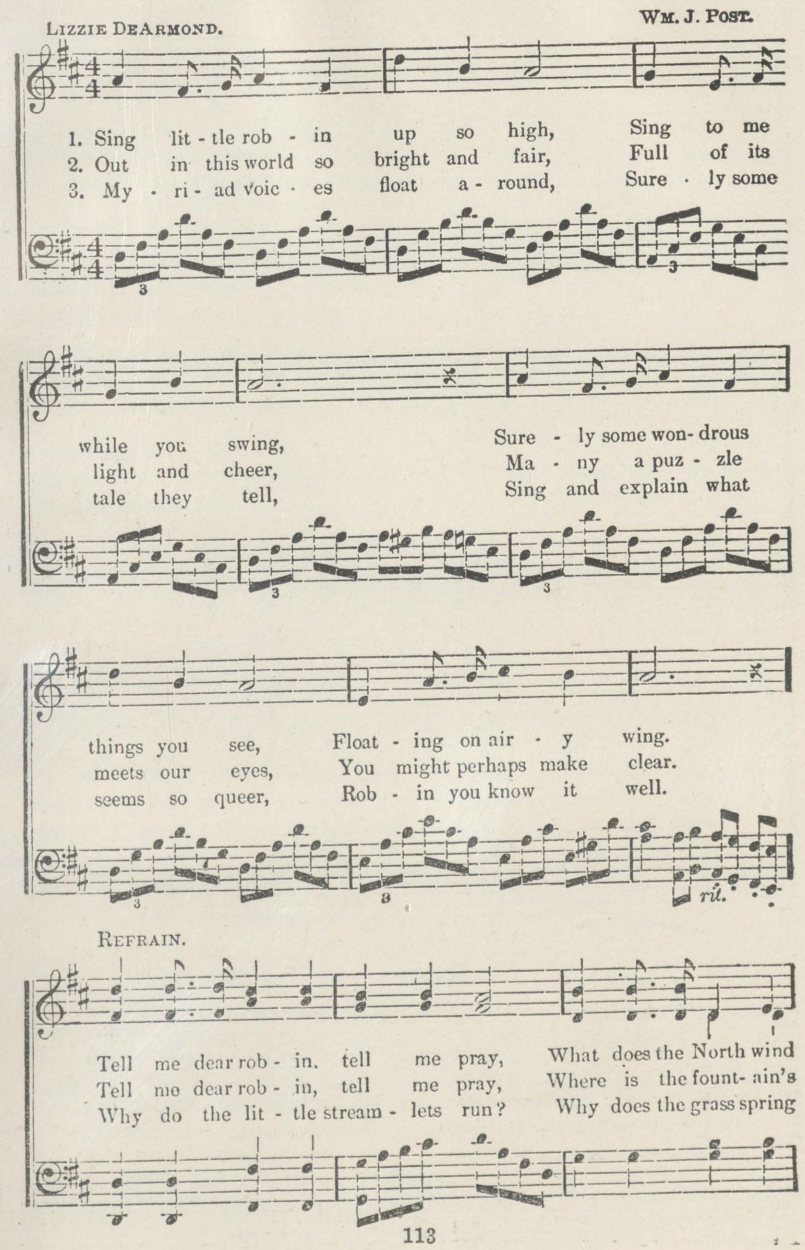
My Country, 'Tis of Thee.

S. F. SMITH. HENRY CAREY.

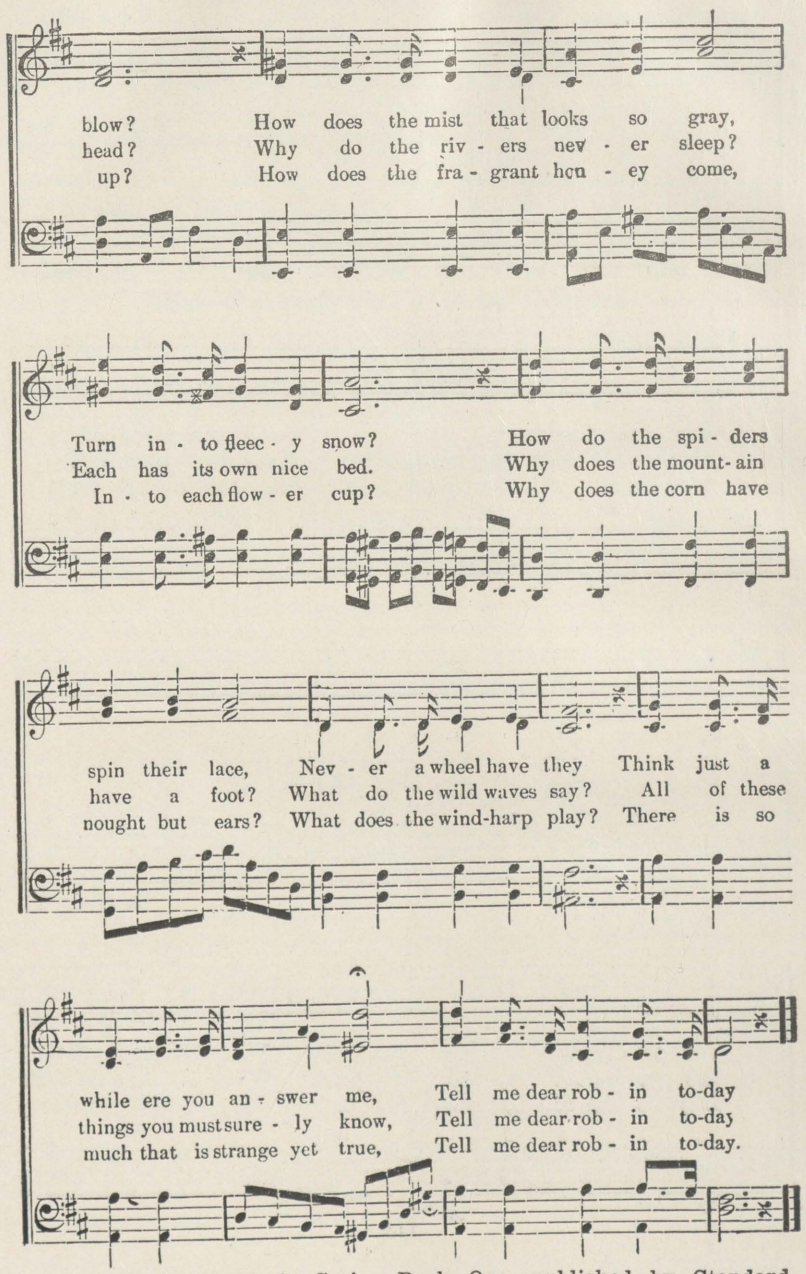


Tell Me Dear Robin.

LIZZIE DEARMOND. WM. J. POST.



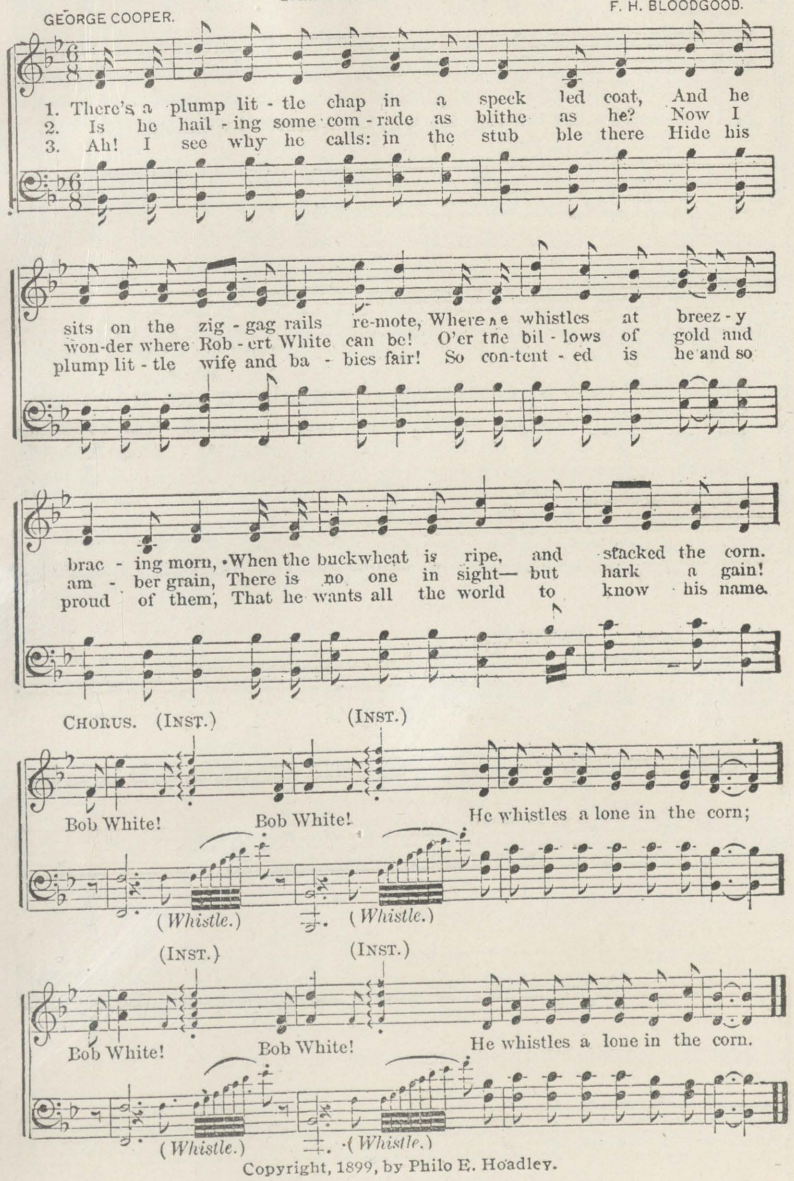
Tell Me Dear Robin.—Concluded.



From Standard Music Series Book One, published by Standard Company, Baltimore, Md. By permission.

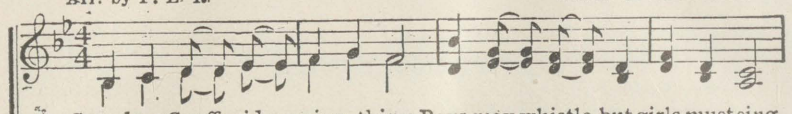
Mr. Bob White.

GEORGE COOPER. F. H. BLOODGOOD.

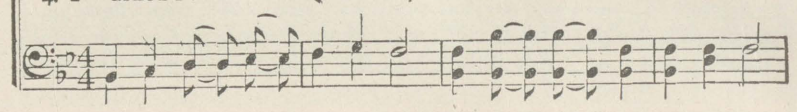


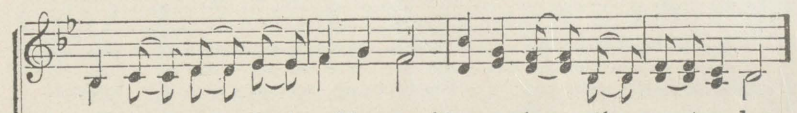
Boys May Whistle, Girls Must Sing.

Arr. by F. E. R. FRED. A. FILLMORE.

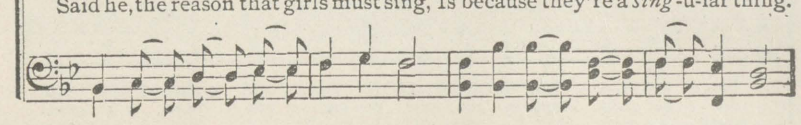


1. Grandma Gruff said a curious thing, Boys may whistle, but girls must sing,
2. Boys may whistle, of course they may, They can whistle the live-long day,
3. Grandma Gruff says it would not do, Gives this very good reason, too,
4. I asked Father the rea-son why Girls couldn't whistle as well as I;

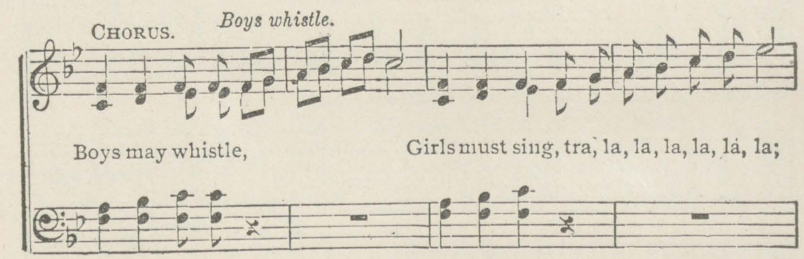




That's just what I heard her say, 'Twas no longer than yes-ter-day.
Why can't girls whistle, too, pray tell, If they manage to do it well?
Whist-ling girls and crowing hens, Al-ways come to some bad ends.
Said he, the reason that girls must sing, Is because they're a *sing*-u-lar thing.

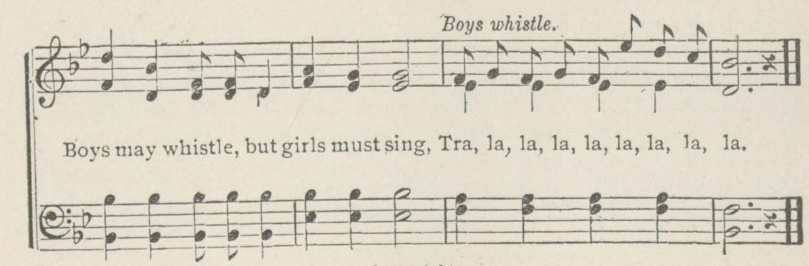


CHORUS. *Boys whistle.*



Boys may whistle, Girls must sing, tra, la, la, la, la, la, la;

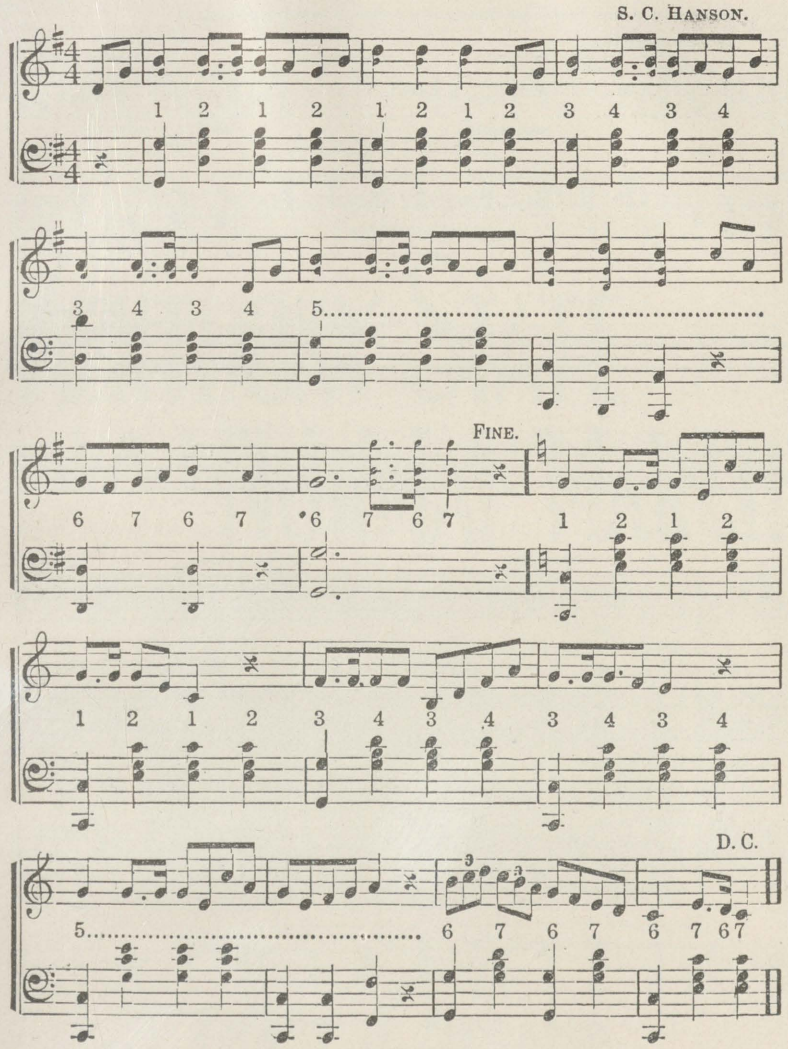
Boys whistle.



Boys may whistle, but girls must sing, Tra, la, la, la, la, la, la, la, la.

Bunker Hill March.

S. C. HANSON.



DIRECTIONS.

POSITION. Hands closed and held on the upper part of breasts.

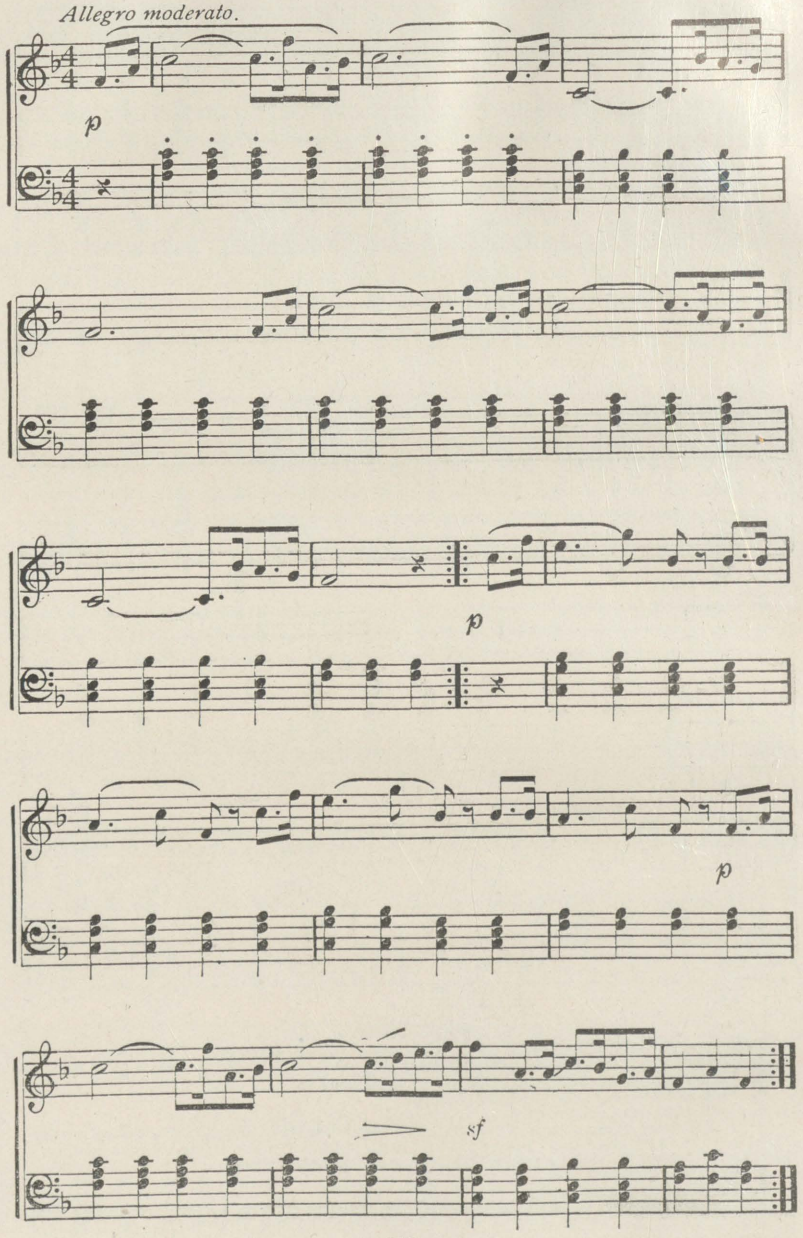
1. Right hand thrust forward horizontally.
2. Right hand drawn back to breast but not striking it.
3. Left hand thrust forward horizontally.
4. Left hand drawn back as 2.
5. Right hand as in 1 on the first count of the measure. On the second count the right hand is drawn back and the left is thrust forward. On last count of next measure, hold the left hand in position, while the right is being drawn back.
6. Both hands thrust forward.
7. Both hands drawn back.

NOTE: In the part written in key of C the motions may be as they are in the part written in key of G, or they may be made to the right and left. If the motions should be made to the right and left, the pupils should not stand so close together as to hit each other.

The Meyerbeer March.

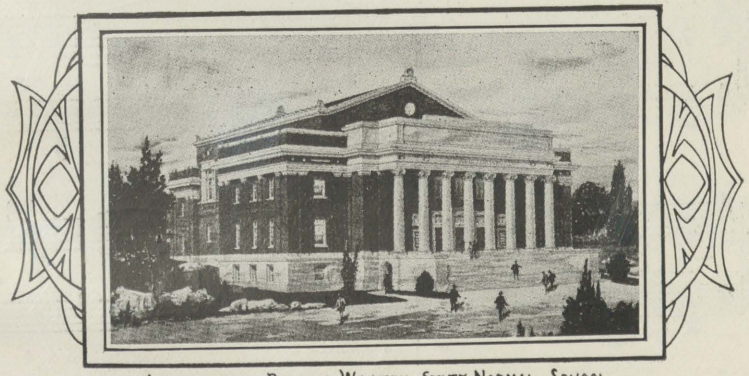
Suitable for marching, calisthenics and concert-writing exercises.

Allegro moderato.



Respectfully Dedicated to
DR. H. H. CHERRY PRESIDENT
Kentucky Western State Normal School.

KENTUCKY STATE NORMAL MARCH



ADMINISTRATION BUILDING WESTERN STATE NORMAL SCHOOL
— BOWLING GREEN, KY. —

COMPOSED BY

FRANZ J. STRAHM.

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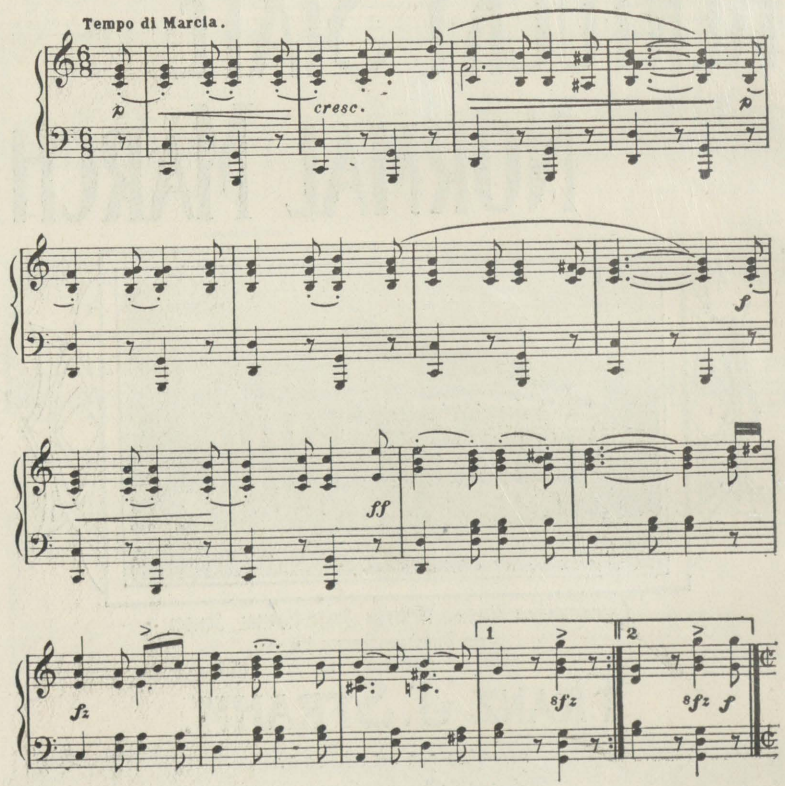
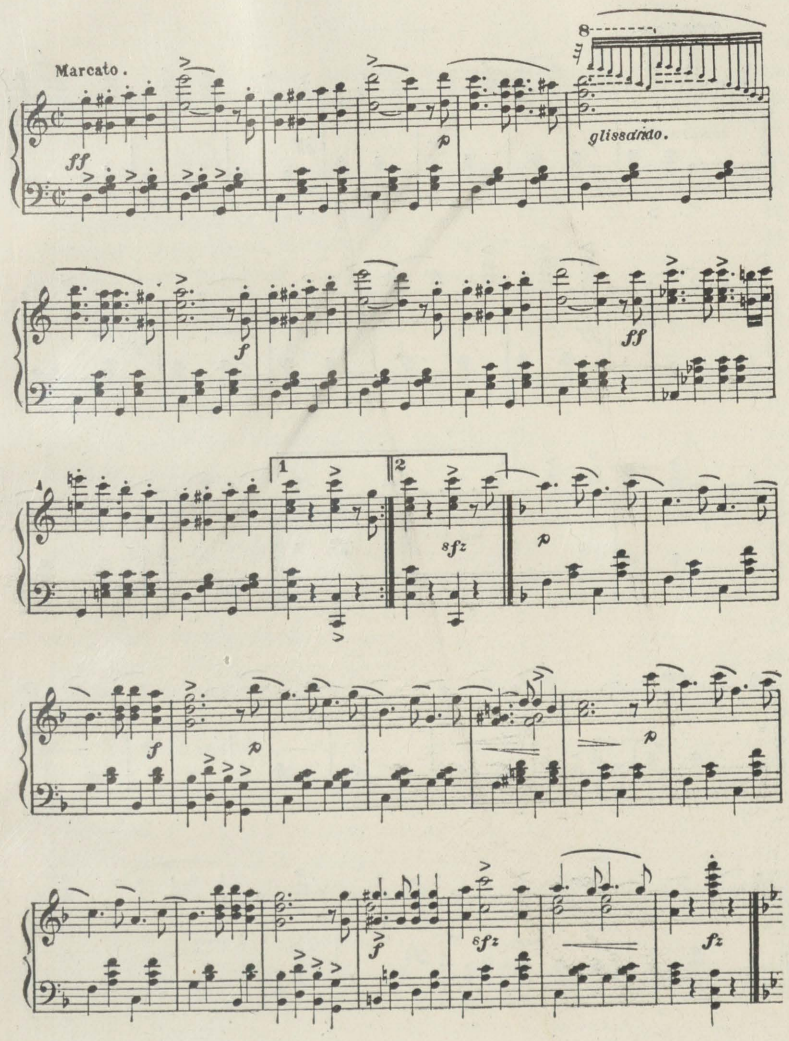
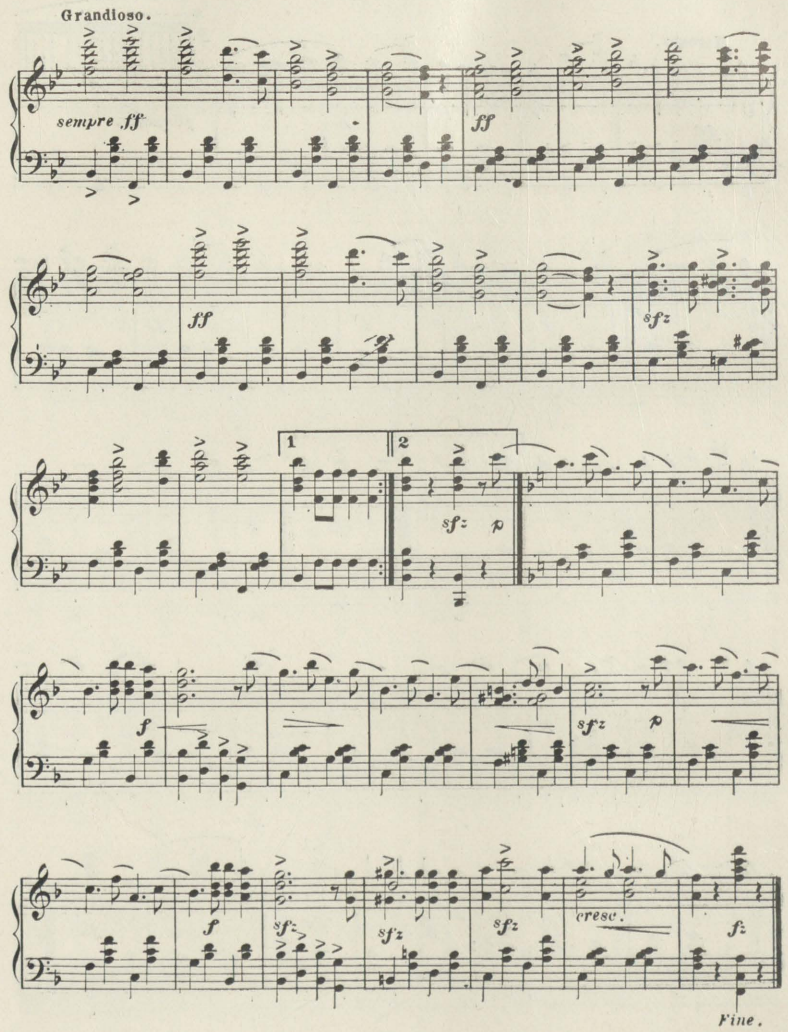
KENTUCKY STATE NORMAL MARCH.

F. J. STRAHM.







Ken. S.N. March. 3

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