OUR FOREST TREES.

West Virginia's Enormous Wealth in Variety and Quantity.

ARTICLE OF GREAT INTEREST

By Hu Maxwell—Climatic Conditions that Prevail and Effect the Spread of Species. No State in the Union so Blessed in the Variety of Its Valuable Woods—Our Supply so Large that if Used Exclusively for Fuel it would Supply a Population of 5,000,000 for 200 Years.

There are four hundred and twelve species of forest trees in North America. Atlantic slope has two hundred number one hundred and three, or one-fourth of all, are found in West Virginia. The Atlantic slope has two hundred and ninety-two species; the Pacific slope fewer than one hundred. There are not thirty species between the Rocky Mountains and the Alleghenies which are not also found on one coast or the other. The inference is drawn that wide open country, not crossed by mountains, is favorable to the uniform distribution of trees; but a rugged mountainous region is apt to confine a certain species to a certain locality. The mountainous eastern country is more prolific of species than the mountainous western country. This is seen in a comparison between West Virginia and the west. This state, with less than twenty-five thousand square miles of surface, has more species of forest trees than the whole Pacific coast region, with an area of more than one million square miles, including Alaska, the western part of British America and all the western coast of the United States, from Mexico to the Artic Ocean.

Forest trees of any specific kind usually grow a large area, but there is nearly always some restricted locality in which a certain species reaches its greatest development. From this locality of greatest development, the species deterviates and thins out in all directions until the borders of its habitat are reached in size and appearance, between specimens of a particular tree at its highest development and at its worse sometimes so great that a person acquainted with the tree at one extreme would scarcely recognize it at the other. The chinquapin oak is a case to the point. It reaches the its highest development in Arkansas, and its extreme degeneracy in Massachusetts on the east and the base of the Rocky mountains on the west, reappearing again in a few localities beyond. But even within the narrow limits of West Virginia it shows remarkable change in size and appearance. In some of the western portions of the state the tree is of considerable size, and as soon as the Alleghenies are crossed, going eastward, the chinquapin degenerates into a mere shrub.

Perfection in West Virginia.

A number of the forest trees of North America reaches their highest development in West Virginia. Few territories of similar size in the world can show the perfection of so many species. Some of the most important of these are, cucumber or mountain magnolia; wild black cherry and the wild red cherry near the summit of the Alleghenies; black thorn; service tree; witch hazel; black walnut in the southwestern part of this state; white oak along the western slope of the Aleeghenies. On the other hand there are a fine species, having their greatest development elsewhere, which reach the limit of their geographical range in West Virginia. Balsam fir, which flourishes north of us, extends southwest into the state with only a few scattered trees along the highlands of the Alleghenies. Black spruce is another case to the point. It is more abundant than balsam fir, but is restricted to the highest mountain of West Virginia. Mountain ash has its southern limit on the highest mountains of West Virginia and its northern limit in Greenland. The snowdrop is a forest tree, has its northern limit in this state and is seldom met with, but is common in cultivation. The white pine reaches its southern limit in this state as an important source of lumber supply, but the tree is found further south.

The difference between a tree and a shrub are not agreed upon by all botanists. In counting the species of trees in this state, I have considered as trees all that have straight, wooden stems, with branches above the ground. Size alone does not settle the question. I have seen shrubs in Florida thirty feet high, and trees on Mount Goddard not two feet high. In drawing a distinction between trees and shrubs, I have followed Prof. Charles S. Sargent, of Harvard University. If distinction were drawn according to some other authority the number of species in West Virginia might be more or fewer.

There is no well understood reason why a certain species among trees should flourish in one locality and be absent from an adjoining area of similar climate and soil. With the facilities provided by nature for distributing seeds, we might expect a certain species of trees to extend the length and breadth of continents wherever soil and climate are suitable. Yet they do not. They content themselves, like races of people, in occupying certain tracts and localities, and going no further, although there is no visible reason why they should not do so. Why, for instance, should the white pine appear so bountifully in certain belts crossing three or four counties of West Virginia, and be absent, or nearly absent elsewhere? The differences in climate, soil, elevation and rainfall are not so great that it should be responsible for it. The persimmon tree does not grow in vast forests like the white pine, but it shows a similar peculiarity and is found in one district and is absent from others where it seems it ought to flourish.

Variation of Climate and Soil.

There are, however, in many cases well known reasons why certain species of trees do not spread in all directions. Trees are naturally migratory in their habits. That is, the seeds will be scattered and the species will spread in all directions until some barrier is reached beyond which further advance is impossible. The most usual barriers are high mountains, unfriendly soil, or an area preoccupied by species so vigorous that they will crowd out all newcomers. Rivers and lakes are not often great hindrances to the spread of trees. The seeds can cross more rapidly than many migratory animals. West Virginia's geography and topography offer many barriers to the universal spread of species, and many advantages to diversity and variety. If it were a flat plain, like Kansas, there would be little difference in climate, rainfall, elevation, exposures of the surface to different points of the compass, and a much greater uniformity of soil than at present. The result would be that the same kind of trees would be scattered all over, with probably a few exceptions. But it is not a plain. It has every elevation from two hundred and sixty feet, at Harper's Ferry, to nearly five thousand, in Pendleton county. It has two distinct climates; dry and warm east of the Alleghenies under the influence of the Atlantic winds, and sheltered from the west winds under the lee of that range; a more damp and a somewhat colder climate west of the Alleghenies under the influence of the windsf rom the Pacific ocean.

Each climate has a marked influence upon its forests. Trees establish themselves where best suited. The elevations of the land has still more to do with the distribution of trees. Soil has more influence perhaps than either elevation and climate. Exposure of surface to the points of the compass often determines what tree shall occupy a district. Hemlock, if it has its choice, will pre-empt steep hills and rocky ridges facing the north. There are other trees which prefer southern exposure, and others the eastern. So far as observation has gone, there is no tree which prefers a western exposure.

West Virginia has many soils, one often radically different from the other, and each peculiarly friendly to one species of trees, and perhaps hostile, sometimes prohibitory, to another. Thus, a rich limestone soil, made up almost exclusively of disintegrating and dissolving limestone rock, is perfectly adapted to most trees, but is poisonous to the great laurel, which cannot endure it. A large limestone always shows an open road through a laurel thicket. Some species of ash flourish best on dry, rocky, sterile ridges, where few other trees can find nourishment. A few species of trees which reach their greatest development in the cold country north of us, extend south into this state, but creep along the bleak summits of the highest mountains in order to find environments similar to those of their cold northern home. The service tree, sometimes called June berry, is naturally a northern species, flourishing in Labrador, but it has spread southward, and is found in West Virginia at moderate elevations along the outlying ridges of the Alleghenies. But a variety of it stubbornly adheres to its stormy climate, although far from home, and will grow nowhere else. It nestles among the ledges and bowlders on the very summit of the Allegheny mountains, where there is scarcely enough soil to support huckleberries. It attains a height of four or five feet.

I speak of it as a variety of service. This is only a conclusion of my own, as I have never been able to find in any botanical work a description which seemed to apply to it. I presume, however, that it is well known to botanists. I have seen it only in three counties of this state, in a narrow strip not a mile wide, following the top of the Allegheny mountains northeastwardly, from near the head of Senaco creek in Pendleton county to the region above the Canaan valley in Tucker county. The altitude of the mountains where it grows is about four thousand feet. If species of trees, like species of animals, obey the laws of evolution, we have a rare example in the service tree. The branch of the family which adapted itself to the environments of a lower altitude and more fertile soil has been able to spread far away and attain great developments, but the arboreal cousin which refuses to come down from the mountains, and which clings to environments as much like Labrador as possible, remains dwarfed in size and restricted in area of habitat.

Barriers to the Spread of Trees.

It is thus seen what some of the barriers to the spread of trees are in West Virginia. One kind cannot cross a high mountain; another cannot descend into the low country; still another is so tropical in its tendencies, as the snowdrop, that it cannot penetrate a latitude more northern than the southern part of our state; yet another, as the mountain ash, is so confirmed in its habits of a cold life that it can enter West Virginia only by following the tops of the highest and coldest mountains. Elevation alone makes great differences in the climates of different parts of this state. Spring is almost a month later in Pocahontas county than in Wood. This difference is due to difference of altitude. The ground is bare of snow in Grant county in autumn a full month after snow has covered Randolph, just across the mountain, and of but little greater altitude. This difference is due to Randolph's being in the track of the west winds, and Grant's being sheltered from them. All of these differences act more or less as barriers to the spread of trees, and help to produce West Virginia's heterogeneous forests.

There are species of trees that are seldom checked in their spread by mountains or any other natural obstacles. They grow on mountain and plain, in valley and on rocky slope. The dogwood is one of these; and the quaking asp is still more remarkable in this respect. It has the widest geographical range of any North American tree. It is found on the coast of the Arctic ocean, and from the Atlantic to the Pacific, and southward almost to the tropics.

In the forests of West Virginia there are two species of buckeye; six species and one variety of maple; two species of locust, with one or two varieties; two species of wild plum; three species of wild cherry; two species of crabapple; three species of thorn; two of dogwood; two of gum, with several varieties; five of ash; two of laurel; three of elm; two of walnut; four of hickory; fourteen of oak, with several varieties; two of beech; three of birch; two of cedar, and seven of pine. One species of wild plum, the Chickasaw, is not believed to be a native of West Virginia's forests, but was imported and afterwards became wild.

The heaviest wood of West Virginia is red haw, and the lightest white cedar. A cubic foot of the former, when thoroughly seasoned, weighs fifty-four pounds; a cubic foot of the latter weighs twenty pounds. For the purposes of comparison, it may be stated that a cubic foot of water weighs about sixty-two and one-half pounds. Chinquapin is next to heaviest. The weight of a few of the other woods range as follows per cubic foot: Ironwod, fifty-two; post oak, shellbark hickory, black haw, fifty-two; black hickory, flowering dogwood, fifty-one; cow oak, fifty; persimmon, forty-nine; blackthorn, forty-eight; blue ash, forty-seven; jack oak, forty-six; wild plum, forty-five; yellow ash, forty-four; sugar maple, forty-three; dogwod, forty-two; white ash, forty-one; sour gum, forty; big laurel, thirty-nine; yellow pine, thirty-eight; red mulberry, thirty-seven; red birch, thirty-six; sycamore, thirty-five; Indian cherry, thirty-four; mountain maple, thirty-three; pitch pine, thirty-two; sassafras, thirty-one; cucumber, wite basswood, twenty-seven; wafer ash, twenty-six; yellow poplar, twenty-six; white walnut, twenty-five, balm of Gilead, twenty-four.

Extent of Our Forests.

Government experts have estimated the forests of West Virginia at six hundred and forty millions of cords. The counties of this state having the smallest proportion of forest to cleared lands are Harrison and Jefferson; the second in proportion as a group are Monroe, Mason, Jackson and Roane; the third group consists of Preston, Monongalia, Marion, Taylor, Barbour, Upshur, Lewis, Doddridge, Tyler, Ritchie, Wood, Ohio, Hancock and Brooke. The fourth group of counties, those of densest forests and proportionally largest uncleared area, embraces the remainder of the state. In the first two counties mentioned the cord wood is estimated at from five to ten cords per acre. In the next group the estimate is from ten to twenty cords. In the third it is from twenty to fifty cords, and in the fourth it is over fifty.

The full value of wood depnds primarily upon its weight; secondly, whether or not it is seasoned, and thirdly, whether it is resinous or non-resinous. After segregrating the resinous from the non-resinous woods, making two general classes, the value of two woods as fuel is proportionate to their weight, provided both are thoroughly seasoned. A cubic foot of yellow poplar weighs twenty-six pounds; a cubic foot of black hickory weighs twice as much, and in combustion will develop twice as much heat. The same rule will hold when one resinous is compared with another, but resinous woods as a class when compared, weight for weight, with non-resinous, are capable of developing about twelve per cent more heat when burned. But, in order to get out of resinous wood all that is in it, a furnace must be constructed which will prevent the unburned smoke from escaping. When pine is burned on an open fire the black smoke which rises is so much good fuel going to waste. A block of wood develops the same amount of heat, whether burned green or dry. But if burned green, a portion of the heat, usually about fifteen per cent, is used in evaporating the sap and water in the wood, and there appears to be a deficiency of that much.

If the people of West Virginia depended entirely on wood for fuel, there is enough in the forests now to supply a population of one million people at least two hundred years. Great as this amount seems, it is but a handful to the quantity of wood stored away as coal under the West Virginia mountains.

HU MAXWELL.

St. George, W. Va., May 7, 1897.

ADDITIONAL AWARDS.

Prizes Won at the Great Turnfest at St. Louis.

ST. LOUIS, May 10.—In additions to the awards made by the 27th national turnfest and given out last night are the following:

For apparatus work alone—First, Robert, Milwaukee; second, George Erlich, Milwaukee; third, George Vervalin, Denver.

First group of athletic sports comprising pole vaulting, climbing, rope and broad jumping—100 contests—First, Albert Graeber, Denver; second, George Vervaly, Denver; third Henry W. Hess, New York turnverein.

Now that the festival is over the Turners will be given opportunity to visit scenes of interest around St. Louis. Today they went to Jefferson barracks where there were drills by the United States troops given for their entertainment. To-morrow a trip to Merrimac Highlands is contemplated, the time to be spent in dancing, rowing and swimming.

Peculiar Double Fatality.

CHICAGO, May 10—A peculiar double fatality occurred last evening before hundreds of spectators in Lincoln Park. While boating on Lake Michigan, Matthew Roche, and his ten year old nephew, Harry Flynn, attempted to exchange seats The boat was overturned and the boy drowned although Roche twice succeeded in putting the little fellow on top of the capsized craft. While this was going on, Albert Mattari, who was in the crowd at the water's edge, suddenly pitched forward on his face dead. His death is ascribed to excitement caused by watching the struggles of the drowning boy.

Masked Robbers.

SOUTH BEND, Ind., May 10.—Two masked robbers at one o'clock this morning, entered the residence of Rev. Joseph Flache, the Catholic priest at Dyer, Ind., and ransacked the house. The priest and cook were awakened and seeing probable resistance the robber used an iron bor, striking the cook on the head, inflicting dangerous wounds. The priest attempted to shoot but his revolver failed to work and he was handled. Blood hounds are on the trail.

MOUNDSVILLE.

A Miscellaneous Melange of Minor Matters from Marshall's Metropolis.

Rev. G. W. Grimes, who spent several days in the city looking after his business interests, returned to his home in Clarksburg Saturday. While here he closed out his stock in the Calf Creek Oil Company to other stockholders.

Mr. G. V. Hughs, who spent a few days in the city in the interest of the new railroad, left Saturday for Waynesburg, where several promoters and capitalists from New York held a meeting in the interest of the road.

The delegates from Simpson chapter of the Epworth League for the district convention at Chapline street M. E. church, started yesterday on the 1 o'clock motor.

The stockholders of the Moundsville Shoe Company have decided to sell the factory at public auction. The date has not been named.

Mr. H. C. Curtis, of Bethany, was in town yesterday. He is an aspirant for the clerkship at the asylum at Spencer.

Quite a crowd of our Epworth Leaguers will attend the mass meeting at Chapline street M. E. church to-night.

Miss Mamie Marlow, of New Matamoras, is visiting the family of Dr. States, on Fifth street.

James A. Sigafoose is expected to return to-day from his trip to the south.

Rev. B. M. Spurr and family, are moving to the new hospital at Glendale.

The Baltimore & Ohio detective, Mr. John Shorts, was here yesterday.

THE Westfield, (Ind.) News prints the following in regard to an old resident of that place: "Frank McAvoy, for many years in the employ of the L., N. A. & C. Railway here, says: "I have used Chamberlain's Colic, Cholera and Diarrhoea Remedy for ten years or longer—am never without it in my family. I consider it the best remedy of the kind manufactured. I take pleasure in recommending it.'" It is a specific for all bowel disorders. For sale by druggists.

Relief in Six Hours.

Distressing Kidney and Bladder disease relieved in six hours by "New Great South American Kidney Cure." It is a great surprise on account of its exceeding promptness in relieving pain in bladder, kidneys and back, in male or female. Relieves retention almost immediately. If you want quick relief and cure, this is the remedy. Sold by R. H. List, Druggist, Wheeling, W. Va. thf&s

"How to Cure All Skin Diseases."

Simply apply SWAYNE'S OINTMENT. No internal medicine required. Cures tetter, eczema, itch, all eruptions on the face, hands, nose, etc., leaving the skin clear, white and healthy. Its great healing and curative powers are possessed by no other remedy. Ask your druggist for SWAYNE'S OINTMENT. ths&w

What stops Neuralgia? Dr. Miles' Pain Pills.

BELLAIRE.

All Sorts of Local News and Gossip From the Glass City.

Chairman John Pollack, of the Republican county committee, has sent notices to the members suggesting a change in the date for the county convention, fixing it on June 8th. And to save the committeemen time and expense a proxy is enclosed authorizing the change. The object is to allow the convention to select the delegates to the state convention. An effort was made to have the committee appoint these at its former meeting, but it failed. The trouble will be in getting men to go to Toledo, since what will be done is already settled.

A stranger was seated in the park Sunday evening when he was suddenly seized with fits and had ten in succession. Dr. Long was called and gave him some medicine and after which the fellow was taken to the city hall, where he stated that his home was in Youngstown and he was on his way home from Cincinnati. He did not want to remain at the city building and was let go.

Henry Dixon, a well known resident of this city, died Saturday night at his home on Belmont street. Deceased has been ill for several months past, and was sixty-four years of age. The funeral will take place this afternoon at 1 o'clock, from his late home. Interment in the Dixon burial ground at Steele, O.

Decker Huffman, who made an assault upon his mother here one morning some time ago, was convicted in common pleas court yesterday and Judge Hollingsworth fined him $100 and costs and sentenced him to sixty days in jail.

Mrs. John DuBois left yesterday over the Cleveland & Pittsburgh road for Indianola, Iowa, where he is sent as a delegate to the United Presbyterian missionary convention, which is to be held at that place.

Mrs. James Fitton returned home yesterday morning from Barnesville, where she has been spending the past two weeks with relatives.

Charles La Roche is arranging the programme for the concert to be given by the labor assembly at the Elysian Theatre next week.

Mrs. George E. Work returned to her home in Sistersville yesterday, after a pleasant visit with relatives in the Fourth ward.

Thomas Godfrey has returned home to Mingo Junction after spending a few days with friends and relatives in this city.

R. C. Montgomery left yesterday for a trip through Indiana and Illinois, in the interests of the Bellaire Stove Company.

Mrs. Mary Heimbrod has returned to her home in Clarington, after a pleasant visit with relatives in the Fourth ward.

Mr. and Mrs. Theodore Burkett and two children, of St. Louis, Mo., are the guests of relatives in the Fifth ward.

An entire new set of rolls was placed in the plate mill yesterday. It is not known when this concern will go on.

A. Kern has secured the contract to put a new slate roof on the Catholic church that is being built at Elm Grove.

J. M. Boyd returned to Pittsburgh yesterday morning, after spending a few days with his family in this city.

The winners in the combination prizes will be announced to-morrow night, at the old St. John school building.

M. J. Scrasebern, of Morgantown, W. Va., is spending a few days with friends and relatives in the city.

Mord Nelson returned home yesterday after spending a few days with relatives at Bethany, W. Va.

Albert Hartenstein returned to Solo yesterday, after spending a few days with relatives here.

Misses Anna and Alice Butler, of Moundsville, are the guests of friends in the Second ward.

The Choral Society will meet in regular session this evening at the First Presbyterian church.

Peter O'Malley has gone to Sistersville to accept a position as clerk in the Arlington hotel.

A large crowd from this city will go to Moundsville this evening to see the Wallace circus.

Michael Porterfield went to East Liverpool yesterday, where he has accepted a position.

Miss Nellie Cavanaugh, of Moundsville, is spending a few days with friends in the city.

Howard Armstrong left yesterday for Sistersville, after visiting relatives in this city.

H. R. Fitton will go to Steubenville tomorrow to attend the bill-posters convention.

H. Roemer went to St. Clairsville yesterday morning, he being on the jury.

Samuel Crow is the proud father of a little son, at his home on Gravel Hill.

Miss Maude Ferrell, of St. Clairsville, is the guest of relatives in this city.

Mrs. J. Hughes, of St. Clairsville, is visiting relatives in this city.

H. T. Day went to Libson, O., yesterday, on a business trip.

TRUSTEE'S SALE.

TRUSTEE'S SALE OF OHIO COUNTY REAL ESTATE.

By virtue of a deed of trust made by James W. Dinch and Nancy E. Dinch, his wife, and John Dinch, to me, as trustee, bearing date on the first day of April, 1892, and now of record in the clerk's office of the county court of Ohio county, West Virginia, in Deed of Trust Book No. 2, page 599, I will on

SATURDAY, THE FIFTEENTH DAY OF MAY, 1897,

sell at public auction at the north front door of the court house of Ohio county, West Virginia, commencing at ten o'clock a. m., the following described property, to-wit: All that certain tract of land situated on the waters of Castleman's Run, in the district of Liberty, Ohio county, West Virginia, and adjoining lands of Joseph G. Curtis, Joseph McCauslin, John G. Rodgers and others, and bounded as follows: Beginning at a white oak in Joseph McCauslin's line and running thence north 36° east 31 poles to a stake; thence south 79° east 40 poles to a stake near the barn on said land; thence south 89° east 40 poles to a black walnut, corner to lands of Johnson L. Garrison and others; thence south 8½° east 167¼ poles to a beech, corner to lands of Joseph G. Curtis; thence north 18° 30 west 16 poles to a sugar tree, corner to lands of Joseph McCausland; thence north 12° west 15 poles and 15 links to the place of beginning, and containing forty-six (46) acres and two (2) roods, more or less, this being the same property that was conveyed to James W. Dinch and John Dinch by Julia A. Prall and Robert L. Prall, her husband, by deed bearing date March 28, 1893, and now of record in the clerk's office of the county court of Ohio county, West Virginia.

TERMS OF SALE—One-third of the purchase money and as much more as the purchaser may elect to pay in cash on day of sale; the balance in two equal payments at one and two years, the purchaser executing his notes with approved security for the deferred installments, with interest from day of sale, the interest on the second deferred installment payable annually; the title to said property to be retained until said notes are lifted.

JOHN E. DUNLAP, Trustee.

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REAL ESTATE.

ASSIGNEE'S SALE.

ASSIGNEE'S SALE.

By virtue of a deed of assignment recorded in Trust Book 47, folio 178, Ohio county, W. Va., the undersigned will offer at public sale at the north front door of the court house, Moundsville, W. Va., on

MAY 12, 1897, AT 10 O'CLOCK A. M.,

for the benefit of the creditors, all the property belonging to the Springer Oil and Gas Company, as follows:

Two producing oil wells and one producing gas well, two dry wells with the casing in them, four good substantial derricks, three boilers, two engines, two water pumps, about 2,800 feet of casing, 1,200 feet of one-inch and 5,000 feet (more or less) of two-inch water, gas and steam pipes, five tanks with capacity for 1,000 barrels, with stocks and dies and other tools too numerous to mention. A complete outfit for oil wells. Also the lease of 49 acres of territory on the Louis Hartong farm, situated in the heart of the Rogerson oil fields. Also a 250-acre lease on Jim's Run, all in Marshall county, W. Va.

The undersigned reserves the right to adjourn the sale to another day if, in his judgment, the interest of the creditors demand it.

Terms of Sale—Cash.

N. W. BECK,

Assignee Springer Oil and Gas Co.

NOTICE TO CREDITORS.

All persons holding claims against the above named company must present them to me at once for settlement.

N. W. BECK, Assignee.

Wheeling, W. Va., March 30, 1897. ap7-21-28-my11

MACHINERY.