CHAPTER XIII—INSECT FEDES AND TRANSPORTATION.

The preceding two issues of the AMERICAN LUMBERMAN published installments of a report of a three days “forest fair” held in the last week of November last on the Biltmore estate of George W. Vanderbilt, near Asheville, N. C., under the initiative and guidance of Dr. C. A. Schenck, forester of the estate. It related the eager following of Dr. Schenck by foresters and professional and business men as he lectured upon the object lessons in conservative forestry afforded by his work on the estate.

The last previous installment of the great forest festival on the Biltmore estate left the participants eager listeners to the lectures of Dr. C. A. Schenck at Tip No. 7. The report is resumed here at that point.

“This shows how a wood lot looks after heavy thinning. Let us go on a little farther. Here you see another thinning, a very heavy thinning, of the pines, all of the pines having been taken off. Why? The pines were all dead. [Laughter.]”

“The stand was a poor stand, but a wretched little bark beetle, millions of them, capable of chewing down half as acre at a time of yellow pine, invaded this group. Our fight against these beetles is continuous. Were it not for my good transportation I could not make such stuff into money, but as it is wherever the beetle worked I made the pines into money at once.

The Importance of Good Roads.

“One of the best, one of the most vital, means of resource that we have is competent transportation with a steady market. I told Mr. Defebaugh yesterday that it is my conviction that the difference between German forestry conditions and American forestry conditions lies in the absence of suitable roads here and the presence of them there and the presence of good means of transportation in Germany and its absence in America. Here on the Biltmore estate we have these German conditions because we have spent a few thousand dollars to build these roads. Where the general conditions are like those here I am sure you would do the same thing because it pays the best.

“In the last fourteen years the hardwoods have developed well here. I want to restablish on this plateau the equivalent of what was the original forest. I think by stimulating nature we are called upon in our investments. We don’t want only a high rate of interest of our investments but safe investments of the same time, and these are obtainable by profitting by the lessons of nature.

“Here is a thinning that has just been made. After the trees are cleared about to log lengths I give the most promising of the trees the advantage of room and at the same time I get money by cutting the trees into firewood. This is a thinning in progress. We are taking out per acre about five cords of pine and leaving about, say, fifteen of pine and making a net revenue of about $65 by the sale of this little firewood stuff. The idea is to do each of the pines at the ground space so that when swaying in the wind they do not rub each other and they get room to develop. After ten years we repeat the thinning, taking out the last promising to the extent perhaps of about one-fourth.

“The hardwood undergrowth I do not touch because these hardwoods are subservient to the pines and contribute to their food supply. The hardwoods contribute to their food supply. The hardwoods contribute to the fertility of the soil, but the pines are dominant because they are prospectively of more value. I leave the slash for fertility.”

CHAPTER XIV—WORK OF THE BARK BEETLE.

Arriving at Tip No. 8, Dr. Schenck said: “This is a tract killed by insects. The stumpage value of this crippled tree is $33 for firewood; for lumber it would have been worth $300. It is more difficult to find out the workings of these beetles than you imagine. They kill only those trees in which they are breeding. They invade them only for breeding purposes. They attack the butt apparently ten feet above the ground. This beetle breeds in the yellow pine almost entirely. In the mountains we have 3,000 acres which have been destroyed by this beetle.”

In answer to a question Dr. Schenck said: “It costs to get firewood 60 cents a cord for the cutting only. My crew makes three loads a day to Asheville. Every tree marked before cutting.

“The woodpeckers feast on the larvae of these beetles, and a small watch kept on the woodpecker has made this work done better with these trees than we have. What we lose is the difference between the prospective value of the tree and the present market value.”

CHAPTER XV—IN RAPID REVIEW.

Here Dr. Schenck called to his aid Capt. Cyrus T. Rankin, superintendent of the saw mill plantation at Pisgah forest station, who has been an employee of the estate for nearly twenty years and who is one of its most experienced foresters. He gave a demonstration in the practical work of marking trees for cutting. Dr. Schenck started ahead from tree to tree, designating the doomed individuals so rapidly as almost to deceive the eye, and in his footsteps followed Captain Rankin with a forester’s huge axe knife blaring the trees designated.

The lectures last recorded included in effect the object lessons held at Tip No. 9, over a line of which was passed an admixture of pines and oaks in which a number of important cutting demonstrations had been made. The plantation of white pines planted 4,000 to the acre in 1900 for breeding purposes. They attack the butt apparently ten feet above the ground. This beetle breeds in the yellow pine almost entirely. In the mountains we have 3,000 acres which have been destroyed by this beetle.”

Tip No. 12, at which was illustrated a feature of the character of the Biltmore estate which prevails throughout its extent, is the departmentalized plan of work. The departmentalized plan of work is essentially that over the forestal growth of the entire estate except upon the lines carried on in the landscape department. The departmentalized plan of work is essentially that over the forestal growth of the entire estate except upon the lines carried on in the landscape department. The departmentalized plan of work is essentially that over the forestal growth of the entire estate except upon the lines carried on in the landscape department. The departmentalized plan of work is essentially that over the forestal growth of the entire estate except upon the lines carried on in the landscape department.

Tip No. 13. Another white pine plantation two years old, with a few hemlocks, Douglas firs (poor) and black cherries. The soil is covered with humus. If this plantation were denser I would like it better. After ten years the growth is much more rapid than the five years. No trimming had been done at this point in five years. The Douglas firs were found to be of poor character, the only value of the timber on this tract being its value as fuel wood for the estates and the protective companionship which it afforded the admixture of yellow poplar.

“Here,” said Dr. Schenck, “was a wased out guilty some time ago, but after my pines quieted the gulley was made good and the protective companionship which it afforded the admixture of yellow poplar.”

A walk mostly up hill of about one mile brought the party to Tip No. 14, where was another object lesson in the preservation or arrest of erosion by a growth of poplar and yellow pines, the latter about 25 to 30 years old. Some black cherry found at this point was planted during the last seven years.

CHAPTER XVI—IN RETROSPECT.

Although passed over in rapid succession above, Tips Nos. 10 to 14 inclusive are entitled to further comment in list form with particular justice of the type.

In the spring of 1900 at Tip No. 10 twenty-two acres fairly good farmland were planted with white pines. Three years old a yellow pine 1 year old. The seedlings were planted 2 feet apart in rows 4½ feet apart. Theoesper was: For plants $33; for planting, $180.

Young white ash on the Brownstone plantation on the Biltmore estate}

Îrangle}
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CHAPTER XXI.—BILTMORE HOUSE.

Biltmore house itself was closed and in charge of a caretaker, but the party inspected the immediate grounds for flowers, trees, shrubs, and croquet courts, the magnificent lawn Koching over at the base of the house, the gardens, the lagoon, the bucolic, the beautiful, smooth driveways, the large, handsome stables, the artistically placed statuary, the huge greenhouse, the handcrafted home seats, the view to the west was what captured most of the party. From the level of the ground floor of Biltmore, the view to the west rose the Smoky mountains, in a deep purple haze, the whole effect with the sunset, forty thousand acres of woods, a land of vision it would seem —

A still, an overwhelming dream.

The visit to Biltmore house concluded the outdoor enjoyment of the day and the party returned to Asheville, where a very successful dinner, with much talk of the Thanksgiving at the Battery Park hotel it would be appropriate to introduce a sketch of the host of the occasion—the host of the entire forest fair and whose personality and accomplishments made that unique festival a notable event in the history of conservative forestry.

Few if any influences of an immoral character are so conducive to accomplishment as enthusiasm in pursuit. It may be hazarded that no other individual influence is as great a factor in accomplishment as pent-up enthusiasm for devised activities. Such enthusiasm released, augmented by thorough ability, is a force irresistible.

The history of notable commercial, professional and artistic accomplishments is replete with examples illustrative of this force. Even the superficial observer in the woods or in the fields, with the forebears or early misguidance had destined them for commonplace pursuits in which, had they not made marked efforts, as great a factor in accomplishment as pent-up enthusiasm for devised activities. Such enthusiasm released, augmented by thorough ability, is a force irresistible. If any influences of an immoral character are so conducive to accomplishment as enthusiasm in pursuit. It may be hazarded that no other individual influence is as great a factor in accomplishment as pent-up enthusiasm for devised activities. Such enthusiasm released, augmented by thorough ability, is a force irresistible.

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out of one hundred foresters in Germany could not tell
how lumber is sold, by the cubic foot, the meter, or
how, that courting period is now closed, for the
Big mill proved a failure, through the fault of local
conditions, as did the use of splash dams and other
experiments unsuited to conservative lumbering
on the Biltmore estate, by all of which failures, under
Dr. Schenck's wise methods, the estate has profited vastly.
Dr. Schenck has had to contend with much that would
have thoroughly discouraged the average man even
the more vigorous in his management of the Biltmore
estate, from local conditions, native unwisdom and
practical instruction.  This forestry enthusiast, expert and
authority in his own
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material and immaterial, 200 square miles in North
Carolina and the timbered areas of the continent, and of
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