SOME UNWRITTEN RECORDS IN THE HARVARD FOREST.

PROF. R. T. FISHER, '98.

OF the various faculties which the forester is called upon to acquire, an instinctive insight into the past and future of forests is professionally one of the most useful and unprofessionally one of the most entertaining. He must be able, in the converse of the common saying, to "see the forest for the trees." This involves conceiving it in imagination as a living crop, whose history and prospects, as revealed in the complicated relations of the trees which make it up, may cover several centuries. Thus, as fast as the forester learns the habits of the different species, how big a tree should be at a certain age, how it looks if it has grown in the open, and how if in the shade, and the signs of all the injuries and diseases and other "acts of God" that occur in the woods, just so fast his mere visual image of a multitude of trees brings with it an imaginary picture of the way the forest looked, or would look, in all its stages, from the germination of the seeds which produced it to the final picturesque and massive decline of the primeval wilderness. In other words, by numberless signs he can decipher the date and manner of its origin, its probable longevity, and its past vicissitudes, whether due to man or the elements.

Interpreted by such a key, the Harvard Forest furnishes some interesting records of the human occupation of the town of Petersham, and in fact of much of the upland region of central New England. A person looking over the country from a hill-top would be struck with the large proportion of forest to cleared land. At least four fifths of the area visible for ten miles in every direction is woodland — and to the casual eye, woodland of very respectable claims to the title of forest. Yet except for a few small tracts, none of it is more than seventy-five years old, and the great bulk of it started life between forty and sixty years ago. In the bird's-eye view there would easily be picked out certain dark patches known in the parlance of forestry as pure pine stands; and in many cases these would be seen to be noticeably geometric or straightsided in shape. Such stands, owing to the seeding habits of the white pine, originate only on cleared land — pasture, old field, or in rare cases, burn. On the Harvard tract, most of them are between fifty and sixty years old. In the absence of evidence of fire, these blocks of pine thus fix the approximate date of a general abandonment of farm lands — lands still further identified as such by the incongruous lines of stone walls and occasional cellar-holes now buried in the woods.

Other types of forest, indicating still other dates and conditions of ori-

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gin, would serve to complete a chronology of other, less extensive changes in human occupation, both earlier and later, and already, doubtless, of record in New England economic history. But the main shift or decline of population is most clearly recorded in these pine stands, and by their evidence is shown to have occurred in one comparatively short period. In the first half of the last century, the population of Petersham, in common with that of many neighboring towns, was double its present figure of something over seven hundred. Various causes operated to start the decline, — the building of the Fitchburg Railroad, the development of manufacturing towns, and the opening of the West. But to judge from the age of the prevailing pine woods, it was for the defense of the Union that the farmer finally abandoned a failing livelihood.

Concerning remoter colonial and pre-colonial days, the silvical records are much scantier and more obscure. One of the investigations now being conducted on the Forest, and growing out of the accumulating knowledge of existing woodland, is an attempt to reconstruct, largely from evidence on the ground, the character and distribution of the original forests of central Massachusetts as the first settler found them, and to trace the modifications brought about by the use of the land. Aside from exploration and the pursuit of Indian war-parties, the first white occupation of the region took place between 1700 and 1740. At that time probably ninety per cent of the land was covered with heavy forest. By 1850, fully three quarters of the forested area had been cut over at least once, and over half of it cleared for farms. Add to the labor of this undertaking that of constructing some thousands of miles of stone walls, and one gets a just idea of colonial industry. After the war-time emigration, the forest flowed back over the fields, so that today there is nearly twice the area of woodland there was in 1850, and at least as much as there was in 1800.

The effect of these alternations of use and disuse upon the forest has been to eradicate all but a few remnants of the original pre-colonial stands — so few and small, indeed, and so generally passed out of mind, that the forest monarchs among which Cooper's Bumpo threaded his unerring way are all but legendary. The Harvard Forest contains one such remnant — a piece of several acres in extent; and though single trees have been culled from it in old times (usually the biggest ones), it still preserves some of the look of age and loftiness that only the ancient forests have. The striking thing about the stand, in contrast to the comparative monotony of "second growth," is its commingling of antiquity and youth — the intermixture, in every variety of grouping, of saplings and mature trees, of the largest veterans and the smallest seedlings, and of all the living with the crumbling windfalls and naked "snags" that are slowly yielding to lightning, wind, and decay. Every gap left by the fall of the aged is steadily

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IN 1861 A PASTURE, NOW A PINE FOREST NEARLY SIXTY YEARS OLD.

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filled by the younger trees, and although growth in the crowded spaces and obstructed light is slow, it is enough to keep the general appearance unchanged, which is a condition characteristic of forests that have never been touched by axe or fire.

In the Petersham sample, the age of the oldest living tree goes back to the very early eighteenth century, and of the dead to considerably earlier. The shape of many of the tree-tops and the vestiges of stumps show that a century or more ago some of the largest dominant pines were cut, which lowered the average of size but did not greatly alter the constitution of the stand. The days of these selective cuttings were the days of the ox-team and the brookside sawmill with its monstrous overshot water-wheel — and the days, too, when the fruit of their deliberate labors became the unrivaled woodwork of the colonial house. The foundations of such a mill are still standing on the stream close by, and in the village much fine paneling bears witness to the quality of its product. Thus, quite apart from its picturesque and scientific value, this fragment of old woods is a most significant relic, which helps to bridge for the physical eye two centuries of unpictured alterations in the face of the country. It preserves a scene which the earliest settler took, and transmitted without substantial change, direct from the bear and the Indian.

NATHANIEL TRACY, HARVARD, 1769.

T. A. LEE, LL.B., '13.

Nathaniel Tracy, of the class of 1769, was one of the most interesting characters of the Revolution. "The meteoric brilliancy of this man's career is unmatched in the early history of the State." He was descended from two famous Harvard families on his mother's side, the Gookins and Cottons, and some of the most prominent Harvard men of our day are descended either from Nathaniel Tracy or from his father, Capt. Patrick Tracy, including, among others, Mr. Justice Oliver Wendell Holmes, '61, Maj. Henry Lee Higginson, ('55), the late Col. Henry Lee, '36, and the late Dr. Arthur Tracy Cabot, '72.

Nathaniel Tracy was born in Newburyport, Aug. 11, 1751, and was buried there, Sept. 21, 1796. His father, Patrick Tracy, Esq., was a well-known and wealthy merchant of Newburyport, who was probably born in the county of Wexford, Ireland, about 1711, and died in Newburyport, in 1789. The family tradition is that his patrimony was stolen by his guardian, and that he was thrown penniless upon the world at an early age. He came to New England as a young lad, made frequent voyages to the West Indies, became a competent and skilful navigator, a master

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