

Carl Alwin Schenck and The Biltmore Forest

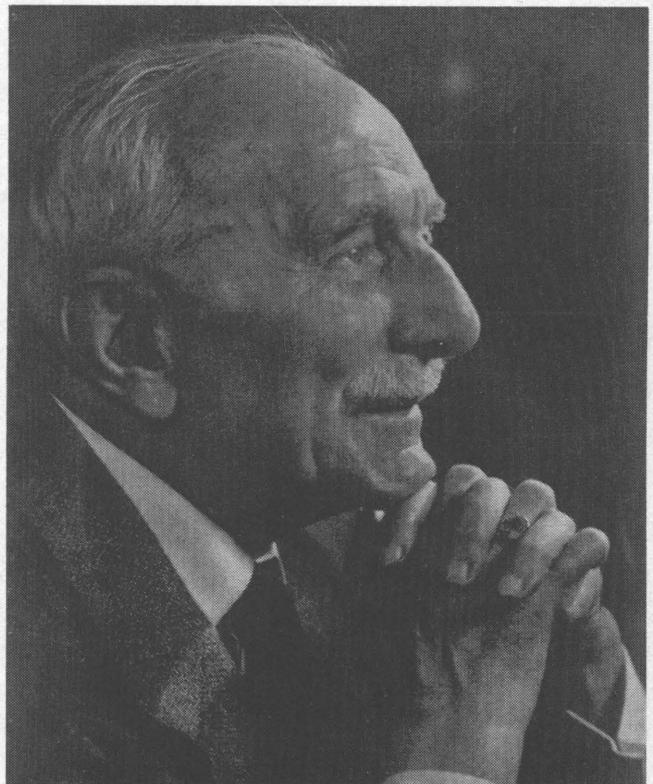
by

DR. J. A. LARSEN

THE attempted beginnings of technical forestry education and one of the very first applications of good forestry in America were associated with an unexpected and unavoidable chain of circumstances. In 1890 the wealthy George Vanderbilt, the grandson of Cornelius Vanderbilt, who amassed a fortune in railroad development, bought a large tract of land in the mountainous section near Asheville, North Carolina, built a French castle, developed and landscaped the environs and invited Dr. Carl Alwin Schenck, a German forester, to come to America and direct the management and improvement of the forested portion. Out of the first purchase of nearly 12,000 acre unit a net area of 7,280 (4) acres was to become a demonstration to all near and far that the harvesting of forest crops in this country could be conducted and controlled in such a way as to secure perpetuation of the forest, prevent unguided exploitation and devastation, and stave off the threatened timber famine.

It is said that George Vanderbilt had searched far and wide over the world to find the most beautiful spot to erect his dream-palace, and that when he at last stood and looked out over the towering ridges of distant Mount Pisgah in North Carolina, he decided this was the place, and he proceeded to buy land to form an estate which would eventually comprise about 100,000 acres. Actual construction began in 1891, as he built a railroad stub thither from the Southern Railroad, imported hand-tooled Indiana limestone and slate roofing, engaged Richard Morris Hunt as designer and Frederick Law Olmstead as landscape architect. The plan called for a 780-foot wide imposing chateau, modeled chiefly after those of Blois and Chambord in France.

Mr. Vanderbilt brought skilled craftsmen from all over Europe and America and hundreds of laborers and artisans from the Carolinas, who in the period from 1891-96 produced the magnificent Biltmore House, containing 365 rooms, many of these embellished with rare and choice paintings, tapestry and furniture.



Carl Alwin Schenck



The Biltmore Palace

Because of his desire to manage the forested area Vanderbilt hired, (2) Carl Alwin Schenck, who was a tall and erect young German of military bearing, sharp of eye, a prominent nose and an elegant mustache, all of which made him resemble Kaiser Wilhelm II — the students thus habitually referred to him. He was born at Lindenfels near Darmstadt 1867; graduated from Darmstadt Institute of Technology; entered the forestry school at Tübingen at 18 years of age, but was forced to spend a year or more in a sanitarium because of a pulmonary ailment. He made a fresh start at the University of Gießen, but his poor health caused interruption of his studies and delayed his acceptance in the German Forest Service and the German Army. It was then he turned to the study of law, believing that if he could not be a forester, the less arduous physical aspects of a law practice might enable him to earn a living. However, as the years passed his health improved so

much that he returned to forestry. Schenck often remarked that his knowledge of law was a great and useful asset.

In June 1889, at Gießen, (3) when Sir Dietrich Brandis was leading a group of the English Chapel Hill forestry students through the German forests, Schenck met this distinguished international forester, who was German born, and who had played a large part in the introduction of forestry to the British and to India in particular. Since Schenck had knowledge of the English language, Sir Brandis asked him to become his assistant for the remainder of the trip, and the succeeding summer Schenck traveled widely with him through the German forests. Later on after the retirement of Sir Brandis, Schenck was similarly employed by his successor, Sir William Schlick. It was during the winter months that Schenck attended and completed his requirements at the University and the military training service.

² Maunder, Elwood R. 'Carl Alwin Schenck'.

³ Schenck, Carl Alwin; The Biltmore Story.I

When he finished with the army he was a lieutenant of the Grand Ducal Horse Artillery. In this capacity his service was brief, for early in 1895 when sojourning with his wealthy uncle at the French Riviera there came a telegram from Vanderbilt with the offer to become director of the Biltmore forest. Dr. Schenck assumed that he had been recommended by Gifford Pinchot who also had met Sir Brandis in Germany and who was the first forest consultant at Biltmore. It is remarked by Maunder that Schenck saw in Sir Dietrich a pattern for his own life. The two men continued correspondence and Sir Dietrich frequently wrote to Schenck about the methods and chances of development for American forestry.

During the first few years of his endeavors Dr. Schenck had many opportunities to confer with Gifford Pinchot in matters pertaining to forestry both at Biltmore and in the United States generally. He learned about the technical work begun by Henry S. Graves and Gifford Pinchot on the Whitney estate in the Adirondacks of New York. However, at that time there were very few technically trained foresters in this country. At times, during the first trying years, Schenck received assistance from two foresters, Overton Price and E. Y. Griffith of the U.S. Forest Service.

The Biltmore forest itself contained 7,280 acres, containing 50 decrepit farms, ten 'country places' hitherto owned by southerners who had extracted the last dollar of value from the forest and left few if any trees fit for merchantable saw timber. There remained only one uncut stand of virgin timber on Big Creek watershed. In order to make a beginning in scientific forestry operations it would be necessary to obtain accurate information on basic values such as: types and stands of timber, kinds of species and their distribution, extent of injuries or deterioration; chances for road building or stream improvement, marketable species, and best locations for immediate operations, etc., and other questions.

Dr. Schenck was soon shown through the forest by Charles L. Whitney, a logger whom Pinchot had brought from New York state. This man was in charge of the woods end of timber cutting and logging. However, hitherto such work had been entirely that of harvesting and salvaging the dead and dying tree, notably the diseased chestnut.

In the first operations the products could fall in the following classes; — fuel wood, poles, posts, ties, bark, acid wood and stave bolts.

Transportation of ties and cordwood, etc., over the poorly surfaced and tortuous roads on the Biltmore forest was always slow and difficult; there were at that time no gas-powered vehicles. Even in the case of bark, which was harvested for the tanning factories, contract deliveries failed because of molding during the wet and humid summer months. The bark peeled easily only in that season. Thus the cost increased and the profit shrank, but in spite of all

difficulties and much skepticism, technical and scientific forestry was off to a start, and would have continued forward had it not been stymied by the 1907 depression.

Dr. Schenck soon set to work preparing a working plan for the unit. In this, the first of its kind on the continent of North America, he estimated that a gross income for a 12 year period from all sources might approach \$126,000, and that the total expenses for the first 12 years might be \$175,000. This could only be a shot in the dark. When efforts were made to market high grade lumber and cash-in at a profit, eyes turned to the untapped virgin stand in the Big Creek valley, but for bringing down the logs there were neither road, flume nor a drivable stream. The water course had to be cleaned of rocks and fallen trees; the sharp bends must be eased and protected from under-cutting. To cut the Gordian knot, Pinchot, who had Vanderbilt's approval, proposed to construct a splash dam and build up a sufficient head of water to flush the big logs down. Before this work began Schenck was surprised to learn from Mr. Vanderbilt that Gifford Pinchot's connection with the Biltmore estate had ended. Vanderbilt, however, thought it would be wise to carry out the logging plans and the sawmill operations on the French Broad River as Pinchot had planned. As a consequence, Whitney was ordered to go ahead with the building of the dam.

It was this Big Creek area which brought Schenck and Pinchot into their first great disagreement. Pinchot had shown Schenck the beautiful stand of mature tulip trees, chestnut, red oak, basswood and ash, etc. Pinchot believed that this forest was ripe for cutting with promise of much profit to the estate and the cause of good forestry. Schenck tells that he thought the project ill advised, but said nothing against it at the time. In the end the estate suffered a great financial loss. Schenck comments as a post mortem, "We acted without due consideration of means and ends; lacking knowledge of local conditions, lumbering markets, freight rates; and we disregarded the financial as well as the forestry interest of our employer; and, if yellow poplar seedlings were what we wanted, we could have had millions by removing the litter, or scratching the soil, or observed what had taken place on many exposed, denuded and abandoned fields." The creek after the cleaning and driving of logs was completely ruined for fishing, and its beauty destroyed; thus another wail of grief came from the local people and sportsmen. Worst of all, the banks of the creek, arched with rhododendrons, greened with moss and replete with brook trout was made a ruin, a veritable arroyo of torn shores and skimmed stones. The logs below the dam often got stranded, resulting in much labor and law suits. The same vandalism had taken place on the Murz River in Germany and all under the label of forestry.

The Biltmore Plantations

While all the heretofore recorded forest activities were in progress, a nursery for the production of suitable planting stock of trees had been prepared and actual field installations were under way. Plantings had begun, even before Schenck arrived, as early as 1890 using stock bought from Illinois nurseries. The work was naturally intensified under Dr. Schenck's direction. Much of this was done by the assistance of apprentices, rangers, and laborers. Areas to be covered were those denuded of timber and depleted farmland, especially the badly eroded areas. In some cases brush fences lodged against posts were built contour-wise at different levels. Both conifers and hardwoods were set out, sometimes pure, but most often in mixtures. (4) Haasis lists 77 different plantations varying from 1/10 to 60 acres, with a total of close to 300 acres and of 40 different species of trees. In some cases Dr. Schenck imported white pine planting stock from Germany. By far the greater number were northern white pine: pure, about 111 acres and mixed with other conifers or with hardwoods interspersed on 139 acres. Other evergreens were Norway spruce, shortleaf pine, pitch pine and Douglas fir. Among the leading hardwoods were sugar maple, black walnut, black cherry, white oak and white ash. In general the conifers have developed much more rapidly and attained better form than the hardwoods, because the latter, if planted on depleted top soil, gravelly or rapidly drying terrain, usually stagnated and showed poor form. Only black locust and a very few other hardwood trees would grow on such areas. Aside from failure by drought, we know that the hardwoods are more subject to rodent damage, or frost injury than the conifers. In regard to the efforts at erosion control, Dr. Schenck stated that within five years the worn out fields were covered with a thicket of white pine.

The Biltmore School of Forestry

It would seem that the idea of starting a school for the instruction of the many young men who desired to know more about the practice of forestry was a matter of natural consequence. It is possible that the idea had sprouted in Dr. Schenck's mind some time earlier. How it came to be a down-to-earth vocational affair rather than an ordinary academic curriculum seems logical enough, for it followed the precedent of the first such schools in Germany. In order to provide the laboratory phases, especially after work cessation at Biltmore in 1907, it was necessary that the student body travel, and travel much it did — to Europe and to the Pacific Coast! When this school was well on the way it gave rise to considerable skepticism and not a little criticism among the few technically trained foresters in

this country. Mr. Pinchot by a letter to Vanderbilt suggested or even asked that the school be discontinued. By sponsoring the Yale forest school, which began the year 1900, Pinchot had his doubts about the advisability of training men who were lacking in basic knowledge. There was, however, a vast difference between a graduate school at Yale for the one at Biltmore required no stiff entrance requirements or college degree. Was Pinchot afraid that Schenck's kind of training, would lower the standard of forestry education in the whole country? Not many years later Henry S. Graves, Director of the Yale forest school went on record to recommend such training, and the New York College of Forestry has for years staffed and maintained a Ranger School in the Adirondacks.



Twenty year old eastern white pine growing on a Biltmore Forest plantation. U.S.F.S. Photo 167130

After all, the trend of the first decade forestry education was following another course than that at Biltmore and from the standpoint of comparison this school could not compete with the new state and university schools. Maybe this was a determining cause for the dwindling enrollment. However, the entire Biltmore project in all its complex make-up suffered a stunning, yes, crippling blow when stock values tumbled. The Vanderbilt plans died in the

⁴ Haasis, Ferdinand, "The Biltmore Plantations, U.S.D.A. Forest Service Bul. 61, 1930.

making, the Biltmore House which cost \$6,000 a year to keep in operation, closed. Vanderbilt lost heavily, nonpaying farms were discontinued. Markets could not absorb the forest products, and both the manager and the financial controller with allied personnel lost employment. Vanderbilt spent the entire year 1903 abroad, and it was time for Dr. Schenck to do another round in the German army. When he returned he had no official connection with Biltmore estate, but he continued the school which became a traveling concern until 1913. Soon afterwards Schenck returned to Germany. Since he was at home in Lindenfels when the World War I broke out he promptly joined his regiment for service in East Prussia where he was wounded. He wrote this truism in his book — "If forestry at Biltmore was to be a pattern for other private owners to follow, it was necessary to prove that it could be done without the wealth of the Vanderbilts."

The Biltmore School of Forestry which began in 1909 was finally closed in 1913; George Vanderbilt died in 1917; after that the Biltmore forest acres were deeded to and became a part of the Pisgah National Forest.

Lasting Benefits from the Biltmore Operations

The impact and lasting results of value to American forestry from Schenck's contact with an unregulated and depleted North Carolina forest may be summed up as follows:

1. The invention of the Biltmore Stick for cruising timber.
2. Control of slope erosion by planting and by brush fences.
3. Necessity of coordinating logging and stream driving with all other (Multiple) uses of the forest.
4. Record of growth, success or failure of planted stock on different sites and in varying mixtures, at Biltmore.
5. Demand for very close checks on all income and expenses in connection with the harvesting of timber.
6. Value of maintaining strict but friendly supervision of all personnel engaged in the operations.
7. Evidence brought to light under what soil, light and surface condition to expect natural reproduction after cutting.
8. Highly technical silvicultural systems now employed in Germany's normal or near normal commercial forest must be greatly modified when used in America at the start of management.
9. Revealing in a measure the curricula and methods most suited for instruction and teaching methods in forestry education.

10. Beginning as early as 1895, Dr. Schenck published his lectures on technical forestry on the subjects of forestry practice under the headings of: history, policy, measurements, finance, silviculture, protection, management, utilization and the art of second growth, — a mine of good information for those who wanted to practice good forestry.

Dr. Carl Alwin Schenck's earthly remains were interred at Lindenfels in May 1955, but "His soul is marching on."

Note: With grateful acknowledgment to the American History Foundation and the Minnesota Historical Society, of St. Paul, Minnesota, for permission to use information from the book, "Carl Alwin Schenck," 224 pp. illus. 1955, and for use of the front page photo of Dr. Schenck by 'Karsh' of Ottawa. Also with thanks to Mr. Elwood R. Maunder of the Forest History Society, Inc. of Saint Paul, Minnesota, for use of the reprint "Carl Alwin Schenck," issued by The Hercules Powder Company of Wilmington, Delaware, 1955. The details about the chateau by Lou Harshaw were kindly provided by the Asheville, North Carolina Chamber of Commerce.

About the Author

Dr. J. A. Larsen is the departmental librarian and in partial retirement. For more details about Dr. Larsen see page 41.