SHAKESPEARE BIRTHPLACE TRUST

Royal Society co-founder John Evelyn, painted in around 1650 by Dutch artist Adriaen Hanneman.

IN RETROSPECT

Sylva

Gabriel Hemery celebrates the 350th anniversary of John Evelyn's treatise on the science and practice of forestry.

Three hundred and fifty years ago, London's recently formed Royal Society — the body at the heart of the Enlightenment — published its first book. It was written not by Robert Boyle, Isaac Newton or any of the other luminaries of seventeenth-century experimental philosophy, but by another founding member of the society: the prodigious public servant John Evelyn (1620–1706). And its subject was not anatomy, astronomy, chemistry or optics, but forestry. *Sylva* is a practical treatise on silviculture and an enduring classic, published in four editions during Evelyn's lifetime and posthumously in a further six, up until 1825. It remained the dominant forestry treatise in English until the nineteenth century and, thanks to its rich language, remains a favourite among tree experts. It inspired my own forthcoming book with Sarah Simblet, *The New Sylva* (Bloomsbury, 2014; www.newsylva.com).

Sylva was a response to an early venture of the Royal Society. Various committees had been formed to help to organize experiments and produce reports, and one of the first set out to respond to the Navy Royal's concerns about timber shortages arising from the degraded state of the nation's forests.

Evelyn took the lead in this venture, presenting a paper to the society in October 1662 that was imprinted as a book some 18 months later. Evelyn wrote in his diary — alongside that of his contemporary and friend Samuel Pepys, a record of significant historical importance — on 16 February 1664 that "I presented my 'Sylva' to the Society; and next day to his Majestie [Charles II], to whom it was dedicated; also to the Lord Treasurer and the Lord Chancellor".

Sylva; Or a Discourse of Forest-Trees, and the Propagation of Timber in His Majesties Dominions
JOHN EVELYN
Royal Society: 1664.

Sylva encouraged the nation's landowners to plant more trees and care for their forests, in the interests of the strategic defence of a nation reliant on 'wooden walls' — that is, the navy. It inspired considerable interest in tree planting in Britain, both as new forests on private estates, and on city streets and in formal gardens. Evelyn wrote on everything from London smog (*Fumifugium*, 1661) and salad (*Acetaria*, 1699) to soils (*A Philosophical Discourse of Earth*, 1676), and served as Commissioner for the Privy Seal and as Treasurer to the Royal Hospital for Seamen at Greenwich. But *Sylva* and his diary comprise his greatest legacy.

CULTIVATING VARIETY

As the wellspring of the Enlightenment, the seventeenth century witnessed considerable botanical discovery and geographical exploration in the New World and the Far East. German naturalist Engelbert Kaempfer, for example, was the first European to describe the maidenhair tree (*Ginkgo biloba*), which he saw in Japan. Evelyn advocated introducing new tree species to Britain, where diversity was limited to 60 native species. As he wrote, it was important "to promote the culture of such plants and trees (especially timber) as may yet add to those we find already agreeable to our climate in England" (this and other quotes taken from the 1776 edition of *Sylva*).

Evelyn was born into a family whose wealth was founded on gunpowder. He attended Balliol College at the University of Oxford but never graduated, prevented by his father's ailing health and the rumblings of the English Civil War. During the Interregnum, Evelyn travelled widely in Europe, returning to England in 1652 considerably better educated in areas such as anatomy. Notably, he now had a strong interest in horticulture after witnessing continental garden design, and had collected specimens and seeds of exotic plants. At Sayes Court near London, he transformed the garden, introducing a European formality merged with traditional English informality. In the same decade, Evelyn began to write his vast gardening treatise *Elysium Britannicum*, which he worked on for much of his life but never completed. It was largely down to his

KING'S COLLEGE LONDON

The Cawthorne oak in winter, as depicted in the 1801 edition of John Evelyn's *Sylva*.

prowess as a garden designer and plantsman that he was asked to lead the enquiry on the state of the nation's forests and their care.

Evelyn's personal motto was *omnia explorate; meliora retinete* (explore everything; keep the best), and in *Sylva* he adhered closely to this ambition. He described in detail the tree species of "greatest use, and the fittest to be cultivated", dwelling mostly on oak. As many as 2,000 oak trees were required for each navy ship. Of its wood, he notes that "though some trees be harder, as Box, Cornus, Ebony, and divers of the Indian woods; yet we find them more fragil, and not so well qualified to support great incumbencies and weights, nor is there any timber more lasting". After oak, he gave ash, elm and pine greatest prominence, given their utility in shipbuilding, construction and everyday life.

He discusses the natural environment — air, soil and water — and tree-nursery and forest management, tree diseases, and the cultural significance of trees and forests. He details how to collect seeds, raise young plants, prune (often improving the healing of a cut with cow dung) and optimize timber use. He relies heavily on the wisdom of ancient philosophers, such as Pliny the Elder, melded with the contemporary and practical silviculture practised by the landed gentry. He also includes many medicinal remedies — for example, ash for toothache, or box for venereal diseases — although he admits that "quacking is not my trade; I speak only here as a plain husband-man, and a simple forester".

Evelyn inspired landowners to plant more forest trees, yet such is the lag between vision and fruition in forestry that the oak and other productive forest species intended for shipbuilding were eventually to support other industries, especially as pit props for coal mining. He also sought to ensure the protection of Britain's forests, but it was not until the mid-eighteenth century that an Act of Parliament offered them formal protection. Despite both afforestation and conservation, Britain's forested area continued to dwindle. It reached an all-time low of 5% at the start of the twentieth century, and in response the Forestry Commission was formed in 1919 to coordinate an afforestation programme aiming to create a strategic reserve of timber for the nation.

"Sylva was a response to the Navy Royal's concerns about timber shortages."

Like many foresters, Evelyn had foresight and ambition that echoed well beyond his own lifetime. Society has finally come to appreciate the functions of forest soils in the carbon cycle, the role of the world's forests in combating climate change, the importance of the world's forests and their associated biodiversity, and the role that trees have in maintaining human wellbeing. We are just beginning to realize the true potential of renewable materials made from woody biomass. Skyscrapers up to 30 stories high and of mass timber construction are being considered. Nanocrystalline cellulose made from wood pulp — a material stronger than steel — is being used to replace synthetic materials, such as the plastics in car manufacture and conventional ballistic material in bullet-proof vests. Evelyn planted the concept of a wood culture, but it is maturing only in the early twenty-first century.

Balancing our demand for nature's wonder-material with the need to protect Earth from our industry, to grow food for our ever-increasing population, and to address the problems posed by pests and pathogens spread by global trade, presents an enormous challenge. The delightful prose and practical advice in *Sylva* continue to inspire 350 years on. ■

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