Introduction

During the period and aftermath of the Napoleonic Wars longstanding fears about timber supply became an imminent risk throughout Europe as a result of an increased pace of ship-building for private as well as military purposes, increasing use of timber for non-naval purposes.¹ These years also saw a plethora of writing about trees in Britain that was strikingly literary, concerned with securing scientific knowledge, and highly critical of the state. In 1831, sixteen years after Napoleon had been defeated, the Scottish landowner Patrick Matthew published a book titled *On Naval Timber*, which discussed recent attempts by the government to plant timber trees in the Forest of Dean by depicting a scene of bucolic carnage. Matthew described how officials had ‘planted and replanted trees, persevering even to the fifth time’, but ‘the seeds did not vegetate, and the plants refused to grow’. Then,

the natural richness of the soil threw up such a flush of vegetation – of grass, and herbs, and shrubs, that most of these plants were buried under this luxuriance; and how the mice and the emmets, and other wayfarers, hearing, by the *bruit* of fame, of the wise men who had the governing of Dean, assembled from the uttermost ends of the island, expecting a millennium in the forest, and ate up almost every plant which had survived the smothering. Now, this is well; we rejoice over the natural justice of the native and legitimate inhabitants of the Royal Domain, the weeds mastering the invaders the plants, who, year after year, to the amount of many millions, made hostile entrance into the forest.²
This chapter is about the context that gave birth to Matthew’s strange hybrid way of writing about trees and their meanings for the state. Its technologies are newly introduced species of tree, meant to be more productive than existing ones; new techniques meant to encourage the rapid growth of trees; systems of quantification that allow for the value of trees to be assessed; and the timber that was extracted, measured and tested. Talking about ‘technologies’ in the nineteenth century is somewhat anachronistic – while the word was coined in the eighteenth century, it was not widely used until the earlier twentieth. The eighteenth- and nineteenth-century term that did cover projects like tree planting or introduction of novel crops, as well as engineering projects, was ‘improvement’. While it does not have quite the same connotations as ‘technology’ would gain during the twentieth century, improvement was a coverall term for enlightened and rationalising activity, natural and artificial.

If we accept, however, the claim in the opening chapter of this volume that ‘Environments, when cast as means towards ends, are technological in form’, then technology can be treated as an analysts’ rather than an actors’ category. In this sense woodlands and their products are technological in four main ways. First, they involve attempts to apply formal regimes of calculation to processes that had previously been going on without quantification of this kind. Second, they foreground processes and practices that were claimed to be artificial – growing trees in soils that were thought not to suit them, introducing new species, deliberately planting rather than allowing woodlands to grow of their own accord – against those that were claimed to be natural. Whether this division between the natural and the artificial really existed is not at issue: the point is that tree writers believed it did, and generally lined up on one side of the artifice/natural divide. In other words, the divide provided rhetorical resources through which different ideas about nature and artifice could be articulated. Third, timber played a major infrastructural role, as a major raw material of a wooden world. Trees and timber were assessed for naval purposes, but also for pit props, firewood, hop-poles, fencing, building materials, furniture making and so on. These various uses were a major concern of tree writers during this period but have often been overlooked by historians who have been more concerned with the noise of naval controversies. Finally, this chapter emphasises the crooked roads that ran from woodlands to the use of timber: the technical activities of hacking, shaping, estimating, felling, squaring and hawing, which were involved in shaping timber out of trees.

Like other chapters in this book, in other words, this chapter is concerned with some of the ways in which plants might be considered
as technologies. The organisms discussed here are not quite like the ‘industrial plants’ that Matthew Holmes discusses in Chapter 8 of this volume: although attempts were made to speed the growth of slow-growing timber trees, this was not entirely connected either to capitalist goals or to mechanical processes, and did not involve interventions from formalised science. And as we will see, there was also no neat fit between attempts to improve the production of timber and the enterprises that made use of them. Like the potato experiments that Dominic Berry describes in Ormskirk (Chapter 9), experimental planting efforts raised questions about the geography of technical improvement, with sites far from the beaten track presenting themselves as having made transformative discoveries.

We cannot, however, see technologised organisms and environments as operating against the static backdrop of an unchanging state. Because of trees’ rich symbolic associations, woodland management has often been regarded as an allegory for state power. In James Scott’s book Seeing Like a State, for example, the rationalising approaches of German Scientific Forestry are used to identify the ways in which centralising states abstract from local conditions – a problem that in Scott’s view has run throughout schemes of modernisation in the nineteenth and twentieth centuries.6 This is close to the story that Esa Ruuskanen tells in his chapter of this volume (Chapter 2), about how ‘Imperial eyes’ came to regard Irish boglands as potentially exploitable resources, neglecting existing customary uses. Although woodland historians have seriously contested the view of the relationship between woodlands and the state upon which Scott drew, arguing that it mistakes the aspirations and rhetoric of scientific foresters for their achievements, his view remains a powerful lens for thinking about how the state relates to its environments.7

As we will see, however, the British state’s relation to timber was not centralising in the manner of Scott’s scientific foresters. To write seriously about trees during this period, British authors had to re-assemble the varied users and producers of timber and their relations with the state. Natural historical information, political allegories, accounts of local customs and attempts to quantify different planting practices were inextricably linked in British works about forestry. The state appeared in a number of different aspects: as a guarantor for future security of the land; as a contractor with timber merchants; as a (bad) manager of its own lands; as an illegitimate incursion into the lives of the people and their rights to plant trees; as a collector of data and tester of materials. Rather than cohering into a central, domineering entity, the
The Woods for the State

State proliferated in a huge variety of local manifestations. Writers on plantation could not, so to speak, see the woods for the state.

The linked representation of the state and woodland management was also conditioned by two significant absences. The first was a lack of clear information about what private reserves of timber Britain actually possessed. Surveys of private timber were attempted without success. The Admiralty distrusted the timber merchants who supplied timber to its dockyards but did not know how to do without them. There was little foundation for general theories of plantation and the information that did circulate was highly partial and particular.

The second absence was that only a relatively small proportion of timber for naval purposes was produced within Britain itself. Most was imported – from the Baltic, and increasingly from South Asia and North American colonial territories as well. These ‘ghost acres’ are of course a significant theme in British environmental history, because they allowed the kingdom to prosper on the basis of exploitation of resources from elsewhere. But they had a strange effect on understandings of timber within Britain itself as well, intensifying the sense that woodlands might, potentially, be required in a situation of emergency, when imports were not available. Because of the long times that trees require to grow, this was a slow contingency, a delayed emergency. And as a result, most of the proposals for planting were intensely speculative, seeking purchase on unknown future conditions. And because they were speculative, considering future possibilities rather than absolutely immediate concerns, they could be used to imagine quite radical changes.

These absences, I argue, were at the heart of all British tree-writing during this period. For this reason, we need to be cautious in evaluating the different schemes for indigenous timber production that proliferated between the mid-eighteenth and early nineteenth centuries. While planters might offer potent and persuasive views about the relationship between woodlands and the state, advancing their arguments required entanglements with the state’s existing ways of dealing with timber, and the two absences described above. For this reason, we should not see discussions of woodlands in Britain during this period as emerging from simple differences in attitude and policy between elite networks, as Fredrik Jonsson does in his book Enlightenment’s Frontier: The Scottish Highlands and the Origins of Environmentalism. According to Jonsson, networks of improving landowners in the highlands of Scotland were divided between those who advocated a ‘liberal ecology of commerce’ based on free trade, and ‘civic cameralists’, who supported autarkic
self-sufficiency and ‘argued for the prudence of long-term management of forest resources by the government and eminent landowners’. The division between these views was real enough, but in practice both points of view collided with existing state structures.

The second section of this chapter discusses the different aspects of the state that were relevant for woodlands, drawing on work by Martin Wilcox, Roger Knight and Joanna Innes. It then examines the state’s failed attempts to conduct surveys of private timber resources and attempts to deal directly with timber merchants and the shift towards increasing imports. The third section of the chapter describes attempts to treat private reports of tree planting as experimental knowledge, focusing on the plantation reports received by the London-based Society for the Encouragement of Arts, Manufactures and Commerce. Although these reports could not provide the national overview for which their creators longed, they represented rich discussions of the perils and enthusiasms involved in plantation, and the connection between private planting and the activities of the state. The chapter then goes on to analyse radical works on plantation of William Cobbett, William Withers, which reconfigured speculative hopes about plantation into a vision of resistance to the state and a revivified national landscape. Finally, the chapter examines the conclusions that can be drawn from these rich, hybrid works about trees as visions of the environment, technology and the state in modern Britain.

**Woodland surveys and the contractor state**

Historians since Robert Albion’s 1926 book *Forests and Sea Power: The Timber Problem of the Royal Navy, 1652–1862* have taken pains to show that timber supply was never simply about trees. Most timber for naval purposes was imported in any case; it was only for certain ‘knee’ timbers that British oak was deemed essential. Albion followed his sources in thinking that the real problem lay with corruption and mismanagement in the Royal Dockyards; later histories have queried this conclusion by suggesting that the dockyards were more effective than Albion suggested, and that naval officials used the question of potential shortages to press for the reforms that they desired. Clive Wilkinson, for example, concludes that there was not a lot of neglect at the dockyards during the eighteenth century: at the end of 1770, the Royal Navy was able to use 12,177 loads of oak timber and 1,315 loads of oak plank, all of British origin.
In dealing with timber and the question of its local availability, various agencies of the British state acted as what Martin Wilcox and Roger Knight term ‘the contractor state’. This was that aspect of state power devoted to dealing with private contractors that furnished the state with supplies: Knight and Wilcox’s case is the Navy Victualling Board, which was responsible for providing provisions to the fleet. They argue that working with a very large number of outside contractors offered four major advantages for the state. First, outsiders could buy in markets in which the government was unable to participate. Second, contractors had much greater knowledge of ‘complex and sophisticated markets’ – such as the international wheat market – than the government possessed. Third, the ‘machinery of war was easier to dismantle’, because the state did not have to put capital into projects serviced by contractors. Fourth, established contractors were able to ‘expand when the state demand[ed] it with flexibility and with greater speed than [could] a state machine’. Wilcox and Knight conclude that ‘it was the strong industrial base outside the state establishments which gave the British government the means to overcome its enemies’.

In relation to trees, the contractor state appeared in the dealings of timber merchants with dockyards. Part of the relationship between the state and its contractors was the use of the Royal Forests. In 1706, Edward Wilcox – the surveyor general of the forests south of the Trent – wrote that the timber of the New Forest ‘should not be cut except on extraordinary occasions, but should be preserved as a check upon the timber merchants, who, when it was gone, would impose what rates they pleased’. Among state agencies, too, there were many spaces for suspicion of collusion with the merchants, by accepting poor quality timber at too-high prices. The dockyards were overseen by the Navy Board, whose actions were often challenged by the Admiralty. Suspicion fell upon the Navy Board, the dockyards and the merchants themselves; the Board and dockyards blamed the Admiralty for instituting policies that made it more difficult to obtain timber from the merchants. As we will see, many discussions of private timber production focused exclusively on the activities of landowners, but the contractor state was always present as well. As with victuals, there were aspects of dealing with timber that the state struggled to broker with landlords directly.

A second aspect of the state’s activities that was important in dealing with timber was data collection and surveying exercises. The challenges that this involved can be seen from the county surveys of the Board of Agriculture, which were conducted from 1793 onwards.
The Board was a hybrid of state agency and private concern. Its surveyors aimed to give a picture of the ways in which agriculture was conducted throughout the kingdom, and how it might best be improved. The Board’s surveys were hesitant to talk about the policies of individual landowners: one surveyor, in a discussion of the management strategies of Joseph Banks, apologised as ‘many of my readers will probably censure me, for entering thus widely into calculations, concerning the private property of an individual’. Surveys of different counties varied tremendously as to the ways they collected data; where the Board’s reports did discuss woodlands, they did so in very general terms. The report for Essex contained what the agricultural writer William Marshall described as ‘an undigested mass of materials, giving the general idea that South Essex abounds in woodlands, but no estimate of aggregate extent’. That for the North Riding of Yorkshire contained a section on the Disposal of Timber, which claimed that ‘it is the practice in this Riding to sell the falls of wood to professional wood-buyers, who cut up the trees in the woods, according to the purposes for which they are best calculated, and the most valuable’. Marshall thought this was nonsense, because timber merchants could not possibly possess expert knowledge of the shapes of timber which the navy would require:

when he says … ‘All the ship-timber grown in the Riding is thus cut up in the woods, into shapes ready for the builder to make use of,’ he is certainly wrong. It is not probable that in any part of the Riding such a practice prevails: it being impossible for the woodman to know exactly the wants of the ship builder, unless the latter were to furnish him with molds.

This was as close as any of the reports came to giving details of the interactions between the land on which timber grew and the people who dealt in it. The Board’s surveys, as rich and locally oriented as they were, gave no serious impression of the workings of the contractor state, or the holdings of private landowners.

Other surveys tried to grapple with the absence of knowledge of timber supplies. Looking back from 1810, Henry Dundas described the ‘alarm in the public mind’ that had commenced in 1771, and how subsequent years had seen greatly ‘increased consumption of oak timber for machinery for which fir cannot be substituted’, including ‘canals and wet docks, mill-work, engines, lighters, barges and other purposes’. Dundas had been treasurer to the Admiralty from 1782 until 1800, when he
resigned amid allegations of financial impropriety that finally led to his impeachment. He concluded that:

if the prosperity of this country should continue, the consumption of oak timber, for its internal purposes, and for the shipping necessary for the whole of our Trade, including that of the East India Company, would, at no very distant period, furnish an ample demand for all that could be expected to be produced on private property in this kingdom.\(^{22}\)

As a result, Dundas had decided in 1792 that ‘the state of Naval Timber … required an immediate and radical investigation’, under the auspices of the Commission of Naval Revision. The investigation, Dundas claimed, was far-reaching:

the enquiries … took a most extensive range, so as to enable them to bring together and methodize a mass of useful information, collected from almost every part of the United Kingdom, from a great variety of different sources; and from persons whose interests and objects were not only different, but whose character and situation must place them above the suspicion of giving erroneous information.\(^{23}\)

Informants included the ‘most eminent land-surveyors and timber dealers in every part of the kingdom; the surveyors of His Majesty’s Dock-yard, and the gentlemen assembled at the Quarter Sessions of every county in England’, as well as ‘various noblemen and gentlemen, whose extensive possessions, and knowledge of the resources and management of timber, gave them advantages of information which could not fail to render the communications from such authorities, highly useful and instructive’.\(^{24}\)

Despite the value of this material, however, its publication had been prohibited, a censorship that appalled Dundas as (he claimed) earlier moments of crisis had been averted ‘by the publication of the state of timber in this kingdom and by looking at the danger of a scarcity boldly in the face’.\(^{25}\)

At the time he wrote these observations on timber, Dundas was under investigation for corruption and his perspective was obviously partial. Heavily embroiled with the East India Company, he also argued for an increase in imports of teak as a substitute for oak. These other concerns guided his approach towards the question of local production: his ‘appreciation of domestic forestry was undermined by his
commitment to imperial rule in South Asia’. Jonsson regards this as a controversy with autarkic policies of self-sufficiency on one side and the ‘neo-mercantilist’ commitment to trade and use of colonial imports on the other. The Admiralty commissioned a large number of ships built from teak, ‘entrenching Dundas’s vision in the naval budget, although the Asian timber never came into widespread use’. In the longer term, British timber was increasingly imported from North America, and ‘Pax Britannica underwrote the exploitation of ghost acres in the New World’. So Dundas was perhaps being disingenuous about the difficulties in assessing local timber resources.

Whatever Dundas’ intentions were, though, the fact remained at the beginning of the nineteenth century, naval authorities found themselves in an embarrassing situation in dealing with timber from British sources. Besides the lack of knowledge, one source of the embarrassment was an attempt by the state to work around the timber merchants and to deal with landowners directly. According to a very angry correspondence between the Admiralty and representatives of the Navy Board, supplies of oak timber had been in a state of uncertainty since 1802, when tightened restrictions in the dockyards had led to a significant reduction in the quantities of timber being accepted for naval use. The Admiralty blamed the Navy Board for collusion with the merchants; the Board claimed that the Admiralty had refused to acknowledge the risk of reduced supplies if the terms for merchants were made less favourable. The Admiralty had since 1792 also been seeking timber from the Royal Forests, but here again there was a strong sense that stocks had been wildly overestimated. Sir William Rule, the chief naval surveyor, was dispatched to obtain timber directly from landlords; advertisements were published inviting merchants directly to tree auctions; many of the merchants rebuffed the offer, saying there wasn’t enough time for them to make a fair estimation of the value of the timber, and the results were not the success for which the Admiralty had hoped. Where previously go-betweens had dealt with the processes of judging and transporting timber, authorities were now attempting to control the supply chain directly to undermine the merchants. These efforts had failed, however. As the Navy Board gloomily noted in 1804:

Our late Advertisement, signifying the Navy Board was willing to treat for Oak Timber from the Growers, without the intervention of a Dealer, has not brought many offers; and the difficulty which attends the manufacturing of the Timber, namely, the felling, squaring and hawling to water-carriage, together with the sale of
the bark tops and lops is so great, that very few Gentlemen will give
themselves the trouble to attend to it; and it is next to impossible for
the Navy Board to undertake it, without running the risk of consid-
erable depredation and loss, and employing Purveyors all over the
kingdom. In those instances where we have tried it, the Timber has
cost the Public much more than by the usual means; and I hold it to
be next to impossible that 30,000 Loads of Timber is to be procured
but by Timber-dealers.30

As a result of the immense difficulty of dealing directly with landowners,
the Admiralty’s increasing distrust of the timber merchants, and the
increasing sense that underlying both was a genuine shortage of timber
as a result of rising demand, the difficulties of dealing with indigenous
sources appeared intractable.

Private accounts

If it was indelicate to publish calculations about landowners’ property,
would they nevertheless be willing to vouch for themselves? Many land-
owners were enthusiastic tree planters, committed to new species that
might be useful substitutes for oak. Jonsson discusses the example of
the Duke of Atholl, who supported the widespread introduction of larch,
and even built a vessel from larch to demonstrate its timber’s viability for
naval construction.31 Although Atholl’s status enabled him to advance his
claims further than others, however, his enthusiasm for larch was of a
piece with excitable works published by other planters. Patrick Matthew
regarded these enthusiasms with fond scorn:

almost every author has his own particular mania, which few
common readers have sufficient knowledge of the subject to discrim-
inate from the saner matter: and as, from the nature of hobbies –
from some shrewd enough guesses by the owner that they are his
own undoubted property – and, perhaps, from some misgivings,
that what he advances on these is not perfectly self-evident, he is
thence the more disposed to expatiate upon them, and embellish.
The credulous and inexperienced, partly from this, and partly from
the fascination of the very improbability, rush at once into the snare;
bring the speculations or assertions to practical test; get quickly
disenchanted by realities, and ever after are disposed to treat all
written directions on material science with contempt.32
Matthew was not dismissing all attempts to provide written directions for planting; only the tendency to focus on one approach over and against others. His metaphor of property for the planters’ sense of their own hobbies captured the link between local experience and general enthusiasm: the tendency to treat successes in planting that had been achieved privately as though they should be enforced throughout the whole kingdom.

From the 1750s, the Society for the Encouragement of Arts, Manufactures and Commerce in London had offered money and medals for reports of tree planting. The Society was founded by a group of natural philosophers and philanthropists; early on its membership swelled to include numerous members of Parliament and landowners as well. Initially intended to encourage planting on a small scale, the Society’s scheme eventually rewarded correspondents from throughout the kingdom, who planted on scales that ranged from the great to the small.

In 1833 the Society’s secretary Arthur Aikin noted that it had spent the past 80 years collecting testimonials of landowners’ experiments on different ways of growing trees. What was needed, Aikin claimed, were ‘histories of plantations sufficient in number and in their details to allow of a fair comparison to be made of different modes of management, modified by varieties of soil, of climate, and of exposure’. The reason this had not happened so far, Aikin claimed, was because of the peculiar ways in which reports of tree planting were unlike descriptions of other agricultural experiments. Most experimental crops would grow within one year; in consequence ‘all the particulars … of an agricultural experiment, together with its final result, are easily observed and registered’. Without difficulty, a single person could perform many experiments, ‘with the reasonable hope of deciding in a few years the comparative advantages of different modes, either of general management, or of the culture of any particular crop’. But in general trees would not be ready for 50 years; oaks would take a century. As such, single experiments in planting could rarely be ‘conducted from beginning to end by the same person’. Moreover, memoranda recording effective practice were likely to be lost ‘in the course of time, or by transfer of the property from one owner to another’. This was the source, Aikin argued, of the ‘contrariety … both in principle and in practice’ between tree planters.

Aikin suggested that accounts of planting should be made commensurate and comparable with each other. This did not happen, and may have been impossible. The accounts that the Society had received varied tremendously in their presentation and the amount of information they contained. This does not mean they contained no quantitative
information: far from it. But the most quantitative accounts tended to include considerable speculative matter, projecting the likely growth of trees into the future; those planters who did draw on each other’s accounts tried to base these future speculations on the experiments of others. Those experiments themselves, however, were often highly particularist and speculative. Mary Morgan has observed that the usual form for published agricultural experiments during this period was to present them in the form of profit and loss accounts. In this way the advantages of two different forms of management could be compared at a glance; with the self-evidence of a sum, one could be made to appear superior to another.38

When records of tree planting were given in the form of financial accounts, there was a neat fit between materiality and their accumulating value: trees were believed to grow in both size and value at a relatively steady rate, and it was tempting to present their growth as a form of materialised compound interest. Some planters noted that the rate at which trees grew declined as they aged, and a few used each other’s accounts to calculate the optimal time for cutting by comparing likely rates of growth to likely increases of profit. As the natural philosopher and Bishop of Llandaff Richard Watson put it, ‘if profit is considered, every tree of every kind ought to be cut down, and sold, when the annual increase in value of the tree, but its growth, is less than the annual increase of the money it would sell for’.39 Watson used tables of tree growth that had been calculated by the landowner Robert Marsham and published in the Philosophical Transactions of the Royal Society during the 1750s; the Society subsequently rewarded other tables of tree growth as well.40 Their use did not become standard, though. Marshall, for example, was critical of the serenity of these calculations: they were marvellous for those with existing plantations, and an ‘eligible speculation’ for those who could expect their oaks to reach maturity ‘in ten, fifteen, or twenty years’. But for ‘proprietors of younger timber, to play so high a game’ entailed very significant risks, as he might hope for good return on the basis that the state might suddenly cut the price it was willing to pay.41

Young and Marshall argued about the meaning of interest in connection with forested land. Because land planted with slow-growing timber trees could not be let out for other purposes before the trees were mature, there was no hope of increasing rents on it on the basis of its increased productivity, as there might be for other improved land. Young argued that any understanding of ‘interest’ needed to interpret its value in national rather than private terms: an organisation like the
Society of Arts should consider how ‘such interest is made every day, and every hour nationally, though not individually’. That is, calculations of interest should not focus primarily on private profit. He contrasted timber trees, which produced nothing ‘of their principal crop for 150 years’, and corn, which

instantly circulates, and produces a national compound interest; and the prodigious difference in the account at the end of 140 years, would be infinitely more valuable to the kingdom, where in the light of money, or profit, or of defence even than any thing to be derived in speculation from the possession of oak.

That is, the ability to increase the power and happiness of the kingdom by feeding people was of more value than the shady hopes that were held out for oak. Moreover, the association with naval timber meant that even the private growth of oak was never innocent of the wider purposes of the state. Young alluded to:

The trading system which makes the necessity of isles in the West manured with African blood; and conquests in the East acquired and kept, I will not say on what principles – creating the necessity of a navy to defend them – and, by re-action, rendering such possessions necessary to support the navy; a fine system, that has, in a single century, burthened us with a debt of 240 millions, and is in all its principles, bearings, and combinations, so abhorrent to what ought, and will sometimes or other be the feelings of country gentlemen, that they will plant plague, pestilence, and famine on their land, as readily as oak, the use of which they know, by cruel experience?

Aikin hoped for an aggregation of local experience which could give a picture of the nation as the sum of richly different component parts. The private accounts of planters, however, saw the question of the relation between their woods and the state in different ways. For Young, woodlands connected landowners to the vicious system of imperial trade and sequestered the ‘interest’ of improvement in the present. For enthusiasts like Watson, young woods of mixed species symbolised rational inheritance; for others, they indicated the guarantees that the state would need to supply. And in their ardours these accounts were remote from the demands of timber merchants and the contractor state, instead imagining that timber was sold directly to supply the needs of the state.
Radical planters

By the 1820s, the lack of reliable information about private woodlands, criticism of state planting policy and particularist reports of local plantations formed a matrix that the journalist and provocateur William Cobbett, together with his friend William Withers, used to deploy a politically radical vision of tree planting. While Cobbett’s advocacy of tree planting was as hobbyish as that of any of the authors who Matthew had condemned, it was different from what had come before because it deliberately challenged the presumptuous claims of large-scale landowners and the state. Through their publications and networks of correspondence, Cobbett and Withers constructed alliances that were intended to challenge the workings and inertia of the state.

The forum for these projects of planting was the explosion of print periodicals of the early nineteenth century, including the learned reviews and the specialist gardening press, as well as short, privately printed pamphlets and more expansive books. The radical planters faced challenges in translating the rich combination of political symbolism and practical technique, their own ways of valuing timber, from their own networks to the world of print.

Part of Cobbett’s authorial persona was that of a man who was always active in the landscape: who could always judge where a tree should be planted, and was always able to reckon the rational increase and compounding value of woodlands and other agricultural activities. This intuitive grasp of what rural life and the rural landscape required was contrasted with the rampant wickedness of the state, whose outrageous taxation appeared in the landscape in the form of unwanted fortifications, mindless road improvement schemes, fields lying fallow and the other activities of ‘fund-holders, pensioners, soldiers, dead-weight, and other swarms of tax-eaters’. As Cobbett put it, ‘If I write grammars; if I write on agriculture; if I sow, plant, or deal in seeds; whatever I do, has first in view the destruction of those infamous tyrants.’

Cobbett claimed that the difficulty of obtaining accurate information about timber production served as yet another example of the government’s negligent corruption. He noted darkly: ‘If I were a Member of Parliament, I would know what timber has been cut down, and what it has been sold for, since the year 1790.’ In the early 1820s, Cobbett started to lobby in favour of the timber of a tree he had observed in North America, the locust. In 1817, when Cobbett was living in Long Island, he had seen locust trees and products made from their timbers, and become excited about their possibilities. Returning to England in 1819, he...
brought a parcel of seeds, but (he claimed) had no means of sowing them until 1823. This he began on a very small scale, then ‘sold the plants; and since that time [had] sold altogether more than a million of them!'\(^{49}\)

Through his weekly political journal, *The Political Register*, in a book about woodlands and through a nursery behind his house in London, Cobbett claimed to have distributed hundreds of thousands of locust trees, whose timber – he claimed – would amply substitute for oak. To support his campaign, he sought testimonials from eminent friends, including Radnor’s bailiff, Viscount Folkestone and various worthies he had known in Long Island. His book on woodlands incorporated multiple testimonials from these people, in which the durability of fence posts made of locust became something like relics, material proof of the tree’s virtues. As Withers noted, ‘Mr Cobbett proceeds to state his anxious desire to procure evidence, that might substantiate the facts he had witnessed: he adduces testimonials, signed by witnesses of credit, in proof of the durability of the timber in certain cases particularly related by him.’\(^{50}\)

Cobbett’s locust was a relatively familiar tree (the ‘false acacia’), made new and exciting by his advocacy on its behalf. Cobbett distributed trees from his farm in Barnes and the nursery at his house in Kensington, and ‘[a]lthough hundreds of the *Robinia pseudoacacia* stood unasked for in the British nurseries, the “locust plants”, which everyone believed could only be had genuine from Mr Cobbett, could not be grown by him in sufficient quantities to supply the demand.’\(^{51}\) So, it was alleged, Cobbett imported seed and ‘procured others, as well as young plants, from the London nurseries, and passed them off as his own raising or importation’.\(^{52}\) For present purposes, the truth or falsity of these allegations is less important than the fact that people connected the locust with Cobbett’s name and his personal custody of the precious trees.

Cobbett restricted his testimonials to his friends and admirers: he did not consult with timber merchants or dockyard officials, or try to locate locust trees within the existing networks of the contractor state. It was on this basis that his claims were challenged in print. A reviewer in the *Edinburgh Review* noted that advocates of the locust tree had ‘inconsiderately proposed a multiplicity of uses to which they conceived it might be applicable, and have urged its extended cultivation with a zeal unwarranted by the test of experience’.\(^{53}\) The influential horticultural writer J.C. Loudon was particularly dismissive of Cobbett’s claims about the properties of the locust – because

the uses which he has enumerated do not amount to a hundredth part of those to which timber is applied in this country. Hence,
were his predictions to be verified, and were the locust to become more prevalent than the oak, we should find its wood a miserable substitute, in the construction of ships and houses, for that of our ordinary timber trees.\

At the height of his locust-mania, Cobbett wrote:

> The time will come, and it will not be very distant, when the locust-tree will be more common in England than the oak; when a man would be thought mad if he used anything but locust in the making of sills, posts, gates, joists, feet for rick-stands, stocks and axletrees for wheels, hop-poles, pales, or for anything where there is liability to rot.

Then he added: ‘This time will not be distant, seeing that the locust grows so fast.’ This symbolism was at least as important as the practical uses of the tree: Cobbett’s version of patriotic sturdiness would not decay; its profits would always be realised; and the reasons this foreshadowed vision of the durable countryside had not come to pass was because of the physical and financial corruption of the state.

In 1842 Cobbett’s friend William Withers, an attorney from Holt in Norfolk, also published a pamphlet on the locust tree, which collected information from French sources as well as Cobbett’s allies. It was a sincere attempt to set Cobbett’s claims on a sounder natural historical foundation, and to prolong the campaign beyond Cobbett’s own death. During the 1820s, Withers had engaged in his own noisy campaign on behalf of a system of oak planting that required trees to be heavily manured during their early years of growth.

Withers opposed his techniques to what he called the ‘Scottish system of planting’, which was publicised in books and articles by the Scottish landowners Sir Henry Steuart and Sir Walter Scott. Steuart had argued that the properties of timber could only be judged by a landowner of long experience, and that increasing the rate of growth and moving trees from their natural place would injure the quality of the timber they produced, for ‘whatever tends to increase the wood, in a greater degree than accords with the species when in its natural state, must injure the quality of the timber’ and ‘slowness of growth is essential to the closeness of texture and durability of all timber, but especially of the oak’. This notion of ‘phytological affinity’ – that plants had certain soils that they favoured above others – was received wisdom among landowners.
The rhetorical strategy Withers adopted to support his claims resembled Cobbett’s relentless, splenetic enthusiasm – with one major difference. Where Cobbett put his own actions and personal friendships front and centre of any account of the trees he supported, Withers corresponded with people from a number of different social situations and who worked in a range of official capacities. His correspondents included timber merchants, sawyers, surveyors, chemists, engineers and landowners. Withers incorporated their responses into his publications. Rather than simply raging against stockjobbers and tax-eaters, as Cobbett had, he emphasised how the specialisation of knowledge about the uses of timber in different parts of the kingdom had to be re-assembled for the real value of timber to be assessed. Where Cobbett had simply asserted the reliability of his allies, Withers attempted to insinuate his approach to planting and managing oak trees into the crevices of the contractor state. Withers quoted from timber merchants in East Grinstead, Lambeth and Uxbridge who all agreed that quick-grown oak timber could be as fine as any other timber provided. As one of his correspondents put it,

the various forests of the government do not produce, on an average, more than one sixteenth of the oak timber consumed in his Majesty’s yards; the remainder is collected in the various parts of the kingdom, without having regard as heretofore to the part of the kingdom in which it grows.57

This suggested that traditional prejudices in favour of oak from certain counties could be overcome.

Not all of the correspondence from which Withers quoted supported his claims about the indifference of timber to the conditions in which it was grown, however. Withers quoted from a letter he had received from Peter Barlow, an engineer at the Woolwich dockyard. At Woolwich, Barlow had pioneered new ways of testing the strengths of different materials. He reported there were significant differences between varieties of timber:

I had much conversation with the different officers of the dock-yard here, on these and other practical points; and I know it was the decided opinion of those gentlemen, and I have proved it by experiment, that different specimens of English oak vary in their comparative strength in the proportion of five to four, and in some cases in the proportion of seven to five, and that they always considered the strongest and best to be the produce of the best soil. The grain was straighter, and more compact and dense, and of brighter colour.58
Barlow admitted, however, that he had not made ‘particular enquiries as to the soil and circumstances of the growth of the trees’, and so could not match his conclusions with actual conditions of growth. Nonetheless, Withers used Barlow’s test as proof that it was possible that timbers’ virtues did not ultimately depend upon the soils in which they were grown.

In botanical, agricultural and literary journals, Withers’ system was reviewed much more respectfully than Cobbett’s campaign for the locust tree had been, though there were serious criticisms. Several reviewers claimed that Withers had not travelled widely enough beyond Norfolk to know the soils and situations of the kingdom as a whole. The *Journal of Agriculture* in 1830 gave an extended review to Withers’ work, from the perspective of a landed proprietor, which was nervous about the replacement of an existing system of plantation by one of greater cost. The reviewer censured Withers because ‘[h]is own experiments … seem to have been limited to a few acres’, contrasting such a limited outlook with that of a nobleman who had planted ‘ten to fifteen thousand acres’, and seen ‘the wood of his own planting fashioned into ships of war’.

Patrick Matthew, meanwhile, admired the boldness of Withers’ political claims even if he was dubious about his system. He noted with evident pleasure that ‘the discomfiture of the knights had been wrought by simple hands’. Matthew also thought that Withers had insufficient experience of different soils and trees that had grown rapidly; he described a prodigal ‘Celtic’ oak on his own land. It was locally associated with ‘miraculous virtue’, but turned out to have ‘soft tender’ wood; Matthew speculated that this might be because it fed on slops and ‘like an animal in similar circumstances’ was of ‘soft flabby consistency’. Matthew also conducted his own experiments into the strength of timber, and criticised Barlow’s experiments on the pieces of wood that Withers had submitted, for not attending to the point of the tree from which the timber had been taken.

In 1832, the Society for the Diffusion of Useful Knowledge published a book by George Sinclair on *Useful and Ornamental Planting*, which gave a sympathetic account of Withers’ techniques. Even this, however, treated the question of the effect of early trenching and manuring on the growth of trees as unproved, dependent upon local circumstance and requiring more experimental observation. Like so many observers of experimental accounts of plantation before him, Sinclair noted that there were ‘no satisfactory records of the comparative rate of increase of timber, or of solid vegetable fibre, after the first twenty or thirty years’ growth of the different species of forest-trees, which had been planted on trenched and manured ground’.
It is tempting to associate Cobbett’s and Withers’ campaigns with resistance to an ethos of conservation in favour of more rapid production. Cobbett’s and Withers’ radicalism sits somewhat askance to this opposition. In their enthusiastic ardour they were neither advocates for free trade nor supporters of the existing landed order. Instead, their works of natural history created a drama in which continuous human activity could produce a more fecund and secure nation; the virtue of such activity was directly materialised in techniques for planting and managing trees. Precisely because tree planting was so immediate and yet so intimately connected with future hopes and promises, and because it joined together the locality with the wider concerns of the state, it could perform the role of radical improvement for which Cobbett and Withers longed. And because timber trees were apparently tangible sources of value, about which rational expectations of profit could be entertained, planting stood in stark opposition to the vagaries and phantasmal nature of the state’s productions. For Withers, investigations into timber also provided a way, from a marginal location, to acquire knowledge of what was happening elsewhere in the kingdom and how its activities fitted together; this correspondence also allowed him to contribute to public discussions of natural history. Making natural knowledge about trees was also making knowledge of the state.

**Conclusion**

Up until around 1850 timber prices remained high, and the traditional associations between timber production and state power persisted and timber continued to be used for a multitude of different purposes. In this context, the practical, political account of planting described in this chapter proliferated. Thereafter, sales of oak coppice declined in the face of chemical substitutes derived from non-timber sources; imports from Scandinavia replaced timber from British sources; ships were increasingly built of metal instead of wood; even hop-poles were replaced by string and wire. Although the intoxicating and miscellaneous blend of pastoral parody, political commentary and practical advice declined after this period, problems about lack of information regarding the extent of private woodlands persisted into the later nineteenth century – and, indeed, into the present.

What should we make of the hybrid works considered here with their bold speculations and varied representations of the state? I think
it is worth drawing two conclusions. The first is that the technologies—meaning systems of management, tools, regimes of calculation and so on—involving in surveying and extracting raw materials can be invested with very potent meanings. This is true of all the technologies described in this chapter: from surveys, to quantified financial accounts, to new species that appeared to burst forth from the soil and new systems of planting. The works of Henry Dundas, the planters recognised by the Society of Arts and the radical planters considered here all mapped to varying degrees on to the actual practice of timber extraction in Britain; of all of them, Dundas’ advocacy of teak was in the end by far the most significant in environmental and economic terms. Yet all these technologies of planting, and the difficulties of securing knowledge about the existing state of timber in the kingdom, created a discursive space in which the local activity of planting trees and tending them could connect to much larger-scale political concerns. They could play this role, in part, because trees had to be imagined as growing for much longer time periods than other crops. The question of whether other technologies open horizons of temporal imagination in similar ways is beyond the scope of this chapter; for present purposes, what is most important is that all the tree writers considered here believed that thinking about the management of trees was a way to think about the relation between the relatively proximate and the relatively distant future.

From this follows a second conclusion: that the state is constructed in different ways by different technical projects that are also invested in shaping environments. For tree planters and naval officials in the period considered here, the state was variously a collector of information, an imposing enemy, a potential guarantor for maintaining plantations, a surveyor and a client that dealt with timber merchants. Knowledge about trees and timber was made in response to and in collision with these different aspects of the state. In the introduction to this chapter I contrasted this with both James Scott’s panoptical view of the centralising abstracting state and Fredrik Jonsson’s view of the conflicts between liberal trading ecologies of nature and ‘cameralist’ attitudes towards self-sufficiency in timber production. While differences of policy were very significant, discussions of trees in Britain during this period were not abstract: they were embodied in particular trees, reports from specific sites and the great difficulties of negotiating with the knowledge and ignorance of the contractor state. Thus nineteenth-century tree writers invite us to take all three parts of the title of this collection seriously: technology, the environment and modern Britain.
Notes

3. For a good introduction to eighteenth- and nineteenth-century ideas of improvement, see Sarah Tarlow, *The Archaeology of Improvement in Britain, 1750–1850* (Cambridge: Cambridge University Press, 2007). There are many examples of improvers in Esa Ruuskanen’s ‘Encroaching Irish Bogland Frontiers: Science, Policy and Aspirations from the 1770s to the 1840s’, Chapter 2 this volume.
Matthew, Naval Timber, 138.


Quoted in Marshall, Review and Abstract, 290.


Ian Dyck, William Cobbett and Rural Popular Culture (Cambridge: Cambridge University Press, 1992), 47.

Quoted in Robert Huish, Memoirs of the Late William Cobbett Esq. MP for Oldham (London: John Saunders, 1836), 260.


Loudon, Arboretum, 616.


Loudon, Arboretum, 622.

Cobbett, Woodlands, para. 351.

Cobbett, Woodlands, para. 351.

William Withers, A Letter to Sir Henry Steuart, Bart On the Improvement in the Quality of Timber, to Be Effected By the High Cultivation and Quick Growth of Forest-Trees (London and Holt: Longman, James Shalders, 1829), 54.

Withers, A letter, 99.


Matthew, Naval Timber, 211.

Matthew, Naval Timber, 211.

Matthew, Naval Timber, 212.

George Sinclair, Useful and Ornamental Planting (London: Baldwin & Craddock, 1832), 64.
