

# European Woodland History and Management: some concluding thoughts

*Ian D. Rotherham, Alper H. Çolak, Simay Kirca*

Many European wooded landscapes are eco-cultural being the result of long-term human interactions with nature. Often their origins were as various types of wood pastures - an expansive patchwork landscape of forest, wetland, grassland and other naturally occurring 'habitats' with large grazing herbivores. The descendants from these original ecosystems and landscapes may persist today as 'woods' and other 'unimproved' features. Many are now recognised as 'shadows' and 'ghosts' in the landscape. Across the continent, from Turkey in the continental east, to Great Britain in the Atlantic west, there is great diversity of landscape types, forms and histories, yet they share much in common.

In countries such as England for example, most 'woodlands' today are relatively small which makes them vulnerable to processes of clearance and neglect throughout their history. However, until industrialisation and the potential to power clearance by petro-chemical engines and to alleviate nutrient shortage by petro-chemically derived fertilisers, clearance often resulted in 'grubby landscapes' in which woodland plants and the like persisted in favourable refuges. From here, they could re-colonise the wider landscape when conditions became tolerable once more. Understanding these processes through the detailed study of specific sites and regions can prove enormously helpful in informing potential options for future management and for conservation.

By way of contrast, many European countries have more extensively 'forested' landscapes, and yet even these have been modified by the concepts of modern 'forestry'. Furthermore, many traditional and cultural uses have ended with major consequences for ecological, successional change. Turkey, Rumania, Scandinavia and the Baltic states, France, Germany and the Alpine regions, for example, all have extensive forest tracts. Yet these are frequently heavily modified and many have lost their ancient trees on the one hand, and their associated human communities on the other. The processes of 'cultural severance' (Rotherham, 2008) run deep across the continent.

Treescapes of forest and woodland reflect and

influence community cultural history with multi-layered palimpsests of archaeology as testimony to human exploitation. Some uses were sustainable but others were not, and evidence of this cultural past relates to both woodland and non-woodland uses (e.g. Muir, 2005). Intensive studies in the UK show the depth of evidence and the diversity of interactions between people and their woods with a major output from focussed research being the Woodland Heritage Manual (Rotherham et al., 2008). Understanding of the nature of these landscapes and the drivers shaping them has evolved over recent decades with new concepts emerging to change perceptions. Key issues to emerge have included matters of traditional knowledge (Agnoletti (ed.), 2006, 2007; Parrotta and Troster (eds.), 2012; Rotherham, 2007), of cultural severance (Rotherham, 2008), and more recently, of woodland shadows and ghosts (Rotherham, 2012a, b).

During the 1980s, interest in ancient woodlands in Britain and across Europe grew with the research and writing of woodland and forest enthusiasts. Particularly significant were Oliver Rackham (1980, 1986), George Peterken (1981, 1996), Charles Watkins (e.g. Kirby and Watkins, 1998), Richard Muir (2005) and Mel Jones (2009). This emerging literature triggered interest in the unique histories and values of forested or wooded landscapes.

The ideas and enthusiasms to emerge from this work have influenced much site management across the continent and beyond. There have been moves to reinstate native broadleaved tree species and to encourage demonstrations or targeted conservation programmes of 'traditional' management. These grew in parallel with increased recognition of the benefits that woods and forest landscapes bring to, for example, public health (e.g. Crowe, 2001), ecosystem services, and local economies (e.g. O'Brien and Claridge, 2002).

However, despite the increased interest in woods, and awareness of wooded landscapes, a steady loss of understanding and knowledge of their traditional management and cultural origins threatens long-term sustainability. In particular, the often complex and

sometimes subtle impacts and influences of human management are frequently overlooked and ‘restoration’ may not lead to the desired outcomes. At the same time as interest in woods and forests has grown, there has been an emerging enthusiasm for trees themselves. This is reflected in, for example, the dramatic and influential growth of the Ancient Tree Forum and an associated network of researchers and practitioners. Significantly, from the 1980s onwards there has been increased a realisation firstly, of the importance of ancient parks and wood pastures, and more recently, of the potential overlooked resource of unrecognised pasture-woods. Now recognised as holding some of our most iconic and precious wildlife resources, medieval parks and similar habitats were for decades the ‘Cinderellas’ of conservation. Today, following in particular the writing of Frans Vera (2000), there is interest in not only the ecological history of such landscapes, but also in the potential for future ‘wilder’ treescapes.

Studies of environmental history demonstrate how the management of European woods and forests has changed dramatically over the centuries. With changing human influences and local factors, the balance between grazed wood-pasture, coppice woods and other uses has varied to produce local and regional character and distinction. In terms of understanding the spatial extent of the component communities and the balances, interactions, and drivers of change, there is much debate. However, a degree of consensus is emerging and over millennia, a primeval landscape was transformed over time to human-driven utilisation, with compartments, large and small. Various aspects of the ecology and landscape were driven by long-term, often traditional management. By medieval times, the rights and ownership were often vested in an individual, an estate (large or small), the Crown, or sometimes held in common (De Moor et al., 2002). The exact processes and mechanisms of such management were complex; varying over time and with location. Nevertheless, by the medieval period, wooded landscapes occurred in a number of clearly recognisable forms. These can be broadly divided into wood-pastures (including legally-designated hunting ‘Forest’), and woods or coppice, with at least localised areas of natural, closed-canopy ‘woodland’, and more natural ‘forest’ particularly in rough or mountainous areas. More natural ‘forest’ would also have occurred extensively in the widespread wet landscapes of marsh, bog, fen, and flood-plain prior to large-scale drainage in the later medieval and early industrial periods. Some of these once widespread treescapes have now been all but eradicated from the European landscape. Also derived from ancient wood pastures, though generally significantly altered, were medieval landscape components such as meadows, pastures, heath, wooded common, and moor; and all may include treescape species. The scale of some of these changes and therefore the implications for future sustainability has not yet been widely recognised. It is also from these wider treed landscapes that many of the ‘shadow woods’ appear to have descended and the

management processes now suggest exciting possibilities to regenerate or even to create new pasture woodlands.

Certainly since Rackham’s ground-breaking book, *Ancient Woodland* (1980) and *The History of the Countryside* (1986), it has been clear that wood-pasture was once the most widespread and common wooded landscape in north-western Europe. Essentially a landscape or system of land management where trees are grown, but grazing by large herbivores (domesticated, semi-domesticated, wild, or combinations) is also permitted (Rotherham, 2007). Of course wood-pasture in England is well documented for over a thousand years; the *Domesday Book* (1086) recording a countryside where this is the predominant ‘woodland’. Controversially, Vera (2000) then highlighted the importance of large grazing and browsing mammals in determining ecological successions in European primeval environments and their persistent influences into historic times. In this context, it has been suggested that managed wood-pasture evolved from grazed forest or a savannah as an ancient system of management in a multi-functional countryside where woodland (open and closed canopy) was relatively plentiful.

In this emerging medieval European countryside there was little need for formal coppice since there were generally few people and abundant resources. Coppice evolved from Roman systems of management, but was not widely adopted until much later since this is a labour intensive, rigorous system to ensure essential supplies of wood and timber in resource-limited landscapes (Fowler, 2002; Hayman, 2003; Perlin, 1989). Coppice woodland requires resources of labour and effective application of cyclical management together with control of grazing livestock. Pasture-woodland is an older and more ‘natural’ system, and is inherently less labour intensive. An important point too, is that most livestock, wild or domesticated, will take leaf-fodder or browse if available rather than grazing (Vera, 2000; Rotherham, 2012a, b).

Modern countryside with woods, parks and forests derive from a suite of medieval landscapes mixing trees and grazing or browsing mammals. As argued above, this medieval countryside included wood-pasture, wooded commons, heaths, moors, fens, bogs, forest, and Forests. These were the modified relicts of what was probably in prehistory a great wooded savannah with extensive wetlands, across much of north-western Europe. Alongside the main historic ‘woods’, and often embedded within them, were coppices (and for example, in England, holts, hags, heys, and hollins) managed in controlled and specialist ways to produce particular woodland materials (Jones, 2009; Rotherham, 2013). In more intensively managed landscapes, both wood pasture and coppice were characterised by ‘working trees’ including pollards, shreds, and stubs, and in the protected ‘woods’, coppice stools. The evidence for this persists today as ‘ancient trees’ and indicator plants in the landscape (Rotherham, 2011a).

In the 1700s and 1800s, three major drivers affected many of these woodland areas: 1) the imposition of formal

estates and grand landscape parks for the aristocracy, reflecting status and offering opportunities for recreation such as hunting; 2) the development of intensive industrialised coppice wood production; and 3) the emergence of industrialised plantation forestry. In regions such as South Yorkshire in England, the changes were associated with the need to fuel the emerging industrial revolution (Perlin, 1999). These wooded landscapes produced massive amounts of wood for charcoal to smelt iron and other metals, and then later were harvested for pit props for coalmines.

The changes as described fragmented the earlier countryside and weakened, changed or removed the social systems and common rights relating to forest and woodland resources. But they also helped generate the wooded landscapes we experience today. However, as new technologies displaced the industrial demands, rural traditions lapsed too; the working forest or wood often abandoned.

Where woodlands and forest continued to be worked, the new scenario was of management intensified through twentieth century agri-forestry (Fowler, 2002; Hayman, 2003; Rotherham, 2011b). This swept across much of Europe as part of a rush to 'improve'. However, by the late twentieth century, in countries such as Great Britain, the economic driver for woods and forests no longer related to the primary production of timber and wood. Tourism and recreation have emerged as the new economic drivers (Rotherham and Jones, 2000), and are broadly welcomed. However, there are serious issues and implications for management and sustainability. At the heart of the problem is a shift in economic focus when benefits from such modern post-industrial landscapes bear little relation to the actual 'management' of wood and forest. The cost of care and management bears no direct relationship to the benefits provided, and in the time of new 'austerity', this does not bode well, though arguments are put forward about intangibles such as ecosystem benefits. Many sites are effectively abandoned with management reduced to provision of access and recreational opportunities, (often including drainage and surfacing of footpaths etc), and basic safety work. Traditional and utilitarian management of vegetation largely ceases and there are consequential changes though ecological successions and the development of recombinant species communities.

Today it is often presumed by planners and others that the wooded landscape is a 'natural' backcloth that can be taken for granted and which will take care of itself. Indeed, abandoned, a woodland or forest cover will regenerate; however, this will have different structural and ecological characteristics and qualities from that of the ancient treescapes. To maintain or enhance the benefits and functions of ancient treescapes requires management interventions and we argue that these need to be best informed by knowledge of woodland and forest history.

## A wider context

Many fundamental drivers of process in wooded landscapes have gone or changed, with woods and forests now valued for recreation and for tourism, not subsistence and survival. This is part of the process of 'cultural severance' and the breakdown of subsistence utilisation (Rotherham, 2008). Significantly, Rackham (1986) noted that woods were often lost when their economic importance waned but were maintained so long as they were important to local people.

Today's forests and wooded landscapes risk severance from their direct, local economic functions. In place of this, they provide a backdrop to tourism and leisure, to the visitor's gaze and the community's recreation (Crowe, 2001). This has real value (O'Brien and Claridge, 2002) and along with the value of ecosystem functions such as carbon sequestration, provides a real economic reason for forest maintenance. The problem seems to be, that in the past the economic value, management cost, and control of the resource and its management were placed or held, at least by the same community, if not by the same person. This is no longer the case and today's 'value' and 'cost' are generally separated. Furthermore, it was the day-to-day community impacts of management over centuries, that made the forest and woods what they are; they are not merely 'natural'. They are complex palimpsests of culture and nature. It is clear that with the loss of cultural memory and knowledge these landscapes are misunderstood. The woods are seen as ancient, natural and primeval on the one hand, and young and secondary on the other. To let nature take its course as is so often advocated (see Skeggs, 1999 for example) will lead inevitably to major changes and these may not represent sustainability.

## Future vision

The issues and challenges discussed here become even more acute in the context of environmental change (particularly climate change and eutrophication). Their importance is also raised in the context of the 'Frans Vera debate' about forest origins and dynamics in Europe (Vera, 2000; Rotherham (ed.), 2012). For sustainability of future treescapes, our vision of wooded landscapes needs to be more dynamic and more fluid, yet at the same time resonating with cultural attachments and local values. This is a serious and complex challenge.

There are real causes to worry about the long-term future of the unique heritage and ecology of ancient treescapes. In some cases these areas represent the accumulated eco-cultural impacts of human activities over several thousand years have generated remarkable and rich palimpsests of landscape heritage and associated biodiversity. Cultural severance, urbanisation, and destruction management are now ever-present threats and it only takes one major adverse event to erase the heritage of centuries. Sadly, the abandonment of non-wooded countryside to trigger succession to secondary

scrub and woodland, whilst potentially creating valuable (though often short-lived) habitat, is not a replacement. There are major challenges for future conservation and it is important to understand ecology and history in order to address these most effectively. It is hoped that this collection of essays by leading European authorities will contribute towards such understanding.

## References

- Agnoletti, M. (ed.), 2006. *The Conservation of Cultural Landscapes*. CAB International, Wallingford, Oxon, UK.
- Agnoletti, M. (ed.), 2007. *Guidelines for the Implementation of Social and Cultural Values in Sustainable Forest Management. A Scientific Contribution to the Implementation of MCPFE – Vienna Resolution 3*. IUFRO Occasional Paper No. 19 ISSN 1024-414X
- Crowe, L., 2001. *Fresh Air ..... Fitness and Fun*. Yorkshire Sports Board, Sheffield.
- De Moor, M., Shaw-Taylor, L. and Warde, P., 2002. *The Management of Common Land in north west Europe, c. 1500-1850*. Brepols Publishers n.v., Turnhout, Belgium.
- Fowler, J., 2002. *Landscapes and Lives. The Scottish Forest through the ages*. Canongate Books, Edinburgh.
- Hayman, R., 2003. *Trees. Woodlands and Western Civilization*. Hambledon and London, London.
- Jones, M., 2009. *Sheffield's Woodland Heritage*. 4<sup>th</sup> Edition (revised), Wildtrack Publishing, Sheffield.
- Kirby, K. and Watkins, C. (eds), 1998. *Ecological History of European Forests*. CABI, Oxon.
- Muir, R., 2005. *Ancient Trees Living Landscapes*. Tempus Publishing Ltd, Stroud, Glos.
- O'Brien, L. and Claridge, J., 2002. *Trees are Company*. Social Science Research into Woodlands and the Natural Environment. Forestry Commission, Edinburgh.
- Parrotta, J.A., & Trosper, R. L. (eds), 2012. *Traditional Forest-Related Knowledge: Sustaining Communities, Ecosystems and Biocultural Diversity*. Springer, New York.
- Perlin, J., 1989. *A Forest Journey*. Harvard University Press, Massachusetts.
- Peterken, G.F., 1981. *Woodland Conservation and Management*. Chapman and Hall, London.
- Peterken, G.F., 1996. *Natural Woodland – ecology and conservation in northern temperate regions*. Cambridge University Press, Cambridge.
- Rackham, O., 1980. *Ancient Woodland: its history, vegetation and uses in England*. Edward Arnold, London.
- Rackham, O., 1986. *The History of the Countryside*. Dent, London.
- Rotherham, I.D., 2007. The implications of perceptions and cultural knowledge loss for the management of wooded landscapes: a UK case-study. *Forest Ecology and Management*, 249: 100-115.
- Rotherham, I.D., 2008. *The Importance of Cultural Severance in Landscape Ecology Research*. In: Dupont, A. & Jacobs, H. (eds.) (2008) *Landscape Ecology Research Trends*. Nova Science Publishers Inc., New York, pp. 71-87.
- Rotherham, I.D., 2011a. *A Landscape History Approach to the Assessment of Ancient Woodlands*. In: Wallace, E.B. (ed.) *Woodlands: Ecology, Management and Conservation*. Nova Science Publishers Inc., USA, pp. 161-184.
- Rotherham, I.D., 2011b. *Animals, Man & Treescapes – perceptions of the past in the present*. In: Rotherham, I.D. & Handley, C. (eds.) (2011) *Animals, Man and Treescapes: The interactions between grazing animals, people and wooded landscapes*, Wildtrack Publishing, Sheffield, 1-32.
- Rotherham, I.D. (ed.), 2012a. *Trees, Man, & Grazing Animals – A European perspective on trees and grazed treescapes*. EARTHSCAN, London.
- Rotherham, I.D., 2012b. *Re-interpreting wooded landscapes, shadow woods and the impacts of grazing*. In: Rotherham, I.D. (ed.) (2012a) *Trees, Man, & Grazing Animals – A European perspective on trees and grazed treescapes*. EARTHSCAN, London (in press).
- Rotherham, I.D., 2013. *Ancient Woodland: History, Industry and Crafts*. Shire Publications, Oxford.
- Rotherham, I.D., Jones, M., Smith, L. & Handley, C. (eds.), 2008. *The Woodland Heritage Manual: A Guide to Investigating Wooded Landscapes*. Wildtrack Publishing, Sheffield.
- Rotherham, I.D. and Jones, M., 2000b. *The Impact of Economic, Social and Political Factors on the Ecology of Small English Woodlands: a Case Study of the Ancient Woods in South Yorkshire, England*. In: *Forest History: International Studies in Socio-economic and Forest ecosystem change*. Agnoletti, M. & Anderson, S. (eds), CAB International, Wallingford, Oxford, 397-410.
- Skeggs, S., 1999. Various Botanical and Social Factors and Their Effects on an Urban Woodland in Reading, Berkshire. *Arbicultural Journal*, 23(3): 209-232.
- Vera, F.H.W., 2000. *Grazing Ecology and Forest History*. CABI Publishing, Oxon.