

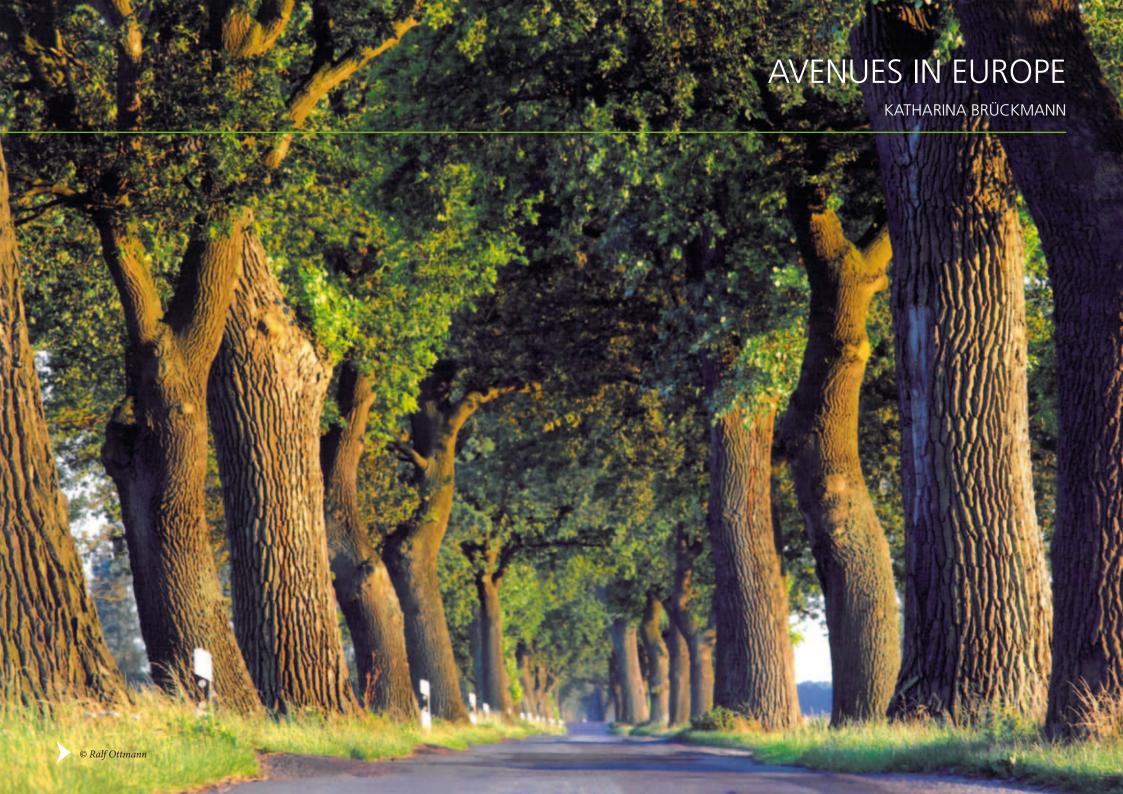
YESTERDAY, TODAY AND TOMORROW

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AVENUES IN EUROPE YESTERDAY, TODAY AND TOMORROW

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Probably the first drawing of a Central European avenue found on a painting by Isaac van den Blocke of 1608, in the Town Hall in Gdańsk (Danzig).

Introduction

Tree-lined roads in European countries represent shared European landscape, cultural, and natural heritage. They are important green infrastructure that should serve Europeans for centuries to come. This brochure offers an overview on the relevant history and current situation in many different European countries.

It is written by activists living in those countries, who seek in many different ways to ensure that tree-lined roads are protected. Some are members of NGOs.

For tree-lined roads are in danger and in need of our attention today, more than at any other time. Read what we have to say here and make up your own mind, and please feel invited to join our group of activists, in order that the "green tunnels" may remain a part of our landscape. Try also to infect your friends with some of this same passion.

What is an "Avenue"

Dictionnaire des deux Nations (1762) describes an allée as a walk in a garden or elsewhere. The path in question might be lined by flowers pots, bushes or something else. Thus an allée originally had nothing much to do with trees.

Even though the term "avenue" is used differently in the UK, and many countries use a similar word to the French allée, in this brochure an "avenue" is taken to describe a road with trees on either side that may be in an urban area or a park, and may also concern small or more major roads with roadside trees wherever they may occur.

Avenues - A cultural heritage

The first drawings with trees lining paths are pictures of gardens from Egypt in 1400–1362 BC. Such tree-lined roads were also known in the Orient and the Roman Empire.

Pausanias (115-180 AD), a Greek travel-writer and geographer, describes as a curiosity of the Isthmus, rows of planted, slender-trunked pines on one side of the path to the Temple of Poseidon, as well as the painstakingly avenue-adorned Quai at Alpheios (the ancient Greek name for Italy's River Alfios). Likewise, racetracks used to be bounded by tight and regularly planted rows of olive trees.¹

In the 16th century avenues of trees reached Italian Renaissance gardens. They were "imported" to France, where they were soon described using the term "allée". After that, rapid dissemination across the Western world links closely with the influence of the French style of gardening.

Landlords would plant trees along the routes up to their castles or palaces, using the distinctive appearance to mark ownership of the territory, for both their own benefit and that of travellers.

Soon avenues would move beyond the boundaries of the garden or park, into the surrounding countryside. This happened within just a few decades and affected all the countries of Europe.

France seems to have been the first country to issue a decree in this domain, under King Henri II in 1522. Other states took similar measures – Saxony in1580, Hessen in 1625, Prussia in 1714, Austria in 1763, Brandenburg in

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1765 and Denmark in 1793 to name just a few examples. (PRADINES, C.: European Landscape Convention, 2009)

In those days, there were various reasons making tree planting along roads attractive or even necessary. For a start, there was the shortage of wood caused by forest clearing, wars, or harsh winters. Timber was primarily destined for the army and navy, along with cartwrights and households (for firewood), and industry began to exert a demand from the 18th century through to the first half of the 20th century. Leaves were in turn used to feed cattle and for sericulture, branches particular of willow as material for furniture- and basket-making and fruits for consumption by people and livestock.

Between 1596 and 1605, the Duke of Croÿ planted tree avenues leading to his castle at Heverlee, now in Belgian Flanders, and also around the fields of his estate. In 1647, Friedrich Wilhelm of Brandenburg planted six rows of lime trees leading from his residence over a distance of 1 km – creating Berlin's famous "Unter den Linden" boulevard. In 1667, garden designer André Le Nôtre created the Avenue des Tuileries, which started at the Château du Louvre in Paris and opened onto countryside, with two rows of elms framed by two rows of plane trees extending over nearly 2 km. (PRADINES, C.: European Landscape Convention, 2009)

But that was not all. Trees could also be said to have been planted along roads for safety reasons. Trees drained and stabilised verges and pathways used more and more often for travel by stagecoach. They also sheltered travellers from the wind or provided shade in unsheltered sunny areas. Moreover, they helped to prevent soil erosion caused by wind. They guided travellers and troops during snowy or foggy weather, as well as functioning as a protective barrier.

In the 19th century, stagecoach operators in Langres in eastern France complained that "there are many gaps in the rows of trees along the roads travelled and as a result there is nothing to mark the borders of roads on dark nights or in the snowy season. Travellers are suffering grievous accidents in consequence. The petitioners request that these roads be lined with trees in

those places where they are lacking, at the cost of the proper authorities" (RAFFEAU, M., 1986).

But trees planted along country roads served, not just practical purposes, but also a deep-seated aesthetic impulse.





Willows in Sweden © Patrik Olssen

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Avenues to improve human wellbeing, the Dammchaussee between Bad Doberan and Seeheilbad Heiligendam, This lime tree avenue was created for purely aesthetic reasons in 1793 by Mecklenburg's sovereign Paul Friedrich. © Thomas Ulrich

During his travels in France between 1787 and 1790, Arthur Young admired the French roads, as "much more like the well-kept alleys of a garden than a common highway" (RAFFEAU, M., 1984). In 1802, Baron de Pradt expressed the view that "[tree] plantations ornament and honour a country. What more impressive and at the same time more agreeable sight can be offered to the traveller, be he foreign or even French, than these uninterrupted rows of trees which everywhere provide shelter from the

sun's heat and from blustery winds, presenting the road he travels on in the same form as the avenues in his garden" (DEPRADT, D.D., 1802).

The long and rich history of tree-lined roads reached its peak in the late 19th and early 20th centuries, when in some regions of Europe nearly every country road was tree-lined. This trend was maintained even up to the Second World War.

The various reasons for planting, and diverse regional aspects such as geography, climate, soil type and fashion combined to ensure the use made of a huge range of tree species.

This is a living form of architecture, with the advantage over traditional architecture being improvement over time. Furthermore, the arch formed when the upper branches meet above the road is often described as a "green tunnel" or "archway"; the term "cathedral" is used in this connection as early as in 1794. (PRADINES, C.: European Landscape Convention, 2009)

Artists have of course been aware of the emotive associations with avenues of trees as an inextricable element of their beauty. They have inspired writers such as Theodor Fontane, Hjalmar Söderberg and August Strindberg (whose poem Esplanadsystemet was published in 1883); painters such as Pissarro, Sisley, Van Gogh, Klimt, Munch and Esther Almqvist, and sculptors, including Christo, who wrapped an avenue of trees in Switzerland in 1998. (PRADINES, C.: European Landscape Convention, 2009)

Avenues - Europe's green infrastructure

Avenues are artificial, man-made landscape features which at first sight have little obvious to do with "nature" protection. In fact, though, nowhere in Europe can untouched nature still be found. But Europe still boasts amazing biodiversity, the reason being the cultural landscapes existing in many regions of Europe for over 6000 years. There was a slow

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and continuous development of technology and a similarly slow change in the cultural landscape, with the result that an abundance of native species were able to adapt and relocate from their gradually disappearing natural habitats to more or less anthropogenic ones.



The importance of avenues increases steadily, as they may in places be almost the only worthwhile element of habitat, or else the only connection between habitats. This is primarily due to the intensification of land use and the concomitant loss of small and composite structures. © Sandra Möller

Furthermore, there is in Europe, with its limited structure and cultural diversity, a wealth of different designs of the cultural landscape. Avenues are just one small stone in the mosaic of European habitats created by human activity. Yet these structures are of especially great importance for species in unnatural places (agricultural landscapes and urban areas) with poor biotope structure, in the way that they sereve as a connection between habitats. For example, a considerable share of all bat species may use tree holes as summer or winter quarters. Avenues are also of particular importance in guiding them between their roosts and their hunting grounds. They serve as ecological corridors to a multitude of other species, including insects, mammals, birds, lichens and plants. They constitute a crucial element of Europe's green infrastructure, connecting ecosystems across open landscapes.

For rare or declining birds, such as the spotted flycatcher, red-backed shrike and ortolan, avenue trees provide suitable nesting sites. They are also used as perches by birds on the lookout for food.

Dead and decayed wood in old trees is especially interesting to insects, and is often therefore used by beetles enjoying strict protection under the EU Habitat Directive, such as the hermit beetle (*Osmoderma eremita*) and the great capricorn beetle (*Cerambyx cerdo*). Such holes are essential for these animals as living space.

Insects of course use trees as a food source, just one example being bees.



Rathlousdals Allé, Odder, Denmark: Trees were planted in gaps of the old 650 m long lime tree avenue in 2014

© Inger Anneberg/Ib Salomon



Dead and decayed wood in old trees is especially interesting to insects, and is often therefore used by beetles enjoying strict protection under the EU Habitat Directive, such as the Hermit Beetle (Osmoderma eremita) or the Great Capricorn Beetle (Cerambyx cerdo) © Jakub Jozefczuk

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Avenues and their benefits today

The purpose of avenues has changed down the centuries, yet their vital contribution to public well-being is not less evident than in the past. There is their beauty and calming effect, of course, but also certain very practical functions which were appreciated even in former times.

The role of trees in providing shelter from the wind and sun is bound to attract increased interest when the issue of

climate change is borne in mind. They are effectively air-conditioners, limiting the impact of extreme temperatures, while tree crowns also prevent snow drifts from building up in winter. Furthermore, roadside trees help reduce peak flows of run-off, a vital factor; and this also counters erosion and reduces the risk of landslides.

Trees along roads in particular contribute to protection from dust particles that pollute the atmosphere, as well as producing oxygen. These arguments are now more pertinent than ever, if we consider the significant number of premature deaths linked to traffic pollution in Europe.

For example, Europe's CAFE programme has estimated the number of premature deaths due to dust particles in Germany at some 65,000. (PRADINES, C.: European Landscape Convention, 2009)

Avenues play a positive role in terms of road safety, though it is not easy to put a precise figure on the number of accidents that may have been avoided thanks to their presence.

Rows of trees along a road contribute to safety by signalling bends, crossroads and the approach to built-up areas more effectively than road signs. They make it easier for drivers to read the road ahead, a key factor in helping





The cooling effect of trees is estimated at 4-10°C in a heatwave.

The sign in the photograph says "shaded". © Chantal Pradines

The older the trees, the more important and more valuable they are for fauna. In Germany, an avenue of oak trees nearly 450 years old on the Gustow estate (Schleswig-Holstein) is known to harbour 41 beetle species from the Red List of endangered species. A 300-year-old avenue of limes at Ascheberg in turn harbours 34 such species. The Picture shows 300 year old oaks along the famous "Schildfelder Eichenallee" in the North of Germany

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them anticipate and adapt their driving to the environment, both in normal weather and even more so in snow or fog, or at night.

The trees filing past help drivers maintain awareness of their speed, without looking at the speedometer. By channelling lateral vision they also encourage prudence, whereas an open roadway reduces vigilance and encourages speed. Finally it should be noted that research has also demonstrated a link between the beauty of a road and higher levels of road safety.

Tourism also benefits. Tree-lined roads extend an invitation to explore and discover the countryside they cross: in this respect they enhance an area's attractiveness.

Motorrad Online, a specialist German biker magazine, invites its readers to enjoy Luxembourg's tree-lined roads because "magnificent allées like this one have become rare on the other side of the border" (Motorrad Online, 2007). It is also because of the image created by these roads that tourists choose destinations such as Masuria, known as Poland's "Green Lungs", or Brandenburg and Mecklenburg-Vorpommern in Germany.

This fact prompted Germany's *ADAC* (automobile association), the German National Tourist Board and various other partners to collaborate in a unifying tourist initiative, the *Deutsche Alleenstraße*, a 2900km route linking tree-lined roads from the island of Rügen in northern Germany to Lake Constance in the south. Every year some 20,000 holidaymakers looking for ideas download descriptions of the route.





The intersection and bend in the road are clearly visible from afar. Rathmannsdorf in Saxony. © Markus Hunger

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Following the golden age of tree-lined roads in the 19th and early 20th centuries, a significant proportion of the trees growing alongside Europe's roads and streets – as many as 90% in some regions – have disappeared.

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Avenues in danger Tree felling

Motorway construction boomed in response to the increase in road traffic; existing roads were expanded, irregular roads were straightened, and the trees were swept aside in the process. These developments were condemned as vandalism in the Swedish press as early as in 1928. Yet most of the devastation in Western Europe took place in the post-War period, when the yearning for mobility seemed to be in conflict with the presence of trees along roads. The improvement in infrastructure went along with tree felling of, for example, about 50,000 km of avenues in Germany. Considering that the Earth's circumference is 40,000 km the

significance of this becomes clear.

Eastern Europe in turn saw a boom in car ownership in the 1990s, and it is to be feared that large-scale tree felling now threatens the remnants of Europe's heritage.

Alongside the increased number of cars on the road, improved vehicle performance, particularly in terms of speed, made road safety a serious problem for society as a whole.

In the 1960s, Italian writer Gianni Roghi protested against the destruction of 260,000 of the trees lining Italy's

roads over a five-year period, "on the pretext that they would be dangerous for drivers" (Roghi, 1964). In France, in 1970, President Georges Pompidou protested against a ministerial circular because "felling roadside trees will become the norm, under the pretext of safety." His protest apparently went unheeded: as recently as in 2008 the *Conseil Général* of Mayenne was subsidising the felling of roadside trees. (PRADINES, C.: European Landscape Convention, 2009)

Planting shortfall

The history of tree-lined roads in the 20th century is also shaped by another key factor: the fact that tree planting has virtually ground to a halt. Even though a few countries or regions – Luxembourg, some of the German states, particular provinces in Sweden and The Netherlands, for example – have maintained a tradition of planting or resumed it in the very recent past, the impact of these initiatives can be very limited, or held in check by restrictive regulations: prohibitions on gap-filling, for example, or on planting along particular road networks.

At the dawn of the 21st century, Denmark's roads department acknowledged that, even though felling had not been systematic, there had been no concerted planting effort either, with the end result that: "broadly speaking, all the trees lining the country's roads have disappeared with the modernisation of the road network, within the space of just a few decades." (Vejdirektoratet, 2004)

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"Forgiving roadsides" policies have impacts extending beyond tree felling. They also explain the cessation of tree planting, because planting beyond the "safety" zone calls for land acquisitions that are difficult and costly, as well as making the maintenance of roadside verges even more expensive. So it is quite natural for the idea to be abandoned altogether.

In Denmark, the safety zone of tree planting varies in width between 7 and 9 m, in the case of roads with a 90 km/h speed limit, and in Italy, trees must be planted at a distance equal to their maximum height: which means 30 m for a plane tree (PRADINES, C.: European Landscape Convention, 2009).

This planting shortfall is critical given the natural ageing process affecting the remaining trees. The crisis is all the more severe because tree ageing and death are accelerated when the trees located alongside roads or streets are mistreated – and such mistreatment is all too evident.

The main factors affecting young trees are poor tree quality and planting technique (planting pits not large enough, soil not de-compacted, lack of aftercare and especially inadequate watering), which very often compromise the future of what has been planted.

In addition to these factors relating to tree management and the trees' environment, other external factors playing a contributory role in weakening our heritage include diseases, pests, climate change, etc.



In Mecklenburg-Vorpommern, protection of avenues is combined with an obligation to maintain and plant trees. © Katharina Brückmann

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What is our aim?

Avenues are a living legacy of a multifaced culture. They are a crucial element of green infrastructure, supporting Europe's fragile biodiversity. It is unthinkable that the trees and the creative genius that inspired tree-lined roads should be allowed to disappear.

Our aim is no less than to restore the heritage to its full glory, which means protecting existing avenues and planting completely new ones, in order to compensate for tree felling that becomes imperative, and also to make up for past destruction which has left entire routes stripped of trees.

What is to be done?

Regulatory protection and its limits

Regulatory protection already exists in some countries, yet it varies greatly from one jurisdiction to another. Some countries (France, Luxembourg, Latvia and Belgium, for example) protect double-row avenues if they are considered to be outstanding.

Other countries protect their avenues in a more general way. This is the case with Sweden, for example, whose Environmental Code protects tree-lined roads for their biotope status.

In Belgium, Wallonia not only protects specific outstanding avenues, but also protects all lines of tree under its development, urban-planning and heritage laws. In Germany, protection for tree-lined roads as elements

of the cultural landscape is enshrined in Federal law on protection of nature and the landscape. The federal states of Brandenburg, Mecklenburg-Vorpommern, Schleswig-Holstein and Nordrhein-Westfalen have implemented similar government legislation.

Protection includes a prohibition on felling. Dispensations may be granted, generally on a case-by-case basis. This requires the approval of the administration responsible for applying the law, and is restricted to a greater or lesser extent: in Mecklenburg-Vorpommern, felling is not permitted except when there is no other way of improving the safety situation (such as restructuring by pruning). In Luxembourg, "permission is refused [...] when the applicant's plans are of a nature that will impair the beauty and the character of the landscape" (Grand Duchy of Luxembourg, 2004) or where these plans will endanger the country's flora and fauna.

Future requirements of legal protection

Conserving avenues calls for us to rethink road-safety programmes in order to aim for individual prudence and responsibility. It means moving from "forgiving roadsides" – which absolve drivers of responsibility – to a concept of "calm driving".



IT DEPENDS ON US!

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Europe with or without trees
© Udo Juhre

The future of avenues cannot depend solely on the goodwill, cultural sensitivity and commitment of managers or elected officials, whose career paths and mandates respond to time-scales very different from the lifespans of the trees themselves.

For this reason: legal protection combined with concepts to replant avenues are an absolutely necessary, this denoting roadsafety initiatives combined with pro-tree policies.

- Protection must also include single rows of trees and all roadside trees, whatever the distance between them and the roadway.
- Regulations should be introduced to set compensation levels for all tree felling or for damage.
- > The compensation rules should comprise a planting element and a contribution to an fund (Avenuefonds).

It is a matter of urgency that state governments and public authorities should engage in policies of communication, awareness-raising and education for the public and for all professionals involved, in order that a genuine culture of tree-lined roads should be re-established, with widespread dissemination of the necessary expertise.

Raising public awareness

A well thought-out management policy benefits the entire tree-related sector, the tourist industry and the health and well-being of the entire population.

Actions to raise public awareness are needed. Good examples are:

- Dedicated website (Federal Environment Ministry, Germany)
- Exhibitions, with tourist organisations and museums (*Regionmuseet Kristianstad*, Sweden)
- ➤ A photographic competition (*BUND* Friends of the Earth, Germany; *Fonds Suisse pour le Paysage* [Swiss landscape fund]; the *FER - Fundacja EkoRozwoju*, Poland)
- ➤ Promotion and sponsorship campaigns (*BUND*; *Fonds Suisse pour le paysage*; the FER)
- Avenue plantings attended by government representatives (the German President, the *Bundestag President*, federal ministers) and the media
- ➤ A tree-planting campaign "Roads for Nature", involving a planting of 30,000 trees in Poland organised by the *FER*
- ➤ The celebration of International "Arbour Day" and the establishing of a similar "Avenues Day" in Germany on 20 October
- Explanatory signs by newly-planted trees (Lyon region, France)
- > Cycling events (the *Tour d'Allée*, *Rügen*, Germany)
- > The production of posters, calendars, postcards, etc.

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Tree planting on the Rügen Island with Dr. Till Backhaus, Minister of Agriculture, Environment and Consumer Protection © Silke Stephan

More information is to be found in "Reflections and proposals for the implementation of the European Landscape Convention." This was published by the Council of Europe in 2012, contains important recommendations to maintain avenues and is especially addressed to authorities. www.historicroads.org/documents/CEP-CDPATEP-2009-15-TreeAvenues_en.pdf

- Initiatives to raise awareness among schoolchildren: interactive DVDs, quizzes, planting campaigns (BUND M-V, Germany)
- > A campaign for avenue-activists

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AVENUES IN FRANCE

CHANTAL PRADINES



The Author Chantal Pradines

Council of Europe Expert, is a (German-)French civil engineer. She has been working as a researcher and as a consultant in soil mechanics and on road projects in France and in



Sweden. Elected as a municipal Councillor in a small French village, she faced a felling project originating from the road authorities in 2005, and has since delved more widely into the fascinating subject of tree-lined roads. As an expert to the Council of Europe, she has delivered an essential document for the preservation of avenues: based on good European practice and avoiding identified traps. The report "Road infrastructure: Tree avenues in the landscape" outlines the framework of an efficient policy for the conservation of avenues of trees. It was published in "Landscape facets. Reflections and proposals for the implementation of the European Landscape Convention" (Council of Europe Publishing, 2012). Chantal has written numerous papers about avenues, is regularly invited to speak at conferences and helps public authorities and NGOs where European policy on the conservation of avenues is concerned.

Les «allées» d'arbres en France

Là la Française. Plantées pour séduire, elles ont conquis l'Europe. Cette même volonté d'embellissement est présente, en plus de raisons matérielles et pratiques, lorsque, depuis la première ordonnance de 1552, il est question de planter des arbres d'alignement autour d'une route ou d'une rue en dehors des jardins.

Les plus majestueux alignements que l'on admire encore datent du 19ème siècle. Pratiquement toutes les régions ont leurs allées - platanes monumentaux du Sud de la France, mirabelliers typiques de la Lorraine, allées de poiriers des anciens territoires allemands, allées de tilleuls étirés en cordons taillés en rideaux de la région parisienne, frênes, marronniers, érables, peupliers ...

De nombreux abattages ont eu lieu depuis les années 1950, et, en dépit de la mobilisation régulière de la population, au plus haut niveau (on pourra lire la fameuse lettre du président de la République Georges Pompidou dans le rapport «Infrastructures routières: les allées d'arbres dans le paysage» publié par le Conseil de l'Europe), l'avenir du patrimoine est loin d'être assuré.

From 1552 onwards, various laws and decrees in France stipulated that trees should be planted along the country's roadsides – a custom that prompted comparisons with garden alleys and avenues, as in the

comments of 18th-century British agriculturist Arthur Young, who described France's roads as "much more like the well-kept alleys of a garden than a common highway".

For the highways administration of the time, trees were regarded as "one of the principal ornaments" of the country's roadways, and the aesthetic impulse was a primary factor behind the plantings, alongside material and practical considerations.

The comparison between tree-lined roads and avenues or alleys in gardens is no coincidence: avenues and alleys are a characteristic feature of the formal French garden with its distinctive regularity of design and its predilection for exploiting perspective effects – effects which are heightened by trees. They were planted for visual effect, as a lavish demonstration of wealth, and to mark out a territory. The same reasons also prompted the planting of tree avenues beyond garden boundaries.

The most majestic tree avenues we still admire in the French countryside today date from the 19th century – mainly those of monumental plane trees that are still widespread in southern France. Avenues were planted across all regions, though: trees were still being actively planted along roads in open countryside, but also in towns and villages, around public facilities such as railway stations and cemeteries, and of course in cities, into the 1950s. As in the rest of Western Europe,

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many avenues of trees have been felled since that time, and the number of plantings remains inadequate to ensure the future survival of this feature of the cultural landscape, except in a few particularly energetic towns and cities.

France's highly varied geography provides a setting for avenues of very diverse character, reflecting the identity of specific areas. Travellers can pass through avenues of ash trees, chestnuts, maples or poplars; through the avenues of mirabelle plum trees typical of Lorraine; through the pleached lime avenues of the Paris region; or even through an exotic avenue of black pines in the Aube region.

But let us leave the last word to French President Georges Pompidou, whose comments on this subject in 1970 remain just as relevant today:

"France was not made solely to permit French people to travel by car; and whatever the scale of the road safety problems, this should not result in the disfigurement of her landscape. Moreover, an enduring reduction in traffic accidents can only come about by educating drivers, and by establishing simple rules which are appropriate to the road network; whereas we seem to be witnessing an infatuation with signs and signals in all their forms. It will also come about through less feeble regulation regarding alcohol levels [...].

Safeguarding the trees planted along our roads – and I am thinking in particular of the magnificent roads lined with plane trees in southern France – is essential for the beauty of our country, to protect nature, and to safeguard a human environment. [...]

Modern life with its environment of concrete, asphalt and neon will increasingly create in all people a need for escape, for nature and beauty. Motorways will be used for transport where speed is the sole concern. Meanwhile the roads must become again for the late-twentieth-century driver what country lanes were for pedestrians and riders: a route that is taken without haste, and as an opportunity to see France. Let us beware of systematically destroying what makes France beautiful!"



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Ash tree-avenue. The ash dieback decimated the avenues in northern France, where the number of roadside trees had long since fallen sharply. In 1895, 87% of roads in the French département of Meuse were lined with trees on both sides: a total of 44,000 trees. Now just fragments of this heritage remain, comprising less than 7,000 trees in all

© Chantal Pradines

AVENUES IN FRANCE

CHANTAL PRADINES



- Alongside the Seine, near Paris, a sequence of clipped lime trees takes the place of free-growing plane trees. The change visually signals an intersection, is aesthetic, and also acts as a safety barrier to stop disease spreading.
 - © Chantal Pradines

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KATHARINA BRÜCKMANN



Katharina Brückmann has led the "Tree and Avenue Project" of BUND Mecklenburg-Vorpommern since 2005.



Bund für Umwelt und Natur Deutschland (BUND) – Friends of the earth

Germany's Federation for the Environment and Nature Conservation (BUND) is one of the largest non-government organisations in Germany. BUND is *inter alia* committed to striving for ecological agriculture, climate protection and the expansion of renewable energies, as well as the protection of endangered species and water quality.

The Federation has 16 associations at the level of the individual German *Länder*. Since their founding 25 years ago, the associations in Brandenburg, Sachsen Anhalt and Mecklenburg-Vorpommern have been particularly active in organising projects to keep avenues in public awareness.

Workshops and conferences have been organised with a view to mutual acquaintanceship with problems being gained, solutions found and lessons learnt.

With the help of local activists, tree-planting has been engaged in, and assessments made of plans for road construction that inevitably assume the endangerment – or even the certain felling – of roadside trees. Our aim is to convince the authorities in each of the *Länder* that avenues need to be restored and renewed.

www.BUND-MV.de



Alleen in Deutschland

In Deutschland begann die Blüte der Alleen im 17. und 18. Jahrhundert, gepflanzt zunächst in Park- und Schlossanlagen und an den Zufahrten zu Herrenhäusern. Seit dem 18. Jahrhundert führten Alleen in die freie Landschaft hinaus.

Die Teilung Deutschlands nach dem Zweiten Weltkrieg bedeutete auch eine unterschiedliche Entwicklung der Alleen in Ost und West. Während im westlichen Teil Deutschlands mit dem Wusch nach größtmöglicher Mobilität Alleen zunehmend als Hemmnis des Fortschritts und als Gefährdung der Verkehrssicherheit angesehen und tausende Kilometer Alleen gefällt wurden, konnten sich die Alleen in der ehemaligen DDR mit dem viel geringeren Verkehrsaufkommen fast ungestört entwickeln.

Doch seit der Wiedervereinigung Deutschlands ist das (Über)Leben der Alleebäume um ein Vielfaches schwerer geworden. Die plötzlich angestiegene Motorisierung, einhergehend mit zunehmenden Ausbau der Straßen und die massenhaften Verlegung von Versorgungsleitungen sind Ursache für die vielen Baumfällungen in unseren Alleen heute.

Wir sehen es als unsere Aufgabe, diesen ganz besonders wertvollen Natur- und Kulturschatz unbedingt zu bewahren.

History

Avenues found their way from Italy via France to Germany. From the 17th century onwards, they were planted more and more often, serving first as structural elements in gardens

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and along paths leading to castles or manor houses, with the aim of emphasising the power of the landlords. Later, trees began to line streets in cities, before also heading out into the open countryside during the Renaissance and Baroque eras. Some can still be admired to this day in certain regions, in which they have now often taken the form of green tunnels.

Such planting along roads was intensified by Germany's Dukes in particular. In many cases the motivations were purely aesthetic, the planting being done "just for the views".

In 1743/44 Friedrich II bought lime trees from Hamburg to plant along country roads in the Potsdam area. In an edict of April 17, 1745, he wrote that he had tried systematically to invest in the countryside around Berlin by planting new avenues and expanding existing ones, and he therefore ordered life imprisonment as a punishment for any violations of avenue trees. Similar strong penalties can be found in edicts from the same period issued by the Duke of Mecklenburg.

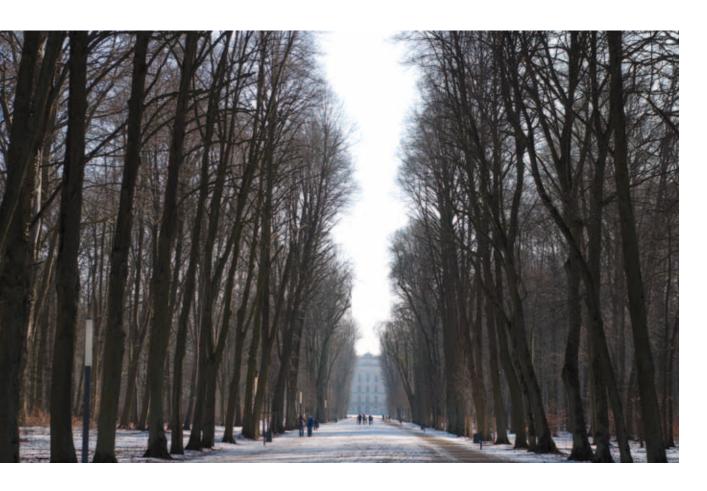
Friedrich II instructed that, wherever this was practicable, roads ought to be built in a straight line, even in the country, so that they might have an improved appearance. This would be further enhanced if they were planted with trees on either side, and beyond the trench on the field side. (LEHMANN,I., ROHDE M., 2006, p.18)

The architect Leonhard Christoph Sturm remarked in 1718: "The greatest beauty of avenues is / if you cannot see the end thereof"

Another example is the avenue of lime trees running between Bad Doberan and Seeheilbad Heiligendam. This



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In the generous and extensive grounds of Ludwigslust, the castle and park form an ensemble that is unique in its design in Mecklenburg. It is therefore often referred to as the 'Mecklenburgisches Versailles'.

© Katharina Brückmann

avenue was created for purely aesthetic reasons in 1793 by Mecklenburg's sovereign Paul Friedrich.

However, in the countryside in particular there might also be other purposes for roadside planting. The trees lining roads were useful for their wood, branches, leaves and fruits, as well as for the technical and structural benefits, such as the fixing of banks or drainage of roads, as well as offering of safe guidance in the correct direction in the circumstances of darkness, thick fog or blizzarding snow.

Many cities in Germany were at the same time installing promenades with multiple rows of trees connecting the larger squares with one another. These places developed as increasingly popular places for public life, and they remain a dominant feature of certain cities.

The garden architect, Friedrich Ludwig von Sckell, stated that, in the straight and wide avenues of public gardens "the people can be seen at once in mass" and that the features therefore "granted a far more impressive sight than in the most beautiful winding paths of the nature gardens". (LEHMANN, I., ROHDE M., 2006, p.31)

A special type of avenue that may also have contributed to the spread of tree-lined roads in the open countryside is the so called Pall Mall. These places were used for a ball game of Boule, which proved especially popular in France, Italy, Scotland and Ireland but also Germany in bigger cities. It offered itself to shadow these lanes with trees. In Latin countries the game remains popular and many tree-lined avenues are still used for it.

In 1638, the so called Pallmaille in Altona/Hamburg was planted, in four rows with 400 lime trees, maples and elms.

In those days especially the large-leaved lime tree (*Tilia platyyphyllos*), the common small-leaved lime tree (*Tilia×vulgaris=Tiliacordata*), elm species (*Ulmus*) and hornbeam (*Carpinus betulus*) were planted. These trees are all characterised by a high level of tolerance to cutting. In the 18th century the elm was the most widespread street tree, though fruit trees and willows were also widespread.

On the other hand, the oak (*Quercus*), beech (*Fagus*), chestnut (*Castanea sativa*), black poplar (*Populus nigra*), white poplar (*Populus alba*), plane (*Platanus*) and black locust (*Robinia pseudoacacia*) were hardly used at this time as street trees because they look "unsightly" after cutting. It was only beyond gardens and castle grounds that they came to be planted every now and then.

Today it seems at first glance that there is a high diversity of both domestic and exotic tree species along the roads of Germany. However, the main tree species like lime, maple and oak in fact represent two-thirds of the species spectrum by numbers, while many other species (such as ash, horse chestnut and birch) are represented by shares well below 10 percent.

There were many famous landscape architects who thought about the design, planting and maintenance of tree species as soon as avenues appeared.

For example, in France, Louis Jean-Marie Daubenton (1716-1799) explained in his *Enzyclopédie* that cutting

measures for trees like that the young tree care is not to interrupt until the planting is 20 years old. "Now the time has come when the trees have their full force. It will now allow them to spread their upper branches to form a screen, and it will now be enough to intervene once every three years."

The avenues planted by Lenné in the 19th century had an obligatory distance of 12 feet (3.90m) between the trees.

Duke Pückler (1785-1871) highlights the representative and structural effect of avenues.

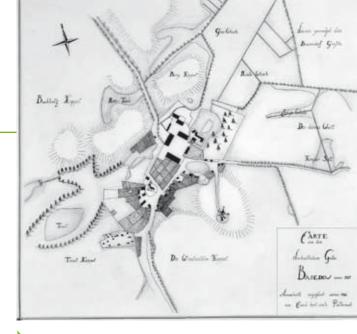
In turn, Denis Diderot emphasised as a basic rule that a road side tree must have only one main shoot up to a certain height until the crown can develop.

Christian Hirschfeld and Cay Lorenz complained in their "Theory of Garden Design" about the topping of trees as a nonsensical fashion of tree mutilation. It barely yields enough burning wood, while spoiling roads and gardens. They described it as nonsense to cut the trees back to bare poles, or to deface them into cones or other childlike figures. Rather the branches were suitable for being inhabited by happy singers and were intended to swing in the air,

All of this advice corresponds amazingly well with the care of young trees as taught today.

Peter Joseph Lenné has left us his garden art in the "aesthetic" parks and gardens for example of Ludwigslust and Basedow.

Once the planting of avenues began in earnest the conflicts of interest also began to arise. Avenues were long regarded by the people, in particular farmers, as a matter for



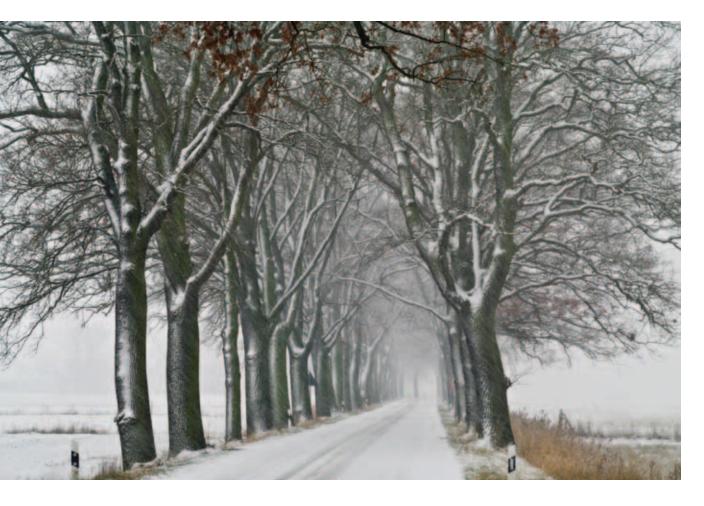
Direktorialkarte (1757) M 1:4.850, Avenues in Park Basedow



New plantings in a historical avenue in Basedow

© Katharina Brückmann

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Oak trees along a road in Brandenburg; Since the 18th century period of the Renaissance, trees have lined the roads leading out of towns and villages, and also lined many routes in the open countryside. © Dr. Tilo Geisel

the nobility. Thus for a long time they might even despise the lines of trees as monuments of the aristocratic regime, with all the dues and imposed burdens that entailed. Some centennial shady avenue of trees therefore fell victim to ordinary people in 1848. (RIEHL, W. H. 1857)

Yet in the 19th century most roads were planted with trees. It is noteworthy that neither before nor during the Second World War were healthy avenue trees cut. If anything, every second tree was removed from closely-spaced rows.

After the Second World War, in the western part of Germany in particular, there was a rapid increase in mobility. The environmental benefits of tree-lined roads were no longer recognised at this point, while 70% of all state roads and 30% of all federal highways were widened to at least 5.50 m. This was therefore a monstrous campaign of destruction pursued against avenues, and it is estimated that western Germany lost about 50,000 km of avenues or roadside trees post-1945. When it is recalled that the circumference of the Earth is 40,000 km, it becomes easy to understand the significance of this.

Far safer were the lives of roadside trees in the former German Democratic Republic (GDR). Since traffic there was lighter and financial resources for road improvements and tree cutting more limited, street trees developed splendidly, when spared constant pruning and the damage done to roots by construction.

In addition, no need to cut down trees along roadsides was really felt.

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Equally, there were no significant plantings over the 40–year existence of the GDR, even if the cultural significance of avenues was recognised. This obviously accounts for the absence of entire generation of trees.

A comparison of the former West and East Germanies provides a striking illustration of the devastating effects of previous development policies: even though the West is 2.5 times as large, its tree-lined federal and state roads only extend one-fifth as far as those in the East (5200 km compared with 23,000 km).

It can thus be considered that reunification saw the former GDR bring an aesthetic landscape treasure to the new, larger Federal Republic. But reunification also brought a change in infrastructure at a tremendously rapid pace. Authorities and environmental organisations were not ready for this at all, and so serious and irreparable damage was done to old avenues, especially where the root zone was concerned, but also when it came to trunks and crowns. These errors and a clear violation of existing construction regulations as regards trees have been the cause of so much tree felling today, and of so many gaps in avenues.

And problems persist. Even though the benefits of trees and avenues are well known, they are in danger – at least to the extent that a decline in numbers still threatens. Increasing traffic, new road construction, the development of public power and water supply schemes, tree-cutting, tree damage, exhaust fumes, agriculture, age of the trees, salt and disinterest are just some of the reasons.

Increasingly, trees were no longer viewed as beautiful and useful, but rather as an obstacle to progress and a threat to road safety.

Future

If the treasure that tree-lined roads and avenues represent is to be retained, that means both protecting existing avenues and developing new ones!

New or changed requirements and demands on modern roads and traffic safety, as well as new or modified views to the environment have an impact on the development of avenues.

In some states of Germany avenues are highly legal protected. Out of the estimated $23,000\,\mathrm{km}$ of existing Avenues along main roads nationwide, Brandenburg has the greatest assets, with approximately $10.000\,\mathrm{km}$, along with Mecklenburg-Vorpommern with its c. $4300\,\mathrm{km}$.

In Brandenburg, Mecklenburg-Vorpommern and North Rhine-Westphalia avenues enjoy protection going beyond the existing legal regulations.

Mecklenburg-Vorpommern is the only state in which avenues are protected, not only by statute, but also even under the Constitution. If road-side trees have to be cut, then they must be replaced. If there is no space to plant trees, than an alternative is the payment of money into the Alleenfonds (€320+€80 for three years of maintenance). The idea is for this money to cover the costs of larger-scale avenue–planting projects, in what is a feature unique to Germany. These measures explain the extensive planting



At least 2048 km of the 5289 km of federal and state roads in Mecklenburg-Vorpommern are tree-lined (as of 2010). 40% of the current avenues consist of young trees, so these will be the avenues of the future. © Katharina Brückmann

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Deutsche Alleenstraße

© Christoph Rullmann

that has taken place along federal and provincial roads in Mecklenburg-Vorpommern.

Yet this is an exception within Germany. And to achieve the goal of keeping existing avenues and tree-lined roads for the future there has to be constant replanting in a sustainable development of avenues. Statutes, edicts and regulations must therefore be designed so that the planting of young trees along roads is made possible. These laws must be complied with, and enforcement will also need to be improved.

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THE "GERMAN AVENUE ROAD"

CHRISTOPH RULLMANN



The Author

Christoph Rullmann

Schutzgemeinschaft Deutscher Wald -German Forest Protection Association (SDW)



The German Forest Protection Association is a community of 25,000 forest- and naturelovers who organise nationwide activities in the name of better forest protection and forest-related environmental education in Germany. The protection of avenues and treelined roads has also become a major concern for both the Federation and the 14 associations operating at the level of the Länder. In addition to its work on the main "German" Avenue Road", the SDW is strongly engaged in the political domain of the preservation of avenues and the ensuring of their protected status under domestic law. The "Alleenfan. de" portal of the SDW offers nationwide contact for those seeking to protect avenues, with the "favourite avenues" homepage presenting an interesting pool of Germany's unique tree-lined roads.

Sdw.de

The "German Avenue Road" -

An active contribution to the protection of tree-lined roads and a tourist route through the most beautiful regions of Germany

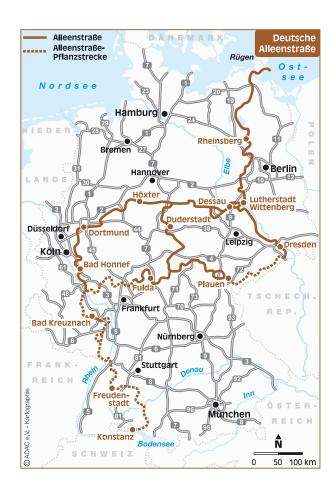
Die Deutsche Alleenstraße

Ein Wichtiges Signal zum Erhalt der Alleenlandschaft in Ostdeutschland und auch zur Wiederbelebung des Alleegedankens in westlichen Bundesländern war die feierliche Eröffnung der Deutschen Alleenstraße mit der Präsidentin des Deutschen Bundestages, Frau Prof. Süssmuth, am 3. Mai 1993 in Putbus. Heute führt die Deutsche Alleenstraße durch ganz Deutschland – von der Ostsee bis zum Bodensee und ist mit rund 2.900 km die längste Ferienstraße.

After the reunification of Germany in 1990, many people began to make trips to discover the previously-hidden part of their common homeland. In this way, it quickly became clear that a wealth of treasures of the landscape no longer present in the West had been preserved in the East. Examples included the "obstacles to mobility" that the trees lining streets and roads had been seen as, ensuring that they had been cut progressively from the 50s onwards.

The "German Avenue Road" leads from Sellin on the island Rügen to the Lake Constance





THE "GERMAN AVENUE ROAD"

CHRISTOPH RULLMANN

Visitors immediately recognised that action to protect avenues and tree-lined roads was needed, and plenty of members of ADAC and the SDW came with this concern to their organisations. And so the idea to launch a project for the protection of avenues grew. And this was a project with radiance, which sought to promote the avenues and generate sympathy for them. A vibrant citizen's initiative was soon born.



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The earliest evidence of an avenue along a street in Vorpommern comes from 1694 and relates to the Krim-Linden – an avenue ((of Tilia × euchlora) between Putbus and Garz on Rügen, today part of the German Avenues Route.

© Katharina Brückmann

The official founding of the "Association of the German Avenue Road" came in 1992, in Sellin on the island of Rügen. The stated goal was as simple as it was concise: The tree-lined roads of Germany are to be preserved for future generations, with new ones also planted.

A further step to bring the importance of avenues more fully to the attention of citizens was the establishment of the "German Avenue Road" – as a belt of green running through the whole stretch of the country between Rügen and Lake Constance. This was achieved by May 1993, with the first section to open being that between Sellin and Rheinberg/ Brandenburg.

With the closing of the final link in Baden-Württemberg extending from Karlsruhe to the island of Reichenau in 2000 the great project was completed, and the vision first developed from 1992 had become a reality. More than 2900 km of officially-recognised tree-lined roads now connect the north-east of Germany with the south-west, in the process crossing – and binding together – diverse cultural landscapes and unique natural areas.

This is how Germany's *Alleestraße e.V.* makes an active contribution to sustainable and socially responsible tourism, and to the protection and preservation of the unique items of cultural and natural heritage that avenues and tree-lined roads represent.

www.Alleenstrasse.com





New trees along the German Avenue Road near Sietow in Mecklenburg-Vorpommern © Katharina Brückmann



PIOTR TYSZKO-CHMIELOWIEC

Aleje w Polsce

Aleje, czyli drogi obsadzane drzewami, są nieodrodnym elementem tradycyjnego polskiego krajobrazu. Większość z nich powstała jako element urządzenia dróg, niektóre stanowią ozdobę majątków ziemskich, jako rozszerzenie pałacowych ogrodów w otaczający krajobraz. Najwięcej alej spotykamy na północy i zachodzie kraju, w regionach, które w przeszłości wchodziły w skład Królestwa Prus, zwłaszcza na Warmii i Mazurach.

Tradycja sadzenia drzew przydrożnych została zarzucona w ostatniej ćwierci XX wieku. Od początku XXI rozpoczęły się masowe wycinki alej związane z przebudową dróg. Wobec faktu, że drzewa powszechnie wycinane były bez należytego uzasadnienia, w roku 2003 po raz pierwszy zaprotestowali miłośnicy przyrody i krajobrazu. Po latach medialnych, urzędowych i sądowych zmagań, w połowie drugiej dekady XXI wieku strony sporu wspólnie pracują nad rozwiązaniami zapewniającymi bezpieczeństwo ruchu przy zachowaniu drzew.

Celem ogólnopolskiego programu Drogi dla Natury, zainicjowanego w 2009 roku przez wrocławską Fundację EkoRozwoju, jest ochrona drzew w otwartym krajobrazie. Podstawą działania programu jest partnerska współpraca organizacji społecznych z administracją publiczną – samorządami i zarządami dróg. Angażujemy także obywateli, którym nie jest obojętny los drzew. Więcej o programie Drogi dla Natury oraz o ochronie alej na witrynie www.aleje.org.pl oraz Facebooku Drogi dla Natury.

Heritage

Tree-lined roads form an important part of Poland's traditional rural landscapes. Most were established in the context of road construction design, though some were elements in the designed landscapes created by landowners.

Particular regions of the country differ in terms of the frequency of occurrence of avenues and tree-lined roads, the differences mostly reflecting history over the last two centuries. The most avenue-rich north and west of the country once came within the part of Poland partitioned by the Kingdom of Prussia (later Germany), where roadside trees were planted and protected by royal orders. Not as rich in avenues are the south-eastern provinces once ruled by the Austro-Hungarian Empire, and the east-central regions formerly ruled by Russia. In fact, Austria and Russia also supported tree planting in Poland, although not as consistently as the Kings of Prussia. In the 20th century, the road services of a Poland returning to the map of Europe in 1918 continued to plant trees until the 1970s.

Some regions only have partial surveys of avenues and tree-lined roads. An overall length of 6500 km of these kinds of feature has been noted for the Warmia-Masuria region alone, in an inventory covering all but local roads (2009). If the latter were to be included the overall length would probably become close to ten thousand km. In the gminas surveyed under the Roads for Nature programme, the total length of avenues in the different jurisdictions ranged from several to over 100 kilometres (the latter





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PIOTR TYSZKO-CHMIELOWIEC



Restoring an avenue in Prusice municipality, Lower Silesia, a Roads for Nature programme activity. © Jakub-Jozefczuk number characterising areas of the North, including the Masurian Lake District). The most widespread tree species tending to be planted in lines in Poland include lime, maple, ash, non-native poplars, oak, and fruit trees. Proportions of the different species vary from region to region, however.

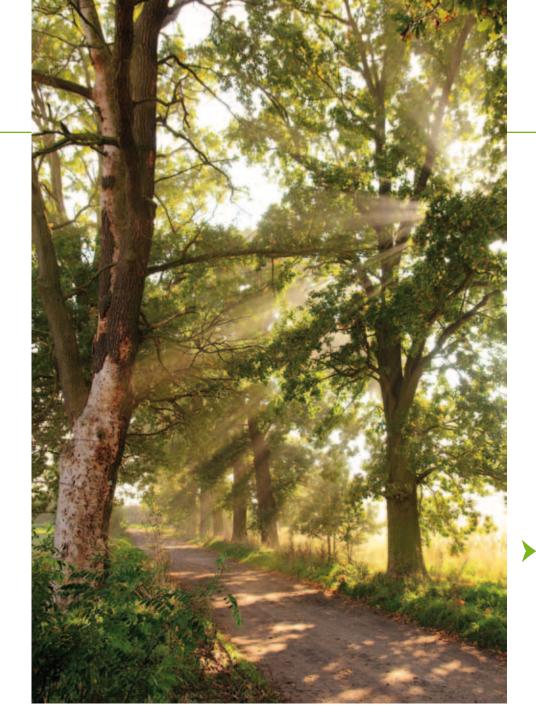
Numerous estates were augmented by ornamental planting of trees. The most notable example might be at Turew in the Poznań region, where the owner, motivated by yield improvement, planted avenues and strips of forest among fields in

the early 19th century. The estate now serves research and educational purposes. Trees, mostly sessile oaks, have also been planted on river banks, canals and around fish ponds – particularly in Lower Silesia.

Challenges

The planting of roadside trees in Poland was largely abandoned in the last quarter of the 20th century. With an increase in road traffic as a result of the political and economic transition in the 1990's, the pressure began mounting to improve roads and increase safety. In turn, as Poland was preparing to join the European Union (signature in 2003 and accession in 2004), EU funds became available for road-upgrade projects. As a result, large-scale felling of roadside trees commenced in the first years of the 21st century. This was facilitated by a legal loophole existing in the years 2003-04, which made it possible for trees to be removed without a permit. The wholesale cutting of avenues provoked resistance among people concerned with nature and the landscape, and a coalition led by Masurian activist Krzysztof Worobiec managed to have the loophole closed, with enhanced legal protection then being extended to roadside trees.

Since then, the pace of cutting has slowed, though too many trees continue to be lost as work to upgrade road proceeds. Very few new trees are in fact being planted to make good the losses in the long term, with the result that Poland's landscapes continue to lose their green infrastructure. Another widespread reason for the felling of roadside trees is to improve road safety.



PIOTR TYSZKO-CHMIELOWIEC

However, too many trees continue to be cut unnecessarily, in line with rash decisions resorted to without any attempt being made to identify the root causes of accidents at hotspots, or to consider alternative solutions.

What is more, the quality of planting and aftercare where new trees are put in is generally insufficient, with the result that many such trees die before they ever become well-established. Only in recent years has the quality of tree planting along National Roads begun to improve, with more funding being made available. Improper care of mature trees is another challenge to Poland's dwindling avenues and roadside-tree resources. Contrary to the intentions of the road services, excessive pruning weakens trees, shortening their lifespans and increasing the threat of failure. However, mounting public pressure backed by the efforts of Roads for Nature and other civic initiatives, is now beginning to change the picture where the management of roadside trees in Poland is concerned.

Pedunculate Oak
(Quercus robur)
avenue in Prusice
municipality, Lower
Silesia. Surveyed in
the framework of the
"Roads for Nature"
programme.

© Jakub Józefczuk

Legal protection of trees

In general, trees outside forests and orchards enjoy protection under the Nature Conservation Act. No tree can be felled in the absence of a licence issued by a local authority. The problem is that new road construction projects are exempt from this requirement. However, before a permit to remove a roadside tree is issued, the tree has to be checked if it is serving as habitat for a protected species.

PIOTR TYSZKO-CHMIELOWIEC



A new lime tree avenue planted by the "Roads for Nature" programme, Krośnice municipality in Lower Silesia.

© Piotr Tyszko-Chmielowiec



If so, an additional licence issued by a regional conservation authority is required. Notable trees and avenues can also be granted special protection in their own right as Monuments of Nature or historic monuments.

Prospects

Since 2003, conservationists have been very vocal in protesting against the removal of roadside trees. However, this initially elicited "more heat than light" in the dialogue between diverse parties, be these the road administration, local authorities, drivers' associations, the police, historical preservation officers, activists or conservationists... Those that strove to remove the "killer trees" were pitted against those denouncing the "tree killers". Both sides made use of the media and the law, including in the courts. This is beginning to change, as meaningful dialogue develops among the parties. Solutions are being sought that aim at improving traffic safety, while respecting the value of trees to society and nature.



Learning how to assess trees at a "Roads for Nature" training course in Zgorzelec, Lower Silesia. © Jakub Józefczuk

The good news is that there is still room for both cars and trees along Polish roads. Many roads, even after improvements, still have space available for the replanting of trees. Trees along many other roads can be preserved where additional safety measures are applied, such as trunk markings, or speed limits. There is also a great need to improve tree management to assure public safety and the better functioning of trees.

30,000 roadside trees were planted within the framework of a 2010-12 "Roads for Nature" programme, which gained support from the EU via Poland's Infrastructure and Environment Operational Programme, as well as from the National Environmental Fund.

The "Roads for Nature" programme, initiated in 2009 by the Foundation for Sustainable Development, puts in place a framework for the forging of successful partnerships between road maintenance services, conservationists and local authorities. This is accomplished through publications and training to improve tree maintenance and stand management skills, as well as planned tree-resource development. A method of tree assessment to be used by non-specialists has been established and is being taught at training sessions.

Poland's local authorities at gmina (local authority) level are assisted with their plans to protect and develop tree resources and to educate local communities. By the end of the 2012-16 period, local campaigns will have

PIOTR TYSZKO-CHMIELOWIEC

been implemented in 90 of the gminas. This work is supplemented by a campaign directed at society at large, with a view to public acceptance of trees being increased using films, publications, seminars and conferences, work with the media, internet tools (aleje.org.pl) and an annual avenue photo competition.

A network of grassroots activists (Friends of Trees) is being developed and supported with training and publications. In addition, we are building an international network of organisations preserving avenues and implementing transborder initiatives.

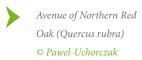
The programme is currently in receipt of funding from EU LIFE+ and Poland's National Environmental Fund, with work being implemented by way of a coalition of interested organisations.

Foundation for Sustainable Development (Fundacja EkoRozwoju, FER)

Initiator and coordinator of the Roads for Nature Programme, the Foundation for Sustainable Development, has operated since 1991 in Wrocław, Southwest Poland. FER is involved in promoting key sustainable development topics, such as practical nature conservation, waste reduction-reuse-recycling, energy efficiency and renewable energies, and green consumerism. FER cooperates with other NGOs, local, regional and national administration, universities and other actors of the sustainable development scene.

The Foundation operates "EkoCentrum Wrocław", which has become a hub of environmental activities in the city and the region. FER's watchdog activities focus on conservation regulation compliance by authorities. An area of special interest to us is the Barycz Valley, Europe's

largest fishpond complex and a Natura 2000 site. FER has been promoting sustainable development based on the area's natural and cultural assets – as a tool of nature conservation. FER has shared its experience with other countries, including Armenia, Belarus, Czech Republic, Germany, Georgia, Russia and Ukraine.











MARCELA KLEMENSOVA

Aleje v České Republice

Nejstarší zachované aleje v České republice jsou z období baroka. Většina našich alejí lemuje silnice II. a III. třídy a místní komunikace. Důvodem jejich rychlého úbytku v posledních 10 letech jsou zejména silniční předpisy, které považují stromy za pevnou překážku a kladou důraz na zachování bezpečnosti provozu. Obnovu alejí komplikují také majetkoprávní vztahy.

Nadějnými signály jsou aktivity silničních správ v některých krajích – nové výsadby podél silnic, natírání alejí bezpečnostními pruhy, a také úsilí místních komunit o zachování historického dědictví.

The Past - The history of the landscape and heritage of our ancestors

In the Middle Ages, the Kingdom of Bohemia was largely covered by forest, with the result that merging trade routes were tree-lined from the outset. As of the late 10th century there were over 50 such routes and they were named in line with the goods carried along them, hence the "Gold Route", "Amber Route", "Salt Route", etc.

It was for security reasons (to protect passengers against outlaws and robbers) that in 1361 an order was issued for shrubs and trees on either sides of a route to be cut at a distance of about 100 meters. From that time we also have unique written notes concerning lines of fruit trees planted along roads for the general benefit.

The Renaissance-era lives of the nobility saw them relocate from castles to the more-comfortable chateaux, with all the associated efforts to beautify the landscape that change denoted. It was along with the setting up of summer residences that the first ornamental avenues of trees arose – this was, for example, the time at which the tree avenue in Telc (Vysocina region) was planted. The Baroque style dominated the architecture of the second half of the 17th century. Driveways lined with trees imbued castles and mansions with a further magnificence. "Religious landscaping" was a further influence, as the presence of a considerable number of places of pilgrimage, be they churches, chapels or Stations of the Cross, came to be highlighted by the presence of lines of trees.

In the Czech Lands, the purposeful planting of trees along roads was primarily a priority activity from the 18th century onwards, with Empress Maria Theresa ordering that trees should be planted in the vicinity of all new roads for economic reasons (to provide wood), but also with aesthetic, orientation-related and safety reasons borne in mind. Following the examples set by French designers, avenues of trees often delineated driveways leading up to castles, parks or churches, as well as connecting the different settlements in a given area. The species planted most frequently were lime, horse chestnut and the rare plane-tree. Alongside the more-valuable trees belonging to the nobility were the avenue-fruit-trees that farmers were inclined to plant on their own land. Attitudes of our ancestors symbolising generosity and humility are illustrated by the Valdstejn





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The Křížový vrch Avenue of limes at Cvikov, Liberec Region.
© Dan Bareš

avenue of trees at Jicin (Hradec Kralove region), regarded by experts as the oldest surviving avenue of this kind anywhere in the Czech Republic. Of course, the nobility of old were not limited by considerations of single lifespans on Earth, often planting with a view to the lives of their children and their childrens' children being enriched by their actions.

The era of the Napoleonic Wars brought dense planting along roads of pyramidal black poplar trees hitherto unknown in our country. These facilitated orientation

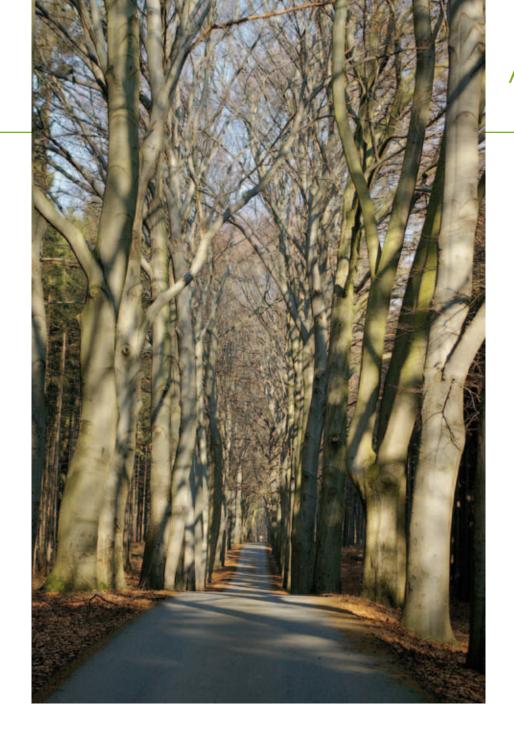
in the landscape in the case of soldiers returning from battle. However, very few such tree-lined roads of this kind now survive, as the short-lived poplars were often replaced by limes, maples, and so on.

The mid 19th century saw further work done to augment the network of imperial roads continued, as well the onset of a programme of construction of non-state roads. A new law ordering that trees be planted along roads came into force, with the emphasis in particular on fruit trees and mulberry trees. The planting of fruit avenues along roads thus expanded at the same time as those avenues planted during the Baroque period grew old and began to be cut down in more visible locations. Overall though, the spread of fruit trees along roads continued into the 20th century, mainly in line with continued effective utilisation of the fruit generated.

The First World War interrupted the development of transport and was inevitably associated with neglect of existing avenues. The situation was complicated by the beginning of electrification in the country. While several laws were issued to protect trees from damage as electricity and telegraph lines were put in, mutilation of whole avenues often occurred nonetheless.

In 1927, a State Road Fund for the improvement of roads was established, this also representing a source of funding for the planting of non-fruit trees on roadsides. Tree species favoured at this time included lime, maple, ash, birch, elm, plane and poplar.

After the Second World War, laws on road traffic in turn treated trees as a substantial component of roads that helped to ensure their protection. The post of "sadovnik" (a gardener taking care of trees by side-roads) was established, the task of such an official then being to take care of all vegetation along roads. Conditions for the planting of trees along roads were also laid down, with a view to ensuring



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that their siting would not pose a danger as regards road safety.

A 1984 regulation marked the first modern negative interference with tree-lined roads. Trees on the side of the class I and II roads were defined as a solid obstruction of road traffic needing to be removed within a few years. As a result of this regulation, as well as of restrictions on the planting of new trees, there was a significant decline in avenues of trees throughout the Czech countryside.

Historic avenues of trees are thus tending to find themselves at the tail-end of their lives. Not least, they are full of gaps now, because diseased trees are often felled without any compensation-planting.

The present - legislation in force does not facilitate any recovery of avenues of trees

The binding Act on the Protection of Nature and the Landscape was adopted in the Czech Republic in 1992. By virtue of it, all species enjoy protection from damage and destruction. Care over trees, and especially their treatment and maintenance, is deemed to be the responsibility of owners, though a permit is needed for felling. Cases not requiring a permit are set out as exceptions in a legal order.

A regulation from 2013 on the protection of trees did also strengthen the protection extended to avenues of tree, which are in fact defined legally, with a stipulation that such avenues be treated as whole units, with permission

The Haugwitz Avenue of beech, evidently at Kladeruby nad Oslavou, Vysočina region.

© Petra Marečková

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The Radkov - Dubová Avenue: Avenue of lime trees, Radkov, Moravian–Silesian Region. © Martin Plocek needed for the cutting of each and every tree in a given avenue.

However, the interpretation of these provisions from the Ministry of Transport problematic. Law on roads defines traffic safety as a priority, and deems the vegetation along roads to constitute a solid barrier. In turn, the technical standards issued for roads (though recommendatory rather than mandatory in all but one case) impose conditions which make restoration planting along class II and III roads a near-impossibility. These are the very roads in

the Czech Republic now most likely to be tree-lined.

Furthermore, in 2014, the country's new Civil Code complicated the process of settling property relations arising out of the renewal of trees along roads at a safe distance therefrom, and from neighbouring land.

Good news for the avenues in the Czech countryside?

In the last few years, regional road maintenance has slowly started to make use of subsidies available for the restoring of avenues of trees. There has also been a return to the practice of painting white stripes on trees growing near the margins of roads.

Some historical avenues also enjoy protection within the *Natura 2000* framework, given that they serve as habitats for protected species. In these circumstances, gradual recovery of avenues of these kinds is assured.

A changing subsidy policy as regards agriculture also holds out some hope that lines of trees might start to reappear on farmland, as an accompaniment to local roads or as an interface between land under different ownership.

Arboristic standards issued by the Environmental Protection Agency of the Czech Republic in 2014 likewise encourage the maintenance and renewal of avenues of trees, with guidance on the proper planting and care of trees offered, on the basis of the best current knowledge verified in practice.

Examples of good practice:

The Radkov-Dubová Avenue (Moravian-Silesian region)

This double row of linden trees – along a route linking the villages of Radkov and Dubova in Vitkov district –

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was reportedly planted in 1826 along the carriage road between the castle in Dubova and the church in Radkov. Today this route is a busy class III road. To ensure traffic safety, bay passing-places have been constructed, and restrictions on trucks put in place. The priority here is to preserve the original outline of the avenue as historical and a landscape dominant, and as a symbol of the local community. Minimal maintenance of the avenue is provided by operational funding for road maintenance, by the village from grants and by civic associations and volunteers. A plan for the avenue's preservation is being drawn up in cooperation with all parties, the main point being a requirement that a bypass be built to leave the avenue for pedestrians and cyclists.

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Introduction to Arnika

We are a Czech non-profit organization that has been bringing together people advocating for a better environment since 2001. We have been protecting individual trees and tree avenues for many years now, and were the original authors of a "Save the trees" petition demanding better legal protection for avenues and for trees in general in the countryside and in the cities. The petition has so far won the support of more than 35,000 people. Thanks to this success we also managed to push through an amendment to the law and to have repealed the exception that allowed road-maintenance bodies to cut down roadside trees without a permit. We generated the first national statistics on avenues of trees and point out that more than 166,000 trees have disappeared from roadsides in the Czech Republic during the last ten years. We have set up a database on avenues and treelined roads in cooperation with universities and have prepared a brochure called "A concept for avenues of trees in the Czech countryside" that has been sent out to all the relevant ministries and regional offices. We organize excursions to see avenues of trees and convene conferences at which those who administer them can meet up and exchange experience with experts and representatives of local communities.

Since 2010, we have provided 600 trees along roads with white security stripes. This work has been done in

cooperation with volunteers and with the help of public donors.

Within the framework of the "Avenue of the Year" poll, thousands of people vote annually for the most beautiful avenues in the country. In the last four years photos and stories relating to 246 different avenues or tree-lined roads across the whole country have been submitted.





The Svinišťany Avenue of poplars, Svinišťany, Hradec Kralove Region. © Jan Losenický







CÉSAR-JAVIER PALACIOS

Carreteras arboladas en España

as avenidas arboladas forman parte del paisaje de L'España al menos desde tiempos del Imperio romano. A comienzos del siglo XX se reforestó la mayoría de las carreteras. Pero en 1960 llegará la revolución del transporte con el Seiscientos, el primer automóvil popular entre los españoles y con el que los árboles empezaron a verse más como un problema que como una ayuda. La entrada de España en la Unión Europea (1982) permitió una rápida modernización de las carreteras españolas y la construcción de numerosas autovías y autopistas que han hecho desparecer de forma masiva las líneas de árboles en las cunetas, hasta el punto de que apenas debe quedar menos del 5% de lo que había a mediados del siglo XX. En estos momentos, las carreteras arboladas españolas son un patrimonio natural escaso, ignorado, envejecido y debilitado por las presiones de la seguridad viaria. Sufren además una gestión arbórea muy deficiente, donde las podas agresivas son frecuentes y no se desarrollan trabajos de reposición. El proyecto LIFE+ en Arbolar, Grandes Árboles para la Vida (BIGTREES4LIFE), promovido por la Fundación Félix Rodríguez de la Fuente, trata de proteger este patrimonio natural divulgando su importancia para la biodiversidad, pero también como excelente herramienta educativa y turística.

History of avenues in Spain

Avenues (tree-lined roads) are part of the Spanish landscape, and have been so since at least the Roman era, from the second century BC onwards. At that time there were avenues of this kind in towns called *gestatio*, which were planted by landowners along the roads leading up to their palaces. The tree used most often was the cypress.

Some old cypress avenues leading up to farms (*masías*) still persist in the region of Maestrazgo (*Castellón*) within authentic groves of olive trees, some thousands of years old, planted beside the Roman *Via Augusta* (running from Cadiz to Gerona). As one owner reported, these trees were used as vegetable lighthouses, due to their tall silhouettes, allowing people to orientate towards the house without become lost in a true maze of old olive trees.

There is no precise documentary evidence, but it is certain that the main Spanish roads were wooded during the following centuries, planted by the residents of towns to whom laws and need forced them to keep roads well-maintained. At the Monasterio de la Sierra (Burgos) the Franciscan friars of Alveinte planted oaks by the access road to the monastery, as can still be seen.

In the eighteenth century, avenues of trees became fashionable again, due to the influence of the landscapers and designers of French gardens. But it was in the early nineteenth century, during the French invasion of Spain (1802-1812) that Napoleon Bonaparte worked to boost tree-





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planting. The next impulse was given in the late nineteenth century by the Regeneration movement of intellectuals who wanted to modernize the country, traumatized by the 1898 crisis following the loss of the last colonies of the former Spanish Empire. With the so called "Apostles of trees" and celebrations like "Tree Day", hundreds of thousands of trees were planted on Spanish roads, especially along the ways into populated areas, replacing those that a convulsive century had eliminated. It was at this time that *alamedas* (the widespread groves of poplars) were planted. The name was also often used for what were in essence wooded walks, the name therefore perhaps being popularised in line with the French word "allées".

The situation in the early twentieth century is summarized in a Royal Order from the Spanish Home

Office dated 1902, which states that, when data for 1899 and 1902 are compared, woodland roads are seen to have declined in many provinces, not only for "natural or irremediable reasons, but also largely and frequently due to willful damage". It was often said that these circumstances harmed the public interest, by depriving people of an element of benefit "to both the roads and wayfarers". The damage persisted despite the sanctions imposed upon offenders.

In the Canary Islands, the interest in trees was complemented by their appeal as a tourist attraction, as part of the natural resources of the islands.

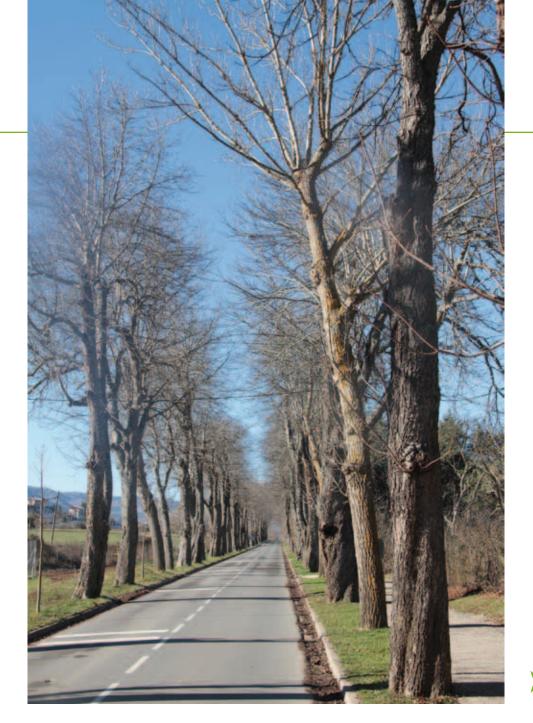
After the Civil War of 1936-9, trees planted along Spanish roads were subject to widespread renewal. Until 1960, trees were replanted along both main and secondary roads. Poplar, elm, Indian chestnut, plane, Aleppo pine, acacia, eucalyptus and "tree of heaven" were the most frequent species used.

In the mid-1960s, a transport revolution arrived in Spain with the widespread manufacture of the SEAT 600, the first popular car amongst Spaniards. One effect was that trees along roads began to be seen as more of a problem than an advantage. It was at that time that broad white bands began to be painted on trunks at a height one meter above the ground with a view to accidents being prevented. Such bands can still be seen in a few of the preserved avenues of trees.

The accession of Spain to the European Union (of 1982) allowed for fast modernisation of Spanish roads and for the construction of many highways and motorways. Current domestic legislation (from 1994) still forbids the planting of trees along roads that are in the public domain, on a strip of land 8 meters wide along highways, freeways and expressways (3 metres where remaining roads are concerned). In lay-by areas (between 25 and 6 meters) planting trees is only allowed provided visibility on a road is not reduced.



Old Canary Island avenue



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The above law, together with the expansion of roads and alleged road safety issues, has contributed to the mass disappearance of lines of trees from along roadsides, so severely indeed that barely 5% of the tree population present in the middle of the 20th century now remains. Only a few have survived along the approach-roads to certain cities, such as Castellón de la Plana, Ezcaray (La Rioja), Calasparra and Caravaca (Murcia), Sena de Luna (León), or the Camino de la Fuente de Francia and of the Hermosa-Valdecilla road in Cantabria. Along the Olmeda del Maripinar trail in Cieza (Murcia), 43 elms planted in 1911 survive thanks to a regional law that protects this endemic species. Other vestiges can be found in the abandoned bends of some roads converted into resting areas.

The last major effort at replanting by a public road started from 1999 along the Santiago de Compostela Road running between the regions of Navarra and Galicia, to celebrate the Holy Year of St. James and the inclusion of this route, by UNESCO, as a World Cultural and Natural Heritage site. Since then, tens of thousands trees have been planted.

At present, Spanish tree-lined roads are a scarce natural heritage, ignored, aged and weakened by the pressure exerted to increase road safety. They also suffer from very poor silvicultural care that includes excessively frequent aggressive pruning and a lack of replacement of dead specimens.

Ezcaray (La Rioja)

© César-Javier Palacios

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Poblet (Tarragona) Spain © César-Javier Palacios

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About the project

Our project LIFE+ EnArbolar: BIGTREES4LIFE (or EnArbolar: Grandes Árboles para la Vida, in Spanish) promotes sustainable strategies centered on avenues, old trees and mature forests in municipalities within the Spanish Natura 2000 Network and other protected sreas, through actions that encourage sustainable tourism practices, co-responsibility and wise governance. Thanks to support from the Diputation of Valencia / IMELSA and the EU LIFE+ Financial Instrument for the Environment, the Félix Rodríguez de la Fuente Foundation is conducting a series of communication and information actions to help increase awareness in the Spanish population of the importance of remarkable trees (even avenues) as havens of biodiversity, witnesses of climate change, creators of the landscape, motors for the sustainable development of rural economies and symbols for environmental education.













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is employed at the Regional Museum in Kristianstad. He is a human geographer and works primarily on topics relating to the historical rural landscape and its natural and cultural heritage. In 2012, he successfully defended his doctoral thesis concerned with the historical aspects of the avenues in Sweden.

Alléer i Sverige

Alléer har funnits i Sverige sedan 1600-talet men först runt 1760 påbörjades mer omfattande alléplanteringar. Alléer har planterats utmed infartsvägar till gods, städer och gårdar. Bönderna har också planterat alléer utmed landsvägarna eftersom de var väghållningsskyldiga. Trädslagen i alléerna skiljer sig åt var i landet man befinner sig. Längst söderut finns alléer med pil och längst norrut dominerar björk. Däremellan är lind, lönn och ask vanliga. Ek, oxel, hästkastanj samt olika fruktträd förekommer också i alléerna. Samtliga alléer är skyddade i Miljöbalken tack vare dess höga biodiversitet.



Avenues are a characteristic element of various Swedish landscapes. Today, they are mostly connected with estate-landscapes, although many farmers also have an avenue of trees leading up to their farm. Historically most towns also had tree-lined roads leading the visitor up to one or other of the town gates. Avenues were also planted outside towns in connection with the summer farmsteads that many burghers and people involved in trade established between the 17th and 19th centuries. In turn, in the 18th and 19th centuries, farmers planted lines of trees, not only on the way up to their own farm, i.e. along their own private road, but also along larger roads, given that they were held jointly responsible for managing such roads thanks to the system of road-lots.



Birch-avenue from Bygdeträsk to Avaborg, probably the longest birch-avenue in Europe with a length of 9.3 km, planted in 1930s

© Jan Norrman

The advice typically issued by the county governor was that road-lot owners should plant avenues along their lot.

As mentioned above, it is most typical for the avenues existing today to be situated close to an estate or manor-house. These avenues may trace back to the 17th century, although it is more usual for them to have been established in the second half of the 18th century or first half of the 19th. Avenues in estate-landscapes almost always have a clear starting point, often some kind of boundary, with a connection to the estate. The avenue then leads from the starting point to the mansion or manor-house. Various types of trees were used, depending on the place and when in time the first avenue was planted. In the southern part

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of the country willow was one type of tree not normally associated with avenues in estate landscapes. Otherwise lime, maple and ash were used commonly. In some landscapes, oak, elm, birch and horse-chestnut were also employed. About half of all avenues consist of a single type of tree, while the remainder have two or more species. One special type of tree worth mentioning is the lime *Tilia x europea*. It is estimated that some 15,000 lime-trees were imported and then planted out in estate-landscapes in the 17th and 18th centuries. Many of these trees were imported from The Netherlands, and, while most of them ended up in parks, there were also many going to form the avenues leading up to country houses.

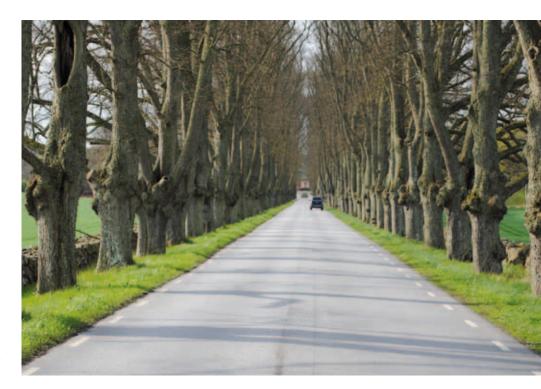
Another type of tree made prevalent use of in northern Sweden is the birch. In this landscape, estates are more scarce and birches are found lining roads between villages, though also streets in towns, as well as short private roads leading to a farm or estate. In the north, avenues of other deciduous trees are hard to find due to the colder climate. Birch avenues can be found in the south of the country as well, but it is in the north that they are entirely dominant. The best-known birch-avenue is probably the one leading from Bygdeträsk through the village of Kvarnbyn to Avaborg. The avenue is known as "the longest birch-avenue in Europe", given that it extends for 9.3 kilometres. It was planted in the early 1930s by the residents of the three villages.

In the south of Sweden, the willow is indeed a characteristic type of tree in the open, tree-less landscape.

While tree-planting campaigns were promoted by the authorities in 18th century, by the 19th the habit was continuing thanks to aid from the rural economy and agricultural societies (Hushållningssällskapet). These efforts lead to hundreds of thousands of willows being planted, on and along farmers' boundary earthworks, along creeks and around ponds and along roads.

All avenues in Sweden have enjoyed protection since 1998 by virtue of the Environmental Code (miljöbalken). This is a very

strong protection, and if the owner of an avenue wants to cut down the trees an exemption can only be granted if the situation is close to a building, or if the trees are considered a danger to people travelling along a road. In some cases, an inventory of threatened species will then be drawn up, prior to an exemption being given. Sometimes, an arborist is asked for a view regarding the vitality of the tree, and a



Lime tree avenue, tilia x europea in the so called "Grand Avenue at Övedskloster" in Scania. This avenue consists of lime-trees planted around 1770, probably imported from Harlem, The Netherlands © Patrik Olsson

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Avenue of willow in Scania © Moa Karlberg

suggestion may be made regarding what to do in order to save it.

The roads in Sweden are divided into different (national, local or private road) categories. The private roads can be owned by one person or several, the latter known as a *vägförening*. There are no national statistics on how many avenues each type of road has but a guess that these account for approximately 1/3 in each category is probably not very wrong. Tree-lining is a common feature of all types of roads throughout the country. Local roads are mostly situated within town boundaries. This means that the tree-lined roads in the rural landscape are mostly managed by individual farmers, as well as the Swedish transport administration.

Before the 1990s, avenues tended to languish in obscurity. Not many people paid them much attention. Then, in the 1990s something happened. Discussions regarding the avenues' existence arose for various reasons. Biologists and ecologists talked about the great biodiversity a line of trees could support. Furthermore, many avenues were about to die from Dutch elm disease, or, in some cases, as a consequence of poor or zero management. In 1995, Sweden acceded to the EU, with the result that new environmental schemes addressed to farmers were introduced. One of these granted farmers an annual sum of around six EURO per avenue-tree for the maintenance of the tree. This gave the farmer an annual sum of money and highlighted the importance of the avenue in question.

Along with the environmental schemes, an educational programme was launched. People with knowledge regarding cultural heritage and biodiversity organised different educational actions, free of charge to the farmer, such as individual maintenance plans for a farm's natural and cultural heritage. If the farmer had an avenue, it was included in the plan. Courses were also run. This array of problems and new opportunities gave the avenue a boost and encouraged the planting of new ones by both farmers and the Swedish transport administration. Another reason sometimes paid attention to is the Swedish zerovision entering into force in 1997 and assuming no deaths whatsoever on the country's roads. This could have been disastrous for avenues but instead generated a creative discussion leading to the view that avenues must continue to exist even in the circumstances of Vision Zero.

New plantings

In the 1990s and onwards, several avenues were planted, for the reasons mentioned above. After Vision Zero was introduced in 1997, some lines of trees were planted somewhat further from the road, but this concept was soon abandoned as it fails to work in reality. The main factor here was simply that the Swedish transport administration does not own land much further away from an actual road.

Due to Dutch elm-disease, lime replaced about half of the avenues once formed from elms. After a few years, this

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kind of decision began to be debated, with the result that today lime is one of many options instead of the dominant one that it represented in the 1990s. Like many other countries, Sweden has been affected by diseases, not only on elm, but also on ash and horse-chestnut. These three species are not being planted at the moment. New planting does indeed tend to be somewhat further from the road edge than was once the case. This often reflects the relative narrowness of many roads, which caused trees planted in earlier times to suffer. A distance of 2m from a road is therefore quite normal when it comes to private roads, while the Swedish transport administration adopts a distance of about 3m. Where the road speed-limit exceeds 70 km/h, avenues are normally not planted. The distance separating trees is often greater than it once was. Up to 10m is not unusual when the transport administration is responsible, though shorter gaps often characterise private roads.

When it comes to research and the literature, some studies have been made in regard to species of trees present in avenues. One Ph.D. thesis on the historical aspects has been published. Alongside this there are regional studies carried out by local authorities, county authorities and the transport administration. The avenue as an interesting landscape-element often features in more wide-ranging historical or ecological studies.

An avenue of some European interest

During a walk in an avenue at the estate of Årup in October 1805, Swedish King Gustav IV Adolf informed the British Ambassador Pierrepont that Sweden would join the coalition against Napoleon. His decision was signed at the nearby estate of Bäckaskog on October 3rd, with war declared officially on October 31st that year. That walk and talk along the avenue of trees resulted in a new map of Europe just a few years later, as Sweden lost Finland and Pomerania. The avenue in question is now known as the coalition-avenue.

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Line of willow trees © Moa Karlberg

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TREE AVENUES IN UNITED KINGDOM

PAULINE BUCHANAN BLACK

Tree Avenues in United Kingdom

In the UK, the term 'Avenue' is most commonly applied to trees that are arranged as plantings on either side of an approach to a focal point. Such formal avenues are most often found within private parkland, on farm estates or in large public parks, as part of a designed landscape. The tree species are usually selected for increased dramatic impact and often feature such imposing choices as Wellingtonia.



>

Willow avenues: Britain's hedges are created from a range of tree species, which if allowed to develop into trees, become avenues. This tree avenue has developed from willows growing alongside a road in the important area of wetlands known as the Norfolk Broads.

© The Tree Council UK



About the Author and the Tree Council

Pauline Buchanan Black

is the Director-General, The Tree Council.



The environmental charity 'The Tree Council' is a partnership of thousands of local volunteers - Tree Wardens - and member organisations, all working for more trees of the right kind in the right places, as well as better care for trees of all ages. The Tree Council launched the 'Tree Warden Scheme' in 1990 as a national initiative to enable people to play an active role in conserving and enhancing their local trees and woods. It still co-ordinates the Scheme nationally, working with local authorities, voluntary organisations, parish councils and local partnerships to set up and develop Tree Warden networks. There are around 8,000 Tree Wardens throughout the UK, forming a volunteer force that contributes immense value to the environment.

The Tree Council also inspires public action all year round through the autumn "Seed Gathering Season" and "National Tree Week" activities as well as "Walk in the Woods" month in May. Its popular grants programme for tree planting and woodland habitat creation are important for communities and volunteers who also work on the agenda for change that includes the annual "Tree Care Campaign", the "Green Monument Campaign", the "Hedge Tree Campaign" and the "Hedgerow Harvest" programme.



TREE AVENUES IN UNITED KINGDOM

PAULINE BUCHANAN BLACK



Breck Pine Hedges: In the Breckland area of East Anglia, unusual avenues of pine have been planted along the roadside and have become stunted and contorted due to the area's poor soils and windy conditions. © The Tree Council UK

It is seldom the case that planned formal avenues are to be found alongside public roads, although many suburbs misleadingly bear street names that feature both tree species and the word 'avenue', as in Elm Tree Avenue, Pear Tree Avenue and so forth. However, as the late American writer William Vaughn wrote, suburbia is more often 'where the developer bulldozes out the trees, then names the streets after them'. There are exceptions, such as a section of Canon's Drive in Edgware, North London. Here, a remarkable avenue of Sequoia trees were planted in the eighteenth century as part of the grand entrance to the country estate of the 1st Duke of Chandos. Although houses were built on the adjoining land subsequently, the avenue remains in place as street trees.

A less formal, but historically important, variation on the avenue can be seen across the country as an integral part of the extensive network of linear woodlands referred to as hedgerows, along the boundary of roads. Within these, there are millions of hedge trees that have been planted or deliberately grown through at regular intervals and, along both sides of road and lane, create informal avenues.

The feature is in sharp contrast to those avenues that are such a notable part of designed landscapes in the UK. Many of these hedgerow trees are mature, over-mature and ancient trees, and around 30% are over 100 years old.

TREE AVENUES IN UNITED KINGDOM

PAULINE BUCHANAN BLACK

Dutch Elm disease killed 20 million of the elm trees once present so numerously by roads and along boundaries. Dieback caused by the *Chalara* fungus could now have the same impact on the 30 million ash trees in Britain. Without a shift in our understanding of the significant role of these individual trees in the countryside, and an appreciation of their place in British life, their survival as a landscape feature as we advance through the third millennium may not prove attainable. However with care, appreciation and concerted effort we can continue to benefit from our landscape heritage, whilst shaping a new landscape for the future.

To play our role in securing the future of these trees, The Tree Council has since its earliest days been promoting the conservation and enhancement of the vitally important network of trees occurring on roadsides and along boundaries, as well as in formal landscaped avenues. National and local campaigns have been run to encourage this, and grants for new planting made available.



Young hedge trees: Planting lines of new trees in hedges is popular in Britain, and this double line of young oaks on a public road in Yorkshire will eventually develop into a beautiful avenue of trees. © The Tree Council UK



AVENUES IN THE NETHERLANDS

BERT MAES & HANS RENES

A Dutch summary

Nederland kent een grote variatie aan lanen. Ze zijn sinds de 15e en 16e eeuw aangelegd bij buitenplaatsen, maar ook in polders (zoals de Beemster) en in heideontginningen. Een bijzondere categorie vormen de negentiende-eeuwse rijkswegen. De functies van lanen waren vooral esthetisch, representatief en functioneel. Ondanks het gebruikelijke cyclische beheer zijn er nog enkele oude lanen met hun oorspronkelijke beplanting.

History of avenues in The Netherlands

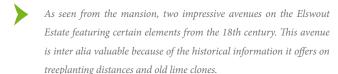
In The Netherlands, avenues have been part of landed estates but also of agrarian landscapes. They were planted for aesthetic reasons but also, in a countryside that was poor in forests, as sources of wood. They show wide variation and differences in complexity, comprising not only sections of road with rows of trees, but also roadsides, parallel ditches, hedges and coppiced wood banks.

Avenues and landed estates

In The Netherlands, avenues have been part of the layout of landed estates since the 15th and 16th centuries. During the 17th century, they formed the skeleton of the gardens in the 'Dutch classicist' garden tradition that was characterized by a symmetrical layout with the house on the central axis.

Beyond the garden itself, it was a common occurrence for extensive systems of avenues to be planted in surrounding fields. Particularly in the sandy landscapes of the southeastern half of The Netherlands (with their extensive heathlands), estate owners often succeeded in obtaining permission to plant avenues of trees that were visible from greater distances and thus served to indicate the sphere of influence of the estate. They could extend over long distances, with the main avenue of Sot Zeist (the Slotlaan) achieving a length of five kilometres.











The Authors

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Bert Maes is a biologist and cultural historian, and the owner of the 'Maes Ecological Consultancy'. He is a specialist in native tree and shrub species, ancient woodland and historic parks, and has written several books and articles on these topics.

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AVENUES IN THE NETHERLANDS

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Avenue along a main road with new plantings within gaps

© Chantal Pradines

Avenues and land reclamation

In the flat polder lands of the north-western half of The Netherlands, many dikes and roads were planted with trees, for a combination of profit, orientation and aesthetics. The most glorious example is the Beemster, a former lake that was reclaimed in 1612 and is often described as the climax of Dutch Renaissance landscape architecture (and is as such inscribed on the World Heritage List). Roadside trees were planted from 1616 onwards, with different tree species used, but coppicing strictly forbidden. Roadside trees have been replaced several times, in 1682 by elms, later by ash trees and then again by elms.

From the Middle Ages onwards, farmers in the county of Brabant had the right to plant trees on the roadsides in front of their farms. During the 19th and 20th centuries, in turn, new roadside trees were planted in the course of many of the large heathland reclamations.

Main roads as avenues

A specific category of avenue is formed by 19th century main roads. A Napoleonic law from 1805 provided that the sides of the main roads in the Empire were to be planted with trees by the owners of the neighbouring lands. The roadsides were owned by the state, but the owners of neighbouring land were entitled to the trees and their fruit.

After 1813, the new Dutch government continued with the policy, which was accounted for in 1876 by the Minister



An avenue at 'Het Loo' with oak trees from about 1800, as well as beech renewal dating back to c. 1850. This site provides important information on how avenues were maintained during the 19th century.

of the Interior as 'for the sake of the Treasury and to make the use of the roads more agreeable'. The tree species used show regional differences, with elms mainly deployed in the lower-lying north-western half of The Netherlands, while oak and beech are planted in the sandy landscapes of the south-eastern half.

Trees species

The main avenue trees were Dutch Elm (*Ulmus x Hollandica*) and common lime (*Tilia x europaea*). Nurseries supplied these tree, in most cases hybrids, throughout the Low Countries and abroad. In The Netherlands itself, the last old elm avenues disappeared in the 20th century due to Dutch elm disease, while the last 17th-century lime avenue in Haarlem was cut down in 1960 to allow a road to be widened. Elsewhere in Europe, many old lime tree avenues

AVENUES IN THE NETHERLANDS

BERT MAES & HANS RENES

with trees originating in Dutch nurseries survive (Bengtsson, 2005). These trees show substantial morphological variation, to the extent that Bengtsson was able to discover about 16 different lime clones.

Variation also exists in the planting distances and in the treatment of individual trees (espaliered, berceaus, trees with more trunks or upward-growing trees).

During the 18th and 19th centuries, shorter planting distances were common (1 rod or about 4 or 5 meters). Avenues are often managed in a cyclical way, being replanted in their entirety from time to time. However, the few remaining old avenues with 'authentic' planting materials need to be treated with extreme care.

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- An old (c. 1890) photograph of a limetree avenue in Haarlem which was planted in 1665, only to be cut down in 1961. It was the last avenue from the 17th century remaining in The Netherlands. Notice the double stem trees, a curious fashion of the 17th-18th and 19th centuries.





AVENUES IN BELGIUM

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Historische wegbeplantingen in Vlaanderen

Historische wegbeplantingen in Vlaanderen kunnen in vijf grote categorieën onderverdeeld worden:

- Ornamentele toegangsdreven van kastelen en abdijen bestonden reeds in de 16de eeuw. Ze werden vooral beplant met linden en iepen.
- ➤ Naast de toegangsdreef waren er op de meeste kasteeldomeinen nog andere dreven, zowel binnen als buiten het kasteelpark. Deze dreven werden in de eerste plaats omwille van het hout aangeplant maar ze hadden ook een esthetische waarde.
- > Beplantingen langs rijkswegen en provinciale wegen werden vooral aangeplant omwille van het hout. In en rond de steden konden ze echter ook een ornamenteel karakter hebben. De meest aangeplante soorten langs de rijkswegen waren iepen, eiken en populieren.
- Ornamentele beplantingen in de steden: brede boulevards werden in het begin van de 19de eeuw met iepen en linden beplant. Later werden deze soorten geleidelijk aan vervangen door paardenkastanjes en platanen.
- Langs veldwegen werden in sommige regio's knotwilgen, knoteiken of populieren geplant. Deze beplantingen hadden een louter economische waarde.

Historical avenues in Flanders (northern Belgium)

Avenues present in Flanders and representing the legacy of its history can be divided into five broad categories:

- ➤ Ornamental avenues leading to castles or abbeys that already existed by the 16th century and mostly comprised lime or elm trees.
- Other (non-entry) avenues present in most castle domains, inside and outside the castle park, serving primarily in wood production, but also having aesthetic value.
- Lines of trees (most often elms, oaks or poplars) growing along national or provincial roads and mostly planted for wood production, though also serving ornamental purposes in or near cities.
- Ornamental trees lining roads or streets in cities: most often rows of limes or elms planted along large boulevards at the beginning of the 19th century, often with gradual later replacement by horse chestnut or plane trees.
- ➤ Willows, oak or poplar trees planted along rural roads in many areas for economic purposes, with wood taken regularly by means of pollarding.





Tall-grown ancient oak trees along the principal 18th-century high road between Bruges and Courtrai, near Waardamme (Oostkamp)
© Onroerend Erfgoed | K. Himpe





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AVENUES IN BELGIUM

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An early photograph of the lime avenue.

© Abdij van Tongerlo



Aerial view of the Tongerlo abbey

© Abdij van Tongerlo | G. Van de Put

One impressive example - the avenue of lime trees leading to the Abbey at Tongerlo, Westerlo, Belgium

The avenue leading to the Abbey of Tongerlo is one of the last 17th-century avenues of lime trees anywhere in the Low Countries. The old trees are of the so-called European or Dutch lime (*Tilia x europaea*), the clone of which is probably not widespread (Maes, 2006: 317). The avenue is part of a protected landscape, and has been cited since 1835 in books and lists of the noteworthy trees of Belgium (Kickx, 1835; Chalon, 1910; Waters en Bossen, 1978; De Beule & Geerts, 2005).

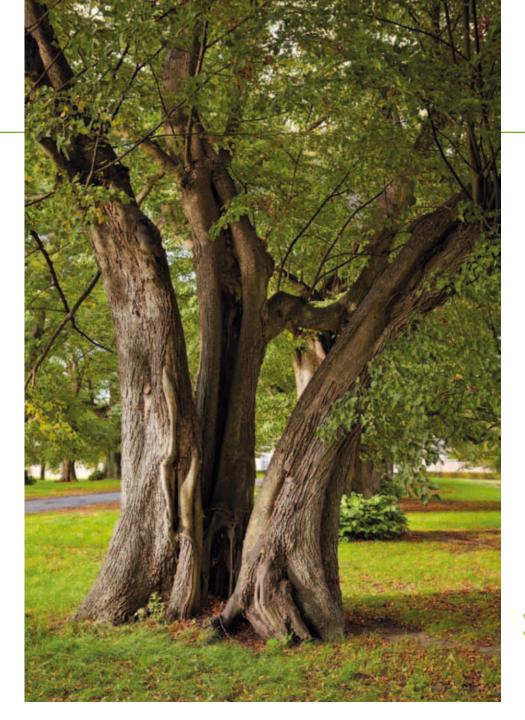
The fact that the avenue was planted in 1676 or 1677 is confirmed in the *Plantationum Liber*, a manuscript in the Abbey archive detailing planting at the Abbey in the 17th and 18th centuries. The order to plant was given by Abbot Jacobus Hroznata Crils (1625-1695), passionate advocate of avenues around the Abbey, who saw to it that many more were planted. However, the only one to survive through to the present day is the one consisting of lime trees that leads up to the Abbey entrance. Crils's successor, Abbot Gregorius Piera (1645-1723) continued with the work, *inter alia* ensuring that there was a continuation of the avenue in the direction of the village of Westerlo, around 1700. This part consisted of 6 rows of oak and beech trees.

The avenues planted by the Abbey between 1676 and 1723 formed an avenue system, planted for profit and beauty, and were typical of the type planted in this period. But out of all of those, only the lime avenue still exists today, because

its main goal was beauty and the impressing of visitors to the Abbey. The other avenues consisting of oak and beech had profit as their main goal, hence their fate of being cut, sold and replaced once fully grown (Van Driessche, 2015).

The lime avenue originally consisted of 34 trees between the road and the entrance building of the Abbey, 20 trees of which still exist today. As early as in 1835, the avenue, then about 160 years old, was described as 'magnificent' and 'astonishing', and people were recommended to go and admire it (Kickx, 1835: 14). The trees then had a circumference of 20 feet (circa 6 metres, probably measured at ground level). The current circumference of the largest tree is 5.61 m at breast height. The avenue is of course cited in the first list of monumental trees of Belgium (Chalon, 1910). At that time the trees, which have probably always been allowed to develop freely, had begun to suffer from heavy branches and old age. The trees were in good condition, but the trunks were already hollow (Chalon, 1911: 418). In 1908 a tree was felled by a storm. On postcards and pictures dating from this period, a few young trees are visible, so some of the originals had already been replaced as early as the 19th century. On these photos the crowns reach each other above the road.

During the 20th century, some more trees disappeared during storms, but the avenue still forms a monumental entrance to the Abbey. The remaining 20 trees are still in good health, though, as in 1910, somewhat fragile, given their hollow trunks and heavy branches. It is more and



AVENUES IN BELGIUM

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more the case now that each veteran tree is developing its own monumental and noteworthy aspects. They are now well taken care of by means of light pruning to reduce the risk of breakage. The original plant material will be used to replace open plant locations in this historical and still magnificent and astonishing avenue.

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Individual trees in the avenue have a monumental aspect.

© Onroerend Erfgoed | K. Vandevorst



AVENUES OF KALININGRAD REGION

ALEXANDRA KOROLEVA AND GALINA RAGUZINA

АЛЛЕИ В КАЛИНИНГРАДСКОЙ ОБЛАСТИ

П Калининградской области насчитывается 375000 деревьев (данные \mathbf{D} 2005 г.) в аллеях протяженностью 4500 км. За последние три года снесено более 12000 деревьев. Законодательно аллеи не защищены, имеются планы их полного уничтожения, как несоответствующих российским дорожным регламентам. В январе 2014 г. возникла инициативная группа, которая обратилась к губернатору с требованием остановить уничтожение аллей и содействовать их охране. Требования, изложенные в открытом письме, размещенном в Интернет, получили отклик от правительства, поддержку общественности и СМИ.

The history of the avenues and tree-lined roads in the Kaliningrad region resembles the situation in Poland and in Germany in that it goes back to the first half of the 18th century. At that time avenues went beyond the bounds of the palatial and rural parks of Eastern Prussia and appeared along the roads connecting towns, villages and farmsteads, along channels taking drinking water and on railway embankments [1].

Lines of trees became an important element of road infrastructure, protecting travellers from the sun, and from rain and snow alike, serving as landmarks in difficult weather conditions and at night. The trees planted along the main roads were oaks (Quercus robur), ashes (Fraxinus excelsior), limes (Tilia cordata), maples (Acer platanoides, A. pseudoplatanoides, A. platanoides Schwedlerii), as well as more rarely horse chestnuts (Aesculus hippocastanum) and hornbeams (Caprinus betulus). Rural roads were also planted with birch trees (Betula verrucosa), willows (Salix alba) and fruit trees. Avenues have become one of the key elements to the cultural landscape of today's Kaliningrad District, and they now represent natural and cultural heritage that forms our habitat, connects generations living in this land, and is integral to the region's identity [3].



FCODFFFNSF! Galina Raguzina and Alexandra Koroleva

Ecodefense is an environmental NGO established in 1990 and registered in 2003 in Kaliningrad, Russia.

Ecodefense strives against violations of human rights and for fundamental human rights to a healthy environment, reliable information and





public inspection. Ecodefense aims to protect the natural environment from hazardous industries and to work toward a just and sustainable human society based on democracy and care for the environment. Ecodefense works to inform the public of and involve it in environmental and social activity through environmental campaigns, actions and events, lobbying, publications, environmental education and the dissemination of information.

Ecodefense has implemented a number of environmental campaigns in Kaliningrad region, among them the protests "Stop the D6 Oil Platform" and "Stop the Baltic NPP"; the educational Naturewatch Baltic, Tree of the Year, Springway and Citizens with Ecoinitiative; lobbying to have Russia ratify the Aarhus and Espoo Conventions; and conservation activity under the slogans "I'll Save the Curonian Spit", Save the Chestnuts Days, and the Kaliningrad Avenues Protection Initiative.

Ecodefense has gained international recognition through its receipt of the Baltic Sea Foundation Award for efforts to protect the Baltic Sea Region environment (2003), the Environment for People Award as an organization actively developing cooperation with local government (2005), and the Baltic Sea Water Award for education in the field of protection of the Baltic Sea (2007).

In 2014, Ecodefense became the first environmental NGO to be labelled a "foreign agent" by the Russian government for its anti-nuclear and lobbying activities in the interests of the environment and communities.



AVENUES OF KALININGRAD REGION

ALEXANDRA KOROLEVA AND GALINA RAGUZINA



Palmnieken Yantarny Avenue, showing its development over time © Ecodefense

Avenues were created in accordance with royal decrees of that time, which not only required tree-planting, but also provided for assortment, protection and responsibility for damage. The planting of trees was subject to road construction regulations, and road inspectors were obliged to take care of trees, while damage caused to them entailed the imposition of fines and punishments [2].

By 2005 estimates, Kaliningrad District has 375,000 trees along 4500 km of roads. However, the first figure cannot be true any longer, since over 12,000 trees were cut down, according to the official data, in the three most recent years alone. Trees are cut down, just as elsewhere in Europe, in connection with road reconstruction, but also under initiatives of the Traffic Safety Inspectorate, given that "trees create a danger to people's lives, due to traffic accidents" [4].

Tree-lined roads are not under legal protection, and the regional department of the Traffic Inspectorate plans the total destruction of such avenues as not corresponding with the new Russian road regulations. In recent decades, trees have not been taken care of, except in terms of severe and brutal topping, while many of the remaining avenues have grown decrepit and become affected by disease; in many cases, due to road expansion, asphalt covering comes close to tree-trunks. Care of avenues is not a duty of the road maintenance services. New planting to replace either old or felled trees does not take place, and nor are any new roads constructed.

In accordance with the relevant regional legislation, compensatory payments for trees cut in the process of road

reconstruction - to cover the costs of planting compensatory lines of tree – are paid for from the budget of the municipality to which a particular section of road belongs. Given this, not a single case of funds being used to plant new avenues is known; there is no monitoring of expenditure from these funds; and they are often used for purposes other than the layout or improvement of greenery. Bodies neither federal (the Ministry of natural resources and environment), nor regional (Kaliningrad's Department for environmental regulation) are involved in the protection of avenues. Nor are there any known cases of punishment for damage to, or the illegal felling of, roadside trees.

In January 2014, following a series of outrageous acts of destruction involving tree-lined roads in Kaliningrad, an initiative group to protect avenues was established, bringing together citizens of various statuses and interests. The group addressed to the District Governor a call for the destruction of avenues to cease, and for assistance to be provided to avenues through the conferment of protected status as items of historical cultural and natural heritage. These demands received feedback from the local government, and wide support among members of the public and the media. Work then began on an Inventory of road trees, on regional legislation offering binding protection for the avenues, and on the preparation of seminars for road services. In collaboration with the road services, a model section of avenue with specific traffic signs and speed limits to be implemented has been selected [5].

AVENUES OF KALININGRAD REGION

ALEXANDRA KOROLEVA AND GALINA RAGUZINA

Areas in which restoration planting is to be commenced with in autumn 2015 are being identified, along with a list of avenues to be granted protected status. Under the government's proposal, the group is developing regulations to form new avenues, on the basis of the relevant experience of its Polish and German colleagues. For its part, the government undertook to monitor the spending of funds assigned for compensatory planting and paid into municipalities' budgets. The group pays special attention to the dissemination of knowledge on the role avenues play, and to the building of a positive attitude to them in society. Activists organise public lectures and seminars on the historical, cultural and natural values of the avenues, and they have initiated a school-oriented project, and are planning an exhibition [6]. In May 2015, schoolchildren of Romanovo village (Zelenogradsk district) planted an avenue of limes and hornbeams to replace an old avenue cut down for the purposes of road reconstruction.

A large part of the initiative group's activity entails work with the regional legislature, since the avenues in question do not enjoy legal protection as either cultural or natural heritage. Representatives of the road services, after several meetings with the activists and sessions familiarising themselves with practices engaged in to care for avenues that are in use in Poland and Germany, are ready to cooperate over avenue protection, though avenue care and maintenance is not so far included among their duties. The initiative group is thus supposed to develop a whole package

of draft laws, and amendments to existing laws, regulations and programs.

The initiative group is still at the very beginning of its activity. In the circumstances of a lack of sufficient experience and time to gain such experience, and facing the real threat that the avenues in the region will be destroyed, the defenders of Kaliningrad's avenues are grateful for the support received from, and the cooperation forged and skills shared with, their Polish and German colleagues of *Fundacja EkoRozwoju* (Wrocław), *Stowarzyszenie Eko-Inicjatywa* (Kwidzyn), and *BUND* (Mecklenburg-Vorpommern) [7,8].

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AVENUE PROTECTION IN EUROPE

KATHARINA BRÜCKMANN

Avenue Protection in Europe – Projects between countries

The German-Polish co-operation

Seminars and excursions

Since 2012 Bund für Umwelt und Naturschutz Deutschland Mecklenburg-Vorpommern (BUND MV) and the Polish environmental foundation *Fundacja EkoRozwoju* (FER) have been working together on a joint LIFE+ project. This included exchange of experience on all aspects to the protection of avenues and tree-lined roads, as well as the joint planting of a cross-border avenue between Mecklenburg-Vorpommern and Poland. In addition, a further goal to be worked for is further development of the international network of friends of avenues.

Such a network in fact came into operation in October 2012. Activists from Poland, the Czech Republic, Sweden, France, Germany and Hungary met in Sellin (*Rügen* Island), to attend a commemorative event for 20 years of the "German Avenues Route". Joint consultations were then held in regard to a project for avenue protection in Europe as a whole. First ideas about a 'European avenue road' were thus gathered.

A second international conference of this kind took place in September 2014 in Wrocław.

In the context of increasingly stringent demands, e.g. as regards mandatory distances between new trees planted,

participants from Poland, the Czech Republic, Russia, France, Spain, the UK, Germany and Sweden plan to be jointly active at European level, with a view to old avenues being protected and restored and the planting of new ones promoted.

Since the joint project came into being, more than 150 interested people from road and environmental authorities, the landscape architecture field and environmental organisations from all parts of Poland and (in 2015) also the Czech Republic visited Germany. The seminars and study tours covered the issues of avenue protection, including the possibilities of legal protection, compensation arrangements, tree registers, tree assessment and arboriculture.







Polish participants of the seminar and excursion in Mecklenburg-Vorpommern. Over two days they were able to discuss various subjects relating to the protection of avenues in Mecklenburg-Vorpommern, with practical examples being looked at

AVENUE PROTECTION IN EUROPE

KATHARINA BRÜCKMANN



Avenues instead of borders - Aleje zamiast granic

April 2014 saw history made as the issues of avenue protection and friendship among nations were brought beautifully together. Along a county road intersecting the German-Polish border, newly built with the help of the EU, a new avenue of 50 lime trees was planted. The planting event was organised by BUND M-V and the Green Federation (GAJA), the latter being an environmental organisation from Szczecin, which is also a partner in the LIFE+ project. two seminars were organised by *BUND* M-V with a view to those working for the municipalities becoming better acquainted with the care of young trees, in the course of two-day seminar on this subject.

New projects are being planned, and further contacts built up. This is necessary if we wish to achieve our goal – the protection of avenues throughout Europe.



The planting of this first transnational avenue was celebrated on April 16, 2014, at the border crossing between Warnik (Poland) and Ladenthin (Germany).

The Czech - German project

Another project between the Czech non-profit organization *Arnika*, *the Insula Rugia* organisation on *Rügen* Island, and *BUND M-V*, allowed for the implementation of further protective measures in the relevant countries. For example,



The seminar on Rügen Island at which the essentials of young--tree care could be learnt.

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- **Eco-Initiative Association**
- Green Federation Gaja
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