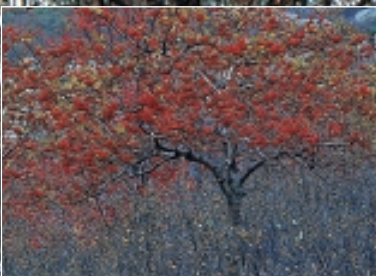




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between nature
and culture*



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 Vignette 1: Mountain ash,
 J-J. Alcalay/Bios
 Vignette 2: Beech logs, J-L. Klein
 & M-L. Hubert
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 ecomuseum of Alsace,
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 Below: Wild cherry in bloom,
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Trees, between nature and culture



There was a time when forests covered most of Europe. Since the Neolithic period humans have struggled to open up forests for their cultures and livestock, little by little gaining living space for themselves. This was a long and weary battle, won with the help of fire, the plough and the unceasing teeth and hoof of farm animals. The remaining patches of woodland in Europe have not only a great heritage value, but also a symbolic one. The forest is a representation of wilderness, of untamed nature with its unpredictable forces and its mystery.

European forests are not purely a mythical space, but also a physical reality, a large part of our territory where the natural aspects of land dominate the man-made ones, where the wood production to meet our needs is compatible with the preservation of a great part of the biological diversity of our continent. They form the green heart of Europe.

Even if most of our present forests are largely managed and not comparable with the old natural forests that once covered Europe, they are still the habitat of many species. Forest species contribute to about one-third of the biological diversity of Europe, as forest ecosystems represent the highest level of ecological structures, being complex and diverse in ecological function and form. They have a great heritage value, as areas for human recreation, as landscapes, as providers of ecological services (clean water, prevention of erosion, carbon traps to combat climate change, etc.) and as privileged stages of spiritual contentment.

Forests have also been exploited for timber and other products – mushrooms, firewood, gathering of berries and nuts, game – for a very long time. The wide variety of wood from the different tree species has been used in many forms, for buildings, furniture, tools, arms, fencing. A superb wooden heritage has been created over the centuries in Europe, exploiting the beauty, suppleness or strength of wood.

Wooden heritage reckons its years in centuries. Few materials can lay the same claim to versatility as wood. This historically sustainable material, while at the same time flexible in all its applications, has adapted itself since prehistoric times to a variety of monumental, creative and functional expressions throughout our Europe. The technical and cultural differences in its use have benefited from the capacity of wood to be transformed combined with its resistance to the erosion of time.

*Surviving for centuries in spite of irreversible decay, wooden heritage was made one of the key areas of reflection during the “Europe, a common heritage” campaign. This issue of *Naturopa* takes full advantage of the Council of Europe experience in the environmental field: biological diversity, landscape and spatial planning, together with the successful transnational project entitled “Wooden culture throughout Europe”. Experts, national committees and associations have together skilfully shaped the philosophy and knowledge at the basis of this project in a spirit of European co-operation.*

Although not denying the functional aspect of wood as a material, all the work presented here conveys some of the poetry implicit in its selection and in its symbolic meaning to those who shape it, decorate it, build with it or simply enjoy the fruits of the work of the virtuoso makers: from forest specialists to skilled artisans of musical instruments.

We are dealing with a heritage that corresponds to the craftsmanship of construction, the sociability of various forms of culture and respect for the landscape. No doubt these contributions will establish the basis and arguments for a reflection serving to implement the European Landscape Convention, opened for signature by member states in Florence on 20 October 2000.

The wooden heritage constitutes an asset whose artistic and cultural values exceed the age of creators and curators. European wooden heritage is a living heritage supporting one of the most threatened forms of cultural expression and preservation.

Bendik Rugaas

Director of Culture, Education, Youth and Sport
Council of Europe



Trees in Europe, past and present

The presence, or absence, of the main types of forest depends on a number of fairly clear but constantly changing climatic factors. As a result of the combination of these climate changes and human activities, the vegetation that we see around us today is quite different from what it was in the (geologically speaking) very recent past.

The main types of European forest

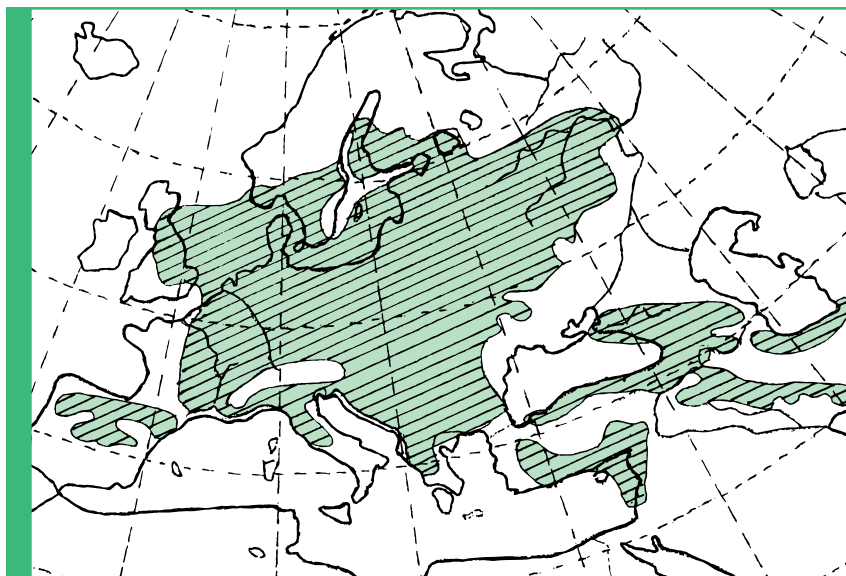
In 1968, the German phyto-geographer, Jäger, showed that the potential range of the deciduous forest characteristic of much of Europe could be defined by the following parameters: more than 120 frost-free days, precipitation over 500 mm, average January temperature below 4°C and average July temperature above 15°C. A similar surface area is occupied by the same type of forest in eastern Asia and eastern North America and, although it is far from being the most widespread form of vegetation in the world, deciduous forest is familiar to large numbers of people because so many of the world's major cities are located in these zones.

Losing leaves in winter is costly for a tree. This option is only justified where winters are too harsh to keep normal leaves. Furthermore, if summers are too short or too cold, deciduous trees cannot compensate sufficiently for the lack of leaves in winter, and this gives conifers an advantage. Conifer needles resist frost and permit photosynthesis in all seasons, as soon as conditions allow. It is for this reason that northern Europe is a region of boreal forest, or taiga, which boasts very few species but occupies vast tracts of Siberia and Canada.

If winters are mild, there is no reason for trees to lose their leaves. This is the case in oceanic climates where the ocean acts as a buffer reducing the variation between summer and winter (winters are mild but summers are not very hot). In our latitudes the vegetation which is most suited to this type of climate is a conifer forest resembling the taiga in many ways but containing trees which, generally, are not resistant to winter cold.

Currently, the only place where this type of forest is found in any great quantity is America's Pacific coast. Here we find pines, firs and spruces but also species which do not cur-

accompanied by bushes which are also adapted to drought and which, when conditions become too harsh for trees, particularly as a result of human activity (repeated felling, for-



Potential zone of deciduous forest in Europe according to Jäger's climatic criteria. Since the Ice Age this forest also covers the extreme west where a coniferous forest has disappeared. In the south it is replaced by the Mediterranean forest, in the north by a boreal forest of conifers and to the east by the steppe.

rently exist in Europe such as thujas and sequoias.

Climatically, this forest type should also be found in the extreme west of Europe and it is noticeable that trees imported from the Pacific coast such as *Sequoia sempervirens* and the Sitka spruce thrive in these areas. Fossils have been found of similar trees existing in Europe right up to the end of the tertiary period but, as we will see further on, they were wiped out by successive ice ages.

A fourth type of forest is found in southern Europe, which has a distinctive climate matched only by that of California and some regions of the southern hemisphere. This is the Mediterranean climate, which is a variant of the oceanic climate with long, hot and very dry summers. This climate is still suitable for certain conifers (particularly pines), but they are less abundant than flowering evergreen trees which are particularly adapted to summer drought such as the holm oak and cork oak. These are

est fires), end up being the only vegetation, thus creating an expanse of scrubland.

In eastern Europe, in Ukraine, the deciduous forest is dotted with pines before thinning and finally giving way to a grassy steppe owing to a lack of rain (less than 500 mm per year).

Changes in Europe's vegetation

The last ice age ended only 10 000 years ago. At its height, 20 000 years ago, northern Europe (the whole of Scandinavia, most of the British Isles and northern Poland) were totally uninhabitable, being covered by a thick icecap. South of the ice was tundra. In western Europe, trees were found only in the Iberian peninsula and even here they were so scattered that the only pockets of real forest left were in the eastern Mediterranean, beginning in Corsica and Sardinia, and around the Black Sea and the Caspian Sea.

The highly unsuitable conditions for trees in western Europe and the fact

that it was difficult for vegetation to migrate southwards because of the Mediterranean and the east-west orientation of a number of mountain chains (the Pyrenees and the Iberian and North African chains) explains why Europe's oceanic conifer forest failed to survive.

When the climate heated up again, Scots pine, birch, and other northern species were the first to spread northwards to replace the tundra and then repopulate the areas left bare as the glaciers melted. They were followed by an impoverished deciduous forest emerging from its refuges in the eastern Mediterranean.

Two species of oak, the Durmast and the common oak, were to dominate this forest and occupy not only the area where the climate was now ideal for this type of vegetation but also the extreme west of Europe where they were no longer in competition with the oceanic conifers which had all died out in the ice age. Three-thousand five-hundred years ago the beech began to compete with the oak, and thus appeared in northern Europe only very recently, at a time when Neolithic farmers had long since begun to clear the most fertile land.

Regions such as the plains and hills of north west Europe, where the forest was practically the only natural veg-

KHM, Wien



Deciduous forest opened up by extensive pastureland: a frequently observed landscape from the Middle Ages to the 19th century (P. Bruegel – The peasant and the nest robber, 1568, Vienna, Museum of Art History)

etation (except for coastal dunes, some marshlands and the steepest cliffs), were transformed by human activities into vast areas of arable land or pasture. Generally speaking, only the least fertile or most inaccessible areas were left as forest.

From the Middle Ages on, except in areas reserved for royal hunts, the forests which did not completely disappear were given over to intensive

logging and extensive grazing and became very sparse.

It was only in the last century that governments saw the economic benefits of forest management and timber production as compared with extensive grazing. The image we have today of a growing forest, created above all by the dense conifer plantations we see around us, with agriculture confined to the most fertile soils, is very different therefore from the world of our ancestors, with its constant transitions between arable land, pastures and sparse, grazed forests.

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This article is a summary of the author's contribution to the proceedings of a colloquy entitled "L'arbre entre nature et culture", published in 2000 by the Sart-Tilman open air museum (University of Liège).



J.-L. Klein & M.-L. Hubert

A boreal forest of conifers, pines and reindeer lichen ground cover, Norway

Are Europe's forests in danger?

There is a common perception that Europe's forests are in danger: polluted, shrinking, subject to fires, disease and intense public pressure, over cut, losing biodiversity. Some of these perceptions are true, at least in part, others demonstrably false. In this article I will attempt to summarise the situation on the basis of public objective data. Unfortunately, but inevitably, this "objective" data will also distort the truth as it is collected at the national level, and summarised for a continent as a whole, and thus conceals wide variations between forest types, climate conditions and other factors.

This article is mainly based on the recent publication *Forest Resources of Europe, the Commonwealth of Independent States (CIS), North America, Australia, Japan and New Zealand* (UNECE/FAO, 2000), also known as TBFRA 2000, which brings together, as a contribution to the global Forest Resource Assessment 2000, led by FAO, the best available data on all aspects of the forest resources in the region covered. The ultimate sources are national forest inventories, whose results have been standardised to fit international definitions. For further information, readers are referred to this publication, which is also available on the UNECE Timber Committee website (<http://www.unece.org/trade/timber/welcome>).

This article presents data for Europe¹ and the CIS², following the United Nations classification. There are enormous differences between forest conditions in these two regions, which are made clear below.

What is a "forest"?

A forest can be defined as an ecosystem, a type of land cover, or as a form of land-use, and is sometimes a legally binding land classification. Some definitions of "forest" include only natural ecosystems, others include some land without any trees at all. All of these definitions have their specific uses. However, the only feasible definition for international statistics is one based on tree cover, i.e. what percentage of land is covered by trees. The definition adopted, world-wide, by FAO, and used here, considers land with a tree cover of over 10% as "forest". Natural forests and plantations are both included, as are areas temporarily without trees, notably after harvest and before regeneration.

Are the forests shrinking?

Nearly one third of Europe is covered by forest and over 40% of the CIS. Russia's resource of 851 million ha is the largest in the world. Furthermore in Europe, since the beginning of the 20th century, with the exception of war time, Europe's forests have been expanding, through plantation programmes and, above all, natural extension onto former agricultural land. This counterbalances the loss of forest to other uses, notably infrastructure and housing. It usually requires official permission to transform forest land to other uses. In Russia, it is likely that the area of forest is roughly constant.

Are the forests natural?

In Europe, most of which has been densely populated for millennia, less



than 5% of the forest is "undisturbed by man". With the exception of remote boreal and mountain areas, there have been no significant truly natural forest areas in Europe for several hundred years, as the spread of agriculture cleared forests. Deforestation in Europe was stopped in most countries in the second half of the nineteenth century and the first years of the twentieth. On the other hand most of Europe's forests are considered "semi-natural", with mixed, mostly indigenous, species and no intensive silviculture. In fact, they are a key element of Europe's cultural landscape, and ecological heritage. In Russia however, the vast majority of the forests, notably in Siberia, are truly "undisturbed", natural ecosystems.

Are the forests being over-cut?

Just over half of the annual growth of Europe's forests is harvested, so that the volume of wood contained in the forests is growing steadily. In Russia, only 14% of the growth is harvested. As a consequence, the forests of Europe and the CIS are sequestering large amounts of carbon, about 540 million tons per year, compensating for about one third of the carbon emissions from deforestation in the tropics.

Key data on forests of Europe and the CIS

	Unit	Europe	CIS
Forest area	1000 ha	175 829	855 739
Forest cover	%	31.1	40.1
Change in forest area	1000 ha/year	+ 128	..
Share of private ownership	%	54.8	0.0
Share "undisturbed by man"	%	4.5	87.7
Harvest /growth ratio	%	55.9	14.4
Carbon sequestered (increase in carbon store)	Pg C/year	0.11	0.43
Area certified (2001)	1000 ha	53 016	185
Natural regeneration	% of total regeneration	31.1	37.7
Area burned (average 1993-97)	1000 ha/year	194	845

Source: UNECE/FAO



Emportes/Jerrican

Forest fire in the Côte d'Azur region, France

Who owns the forests?

Over half of Europe's forests are owned by private individuals, mostly farmers, but increasingly by absent urban owners, and a few forest industries. The share of privately owned forest is increasing due to restitution and privatisation in transition economies. In the CIS however, all forest is still publicly owned.

Are the forests threatened by fire and pollution?

Fire is a significant problem in southern Europe, where fragile Mediterranean ecosystems, degraded over centuries and made more vulnerable by rural depopulation and tourism pressures, as well as social tensions, are prevented from re-establishing a sustainable productive path by periodic fires, which burn nearly 200 000 ha, on average, every year. Huge areas burn every year in Russia, with catastrophic fires in years of bad climatic conditions, such as 1998 when over 7 million ha of forests were burnt. It is feared that the frequency of catastrophic fire years in Russia could increase with climate change, leading to significant damage if protection is not improved.

It has been known for over a century that intense pollution can harm trees and forests and this phenomenon is

observable in some parts of Europe. However, measurements taken over the last decade or so, have revealed significant defoliation over wide areas. The significance and causes of what is clearly a multi-causal phenomenon are however not yet clear.

The most recent annual forest condition survey, by the ICP Forests, summarised its results as follows: "Extreme weather conditions, parasites and air pollution wreak havoc on the crowns of a quarter of all trees. ... And despite steep cuts in sulphur pollution, past emissions continue to take their toll on forest soils. Both nitrogen and sulphur cause acidification when soils become saturated. The problem is particularly acute in central and western Europe, but less so in Scandinavia and south western Europe."

Is forest biological diversity decreasing?

There has been widespread concern about reduced biological diversity, attributed to modern silviculture, notably even-aged monocultures, and other pressures. It is not easy to define or measure the status, and still less the changes, in biodiversity, on a national or regional level. It is however clear that the area of forest protected for the conservation of biodiversity is increasing. As there is so little truly undisturbed forest to protect in Europe, attention is increasingly focused on biodiversity conservation and enrichment in managed forests, notably through protection and management of key habitats for particu-

lar species. At the genetic level, TBFR 2000 found that nearly a third of forest regeneration in Europe was considered natural regeneration. Furthermore, of the planting material used, 85% in Europe and 100% in Russia were of indigenous species.

Are Europe's forests certified?

Systems to certify that forest products come from sustainably managed forests have been one of the major developments of the 1990s. As of summer 2001, 53 million ha of forest in Europe had been certified by one or other of the major competing systems, FSC (Forest Stewardship Council) or PEFC (Pan-European Forest Certification). There has been exponential growth of the area certified over the past 3-4 years, which is expected to continue.

Conclusions

The above short overview indicates that unlike other areas, where deforestation and unsustainable forest management are frequent, the situation of forests in Europe and the CIS is not as bad as frequently perceived: Europe's forests are expanding in area, while harvest is much less than growth, and action is being taken in many sectors to promote sustainable forest management, although there are of course several areas of serious concern, notably with regard to fire, and the consequences of pollution.

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J.-L. Klein & M.-L. Hubert

Cork oak, one year after a forest fire

- 1 Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, the "former Yugoslav Republic of Macedonia", Turkey, United Kingdom, Yugoslavia.
- 2 Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

Co-operation for the benefit of European MCPFE and Environment

MCPFE - The Ministerial Conference on the Protection of Forests

During the last decade Europe has taken major steps on the path towards sustainable development. One of the processes that works towards this goal is the Ministerial Conference on the Protection of Forests (MCPFE). The MCPFE is a high-level political initiative for the purpose of addressing not only pan-European opportunities but also the threats related to forests. Forestry concerns involve around 40 European countries (including the European Community). In addition, a number of observer countries and international organisations participate in this initiative.

The MCPFE has always intended, and still continues, to tackle the most relevant forest and environment related policy issues. Solutions are developed in a joint and consensual effort. Through three Ministerial Conferences on the Protection of Forests – Strasbourg in 1990, Helsinki in 1993 and Lisbon in 1998 – a series of common instruments and measures for forests and forestry were agreed on at ministerial level.

Twelve resolutions were signed so far addressing all pillars of sustainable forest management (SFM). The knowledge of forest ecosystems was significantly increased through the implementation of the Strasbourg resolu-



P. Carbiener

S1	European Network of Permanent Sample Plots for Monitoring of Forest Ecosystems	H2	General Guidelines for the Conservation of the Biodiversity of European Forests
S2	Conservation of Forest Genetic Resources	H3	Forestry Co-operation with Countries with Economies in Transition
S3	Decentralised European Data Bank on Forest Fires	H4	Strategies for a Process of Long-Term Adaptation of Forests in Europe to Climate Change
S4	Adapting the Management of Mountain Forests to New Environmental Conditions	L1	People, Forests and Forestry – Enhancement of the Socio-Economic Aspects of Sustainable Forest Management
S5	Expansion of the EUROSILVA Network of Research on Tree Physiology	L2	Pan-European Criteria, Indicators and Operational Level Guidelines for Sustainable Forest Management
S6	European Network for Research into Forest Ecosystems		
H1	General Guidelines for the Sustainable Management of Forests in Europe		

tions including the development of many Europe-wide programmes and networks created as a follow-up. The implementation of the protection and sustainable management of forests in European countries was initiated through the Helsinki Conference. For instance a reporting tool was set up through the *Criteria and Indicators* for SFM. In addition, co-operation between the east and west of Europe was fostered. Socio-economic aspects of SFM were put on the agenda of European forest policies through the Lisbon Conference and pan-European operational level guidelines for sustainable forest management were promoted for the sub-national level.

The 12 resolutions adopted at the three Ministerial Conferences and the related follow-up work is the result of a dynamic and co-operative approach. One example being the co-operation with Environment for Europe – the ministerial process initiated by the European Ministers of Environment.

Environment for Europe and the collaboration with the MCPFE

The Environment for Europe process is a political framework for co-operation on environmental protection in Europe. It regularly brings together Environment Ministers at pan-European conferences to formulate environmental policy. In Sofia in 1995, at the 3rd Ministerial Conference, ministers endorsed the Pan-European Biological and Landscape Diversity Strategy (PEBLDS) as a co-ordinating framework for efforts to conserve nature and landscape throughout Europe. The PEBLDS is structured into

five-year Action Plans. The 1996-2000 Action Plan was divided into 11 action themes including one for forests.

In the context of this Action Plan and the follow-up work of the Helsinki Conference of the MCPFE, the “Work Programme on the Conservation and Enhancement of Biological and Landscape Diversity in Forest Ecosystems 1997-2000” (or Biodiversity Work Programme) was elaborated as a joint effort of the MCPFE and Environment for Europe in 1997. This programme was subsequently endorsed by the ministers responsible for forests in Europe at the 3rd Ministerial Conference in Lisbon in 1998, and at the 4th Ministerial Conference of Environment for Europe (Århus/Denmark, June 1998). The implementation of the work programme was co-ordinated and discussed in an MCPFE *ad hoc* working group on “Biodiversity, Protected Areas and Related Issues”. The final report summarises information on 193 initiatives at supra-national, national and sub-national levels, which contribute to the implementation of the respective actions of the programme.

The co-operation of the MCPFE with Environment for Europe is therefore a good example of the importance of creating synergies when striving towards the protection and sustainable management of Europe’s forests.

Implementation of work stages

Through an evaluation of the implementation of the Biodiversity Work Programme, the MCPFE identified the necessary steps regarding biodiver-

forests for Europe

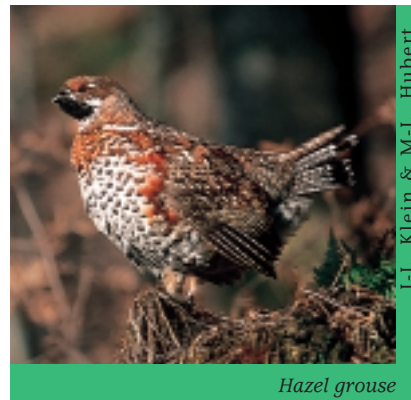
sity. These include focusing on the work on protected and protective forest areas (PFAs) in the pan-European region with the intention to facilitate a common understanding among European countries. An MCPFE classification of protected and protective forests has been produced, their selection and the setting up of networks of PFAs is still to take place. The contribution to the improvement of biodiversity indicators – general work on the improvement of MCPFE indicators for SFM is currently being worked on – is another focus in this field.

The implementation of ministerial decisions through an overall MCPFE Work Programme is a key element of the MCPFE efforts and gives a clear picture of the achievements and further steps for the protection and sustainable management of forests in the pan-European region. The structure of the MCPFE Work Programme follows the three aspects of sustainable forest management – the ecological, economic and socio-cultural dimensions – and deals with them in a comprehensive way. However, successful work on the implementation of the MCPFE Work Programme would not be possible without co-operation with existing international scientific and technical institutions and organisations working in the field of forestry.



Bordeaux cepe mushroom

J.-L. Le Moigne/Bios



Hazel grouse

J.-L. Klein & M.-L. Hubert

Future Ministerial Conferences

In proceeding towards the next Ministerial Conference of the MCPFE, which is scheduled for 28-30 April 2003 in Vienna (Austria), an initial discussion on emerging issues of high political relevance for the MCPFE has already taken place. This includes biodiversity issues, national forest programmes, a further strengthening and collaboration between eastern and western Europe and the importance of the manifold cultural and spiritual aspects of sustainable forest management for future generations. In addition tasks related to the global forest debate could play an important role. This includes the co-operation of the MCPFE with the PEBLDS process in order to contribute to common European views and experiences in the forest-related debates of the Convention on Biological Diversity.

At the same time Environment for Europe has scheduled its 5th Ministerial Conference for May 2003 in Kiev (Ukraine). Both processes have reaffirmed the importance of their future co-operation with regard to forest biodiversity issues. This should be highlighted once more at both the Ministerial Conferences in Vienna and Kiev in 2003.

The efforts made towards the protection and sustainable management of forests in Europe up until now have brought about a stimulating exchange of opinions and ideas. They have enhanced mutual awareness and understanding of the multiple and diverse problems and drawn attention to the circumstances of the participating countries, organisations and institutions. And, most important, have resulted in valuable achievements.

Peter Mayer

Head of the Liaison Unit Vienna

Christoph Wildburger

Expert on Conservation Issues

Ministerial Conference on the Protection of
Forests in Europe (MCPFE)

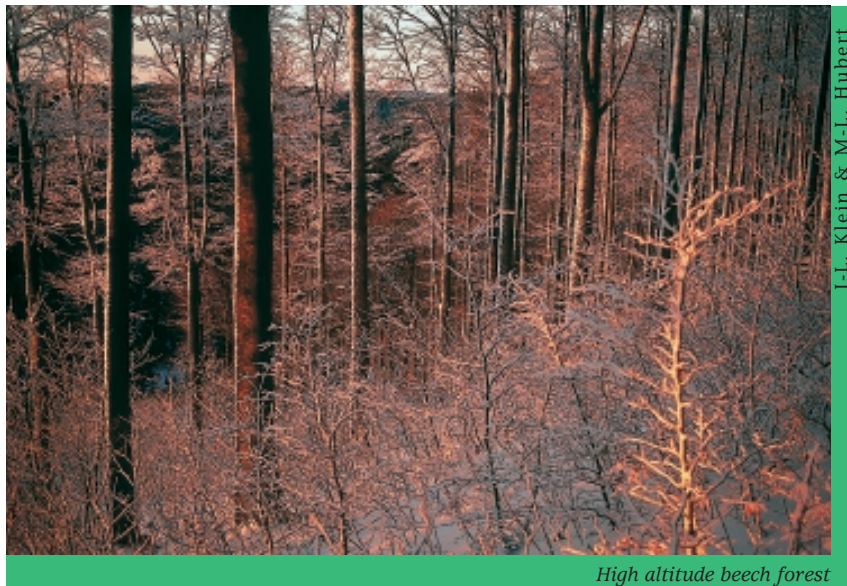
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High altitude beech forest

J.-L. Klein & M.-L. Hubert

Forests full of life

Since Europe was a forest, forest habitats are of the utmost importance for the continent's animals and plants. For example, almost half of all species in Finland and Sweden, and two-thirds of all species in Poland, are regarded as forest dwelling species.

In all, there are tens of thousands of forest species in Europe. They are mostly insects and invertebrates, as in the world in general. But the monarchs of the European species are also forest dwellers. Large grazers like elk, forest reindeer, red deer and the last European bison live in the forests, as do the last bears. It is interesting and understandable that words and phrases associated with hunting, forests and silviculture are intertwined with many European languages. The largest of our livestock also originate from forests – aurochs and wild boar. These were tamed long ago and have been hunted by man from the Stone Age onwards.

The distinctive nature of European ecosystems is often forgotten. Many dominant species of the European forests are virtually restricted to Europe. Trees like European beech and holm oak are not found further east than the Black Sea or the Caucasus. The English oak does not survive further east than the Ural Mountains, just on the border of Europe. European hornbeams still thrive in the Caucasus but no further into Asia.

Habitats and plant associations are indeed very European and thus it is solely the responsibility of European



H. Reinhard/Sunset

Pine marten

countries to safeguard their future. Moreover Europe is home to a number of restricted range endemic species.

Species in trouble

The violent change in forests over the last few centuries is demonstrated by the great number of species on the verge of extinction. Many species are

about to disappear from several European countries, perhaps from the whole continent. Europe has already lost the wild horse or tarpan and the European bison, which was later successfully reintroduced to forests from zoos. The capercaillie has also been reintroduced in countries and areas from where it had disappeared.

As part of a new UNECE/FAO assessment of the temperate and boreal forests of the world (TBFRA 2000), unique data on forest dwelling species was gathered for the first time. The number of threatened taxa is alarmingly high. Among mammals 20-50 %, and among birds, 15-40 % of the forest dwelling species were categorised as threatened. A typical European country harbours dozens of endangered mammal and bird



The stag beetle is well defended against natural foes but not against manmade forest destruction, from an illustrated dictionary of natural history, 1833 Edimedia

species! In many countries the proportion of endangered mammals and birds was over 40 %. The situation was almost as bad for the lichens, mosses and vascular plants, in some countries nearly half of the forest-associated lichen species were at risk.

In Europe, the Nordic countries have compiled the most up-to-date statistics on forest species threatened by extinction. These statistics make gloomy reading. In new lists of threatened species in Sweden and Finland, published in 2000, the forest is the habitat, together with cultivated areas, with the highest number of threatened species. Forestry poses the most imminent threat to the forest-dwelling species. Forest managers tend to be tidier than nature likes, removing dead and hollow trees, fallen branches and the like.

Many of the native tree species in Europe even seem to be endangered. The situation is most alarming in the Balkan peninsula, with Macedonia, Bosnia Herzegovina and Albania each having 10-20 different endangered native tree species. There are several reasons for this situation. Wych elm and smooth-leaved elm have gone into decline due to Dutch elm disease. Wild forest fruit trees are in decline because of forestry and a lack of protection. Repercussions from the loss and increasingly homogenous state of European forests are shown in the



Brown bears still find berries in the large forests of northern Europe and the mountain ranges of continental Europe
Alpine brown bear, Comte de Buffon, 1848
 Edimedia

decline in bird populations. Peninsular European countries in particular have witnessed a loss in their bird species. A good example is the fate of the woodpeckers in Europe: the highest woodpecker diversity is now concentrated in eastern Europe, especially in mountainous areas.

Europe's large carnivores depend heavily on forests

Europe's largest populations of lynx, wolf, brown bear and wolverine are to be found in forested areas. Also, the rare and extremely endangered

Iberian lynx finds shelter amongst the scrublands of Spain and Portugal.

The range of the bear, wolf and Eurasian lynx extends to Fennoscandia and the Baltic countries in the west. In southern and western Europe, these large carnivores are only found in some mountainous areas. The Carpathians are an especially important abode for them: the bear population in these mountains accounts for almost 50 % of the European population outside Russia.

The preservation of forests as a wilderness is extremely important for large carnivores. Furthermore intensive forestry expansion usually means the establishment of a road network which facilitates not only legal, but also illegal, hunting.

From "Insight into Europe's Forest Protection", WWF Report
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Capercaillie

Wiping out suitable forest habitats has led to the disappearance of the capercaillie from many of its traditional areas in Europe. The population in Scotland was already extinct by the end of the 1700s, although it was later reintroduced. Reintroduction has also been the only solution in parts of Germany and some other European countries.

The capercaillie needs relatively open coniferous pine, fir or spruce forests. Bilberry undergrowth is important for the species, the capercaillie and its chicks eat the berries and the chicks also eat insect larvae. In southern Europe, it is also found in hardwood forests.

The Carpathians and the Alps are strongholds for the central European population, which consists of increasingly isolated populations. If the area of suitable forests is further reduced, local extinction and a reduction of the range of the species will be the result.

Stag beetle

The biggest beetle in Europe is a forest dweller. The stag beetle (*Lucanus cervus*) has declined nearly everywhere, because it lives in old deciduous forests. The larval development takes place in decaying oak wood – the larvae usually eat wood for several years before developing fully.

The stag beetle is close to extinction in the Czech Republic and in several German states, and entomologists report a decline in Hungary, Portugal, the United Kingdom, Switzerland and Sweden. In Italy, the situation may be better.

The beetle is protected under the Habitats Directive (Annex II) and the Bern Convention (Appendix III). Habitat protection and a sufficient amount of dead oak wood are the only way to save the stag beetle. The species will probably fail to survive without the preservation of large natural oak and mixed oak forests.

The European Diploma and forests

The European Diploma of Protected Areas has been awarded since 1965 by the Committee of Ministers of the Council of Europe for five year renewable periods to natural or semi-natural areas or landscapes of exceptional European interest from the point of view of biological, geological and landscape diversity which are protected and managed in a manner that ensures the long-term conservation of their natural and landscape assets. Most of the 60 holders of the diploma, which are located in 23 different countries, include forest ecosystems, and some actually consist almost entirely of forest.

Diversity of the forests

Diploma holders relating mainly to forests include:

- in western Europe, the Bayerischer Wald (Bavarian forest) national park on the German-Czech border and the nature reserve of Siebengebirge in Germany, the national park of Seitsemien in Finland, Muddus national park in Lapland, the national park of Port-Cros in France, the nature reserve of Sasso Fratino and the Abruzzi national park in the Apennines in Italy.
- in central and eastern Europe, the national reserve of Berezinsky in Belarus, the reserve of Kostomuksha in the Russian Federation, the transfrontier area of the national parks of Poloniny in Slovakia, Biescady in Poland and the Carpathian biosphere reserve in Ukraine, this last being home to the largest virgin beech plantations in Europe.

The example of the Białowieża/ Belovezskaya primary forest which extends across the territory of two national parks (Białowieża in Poland and Belovezskaya Puszcza in Belarus) deserves a special mention as it is the last major vestige of the temperate vir-

gin forests of times past that once covered the plains of Europe. This timeless, unique landmark forest with its very old and remarkably large, majestic trees – a real sanctuary for wildlife including a whole range of large animals such as lynx, bison and wolves – is a place of tales and leg-

Exemplary regions

Because of the quality of their heritage and the status and prestige they enjoy, the areas holding the diploma are unique sites for:

- conserving and managing in a sustainable way the biological diversity of forests



Boreal forest of the Kostomuksha Reserve, Russian Federation, beaver lodge in the foreground

ends, where traces of human presence down through the centuries remain. Dobročský national nature reserve in Slovakia is another example of an intact virgin forest in the western Carpathians.

Such forests are part of Europe's scientific, historic and cultural heritage.

Situation of the forests

Analysis of the situation of the forests in the diploma-holding protected areas shows that they vary greatly in terms of ecology, status and purpose.

Some of the forests are worked on a limited basis, mainly for traditional pursuits. In others, conservation only is important: they are not worked in any way and are left to develop naturally. These unworked forests are of great ecological value and are vital to the conservation of the biodiversity and genetic stock of Europe's forest heritage. The Bayerischer Wald national park is a particularly good example: forestry operations were gradually stopped and nature was left to develop according to its own rules. The forest in Sasso Fratino reserve is another key example from western Europe of nature having been allowed to take control again. The establishment of an integral reserve on the initiative of scientists and foresters alike reflects an ambition of European significance.

and their landscape and symbolic aspects, while maintaining a key ecological equilibrium;

- monitoring and studying natural processes and interactions, which offer valuable insights for developing nature-friendly forestry methods;
- educational promotion among the increasing number of people seeking intact environments.

They are also regarded as special regions, in particular in the case of forests outside protected areas, for:

- promoting methods of use of resources, in particular for forestry, hunting and tourism, that cause the least disruption to the forest ecosystem and are based on the principles of ecological management;
- developing a partnership with local bodies and groups in order to increase their awareness of the irreplaceable heritage value of Europe's forests.

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This article is based on details from the study of forestry management in the European Diploma holding regions by Didier Carbiener (1999).



Bayerischer Wald National Park

Dead wood is a characteristic element of natural forests

An example outside Europe

Trees and the law in Brazil

Brazil's very name comes from a tree, the Pau-Brasil tree.

In 2000, it was 500 years since white-skinned people had first set foot in Brazil. The original inhabitants were Indians who lived in the forests and cleared the ground of trees only when really necessary. Their agriculture was nomadic, although they did clear small areas. The colonisers started to clear larger areas and to export the timber. During the colonial era, rules were laid down on tree felling, such as the regulations on the Pau-Brasil tree, which date from 1605.

The Forestry Code was only drawn up in the 20th century. The first version came out in 1934, and the current one dates from 1965. Some amendments were made in 1989, 1999 and 2000.

The Brazilian Constitution adopted in 1988 turned the spotlight on the environment issue. Article 225 states that protected areas may only be altered or done away with by law. Any use that jeopardises the features on account of which they were designated as protected areas is prohibited. Brazil's Amazonian rainforest is part of its national heritage. The conditions for any use of the forests must guarantee the preservation of the environment, and this extends to the use made of natural resources.

The content of the Forestry Code

The Forestry Code instituted two categories of specially structured forest management: "permanent conservation forests" and "statutory forestry reserves".

Permanent conservation forests

Permanent conservation forests (*florestas de preservação permanente*) are designated to protect both water and mountain areas. Examples of the requirements of the Code are that river banks have to be wooded for a minimum width of 30 metres and a maximum of 500 metres, while the areas around springs have to have 50 metres of woodland. Mountains have to be wooded above 1,800 metres. No payments are made for compliance. Observance of the rules is frequently lacking in urban areas, where watercourses sometimes overflow as a result.

According to the first national report written for the Convention on Biological Diversity, the area of forests cleared in the Amazon region increased from 78 000 km² in 1978 to 470 000 km² in 1994, equivalent to 12 % of the original area of Amazonia.

Statutory forestry reserves

Statutory forestry reserves were created in order to conserve a percentage of the surface area of each property as woodland. The figure is 50 % to 80 % in Amazonia and 20 % in other regions of Brazil. The reserves are created for an indefinite period and access is free of charge. The Brazilian president proclaimed a provisional measure enabling the wooded percentage of reserves to be increased from 50 to 80 % in Amazonia, but MPs are very reluctant to approve this measure because of the agricultural properties included.

Act No. 9.605/98 provides for criminal penalties (one to three years' imprison-

P.P.L. Image/Sipa Image



Aerial view of the Amazon

ment and a fine, or six months' to one year's imprisonment and a fine) for anyone failing to protect permanent conservation forests. The Act also created criminal liability for legal entities.

The Protected Areas Act

Brazil passed its Protected Areas Act in 2000, terming such areas "conservation units". Firms applying for permits to set up inside the designated areas whose activities, according to an environmental impact assessment, are considered likely to cause significant damage to the environment, are obliged to contribute 0.5 % of the sum it is planned to invest in the creation or maintenance of the conservation units (nature parks, biological reserves, etc.).

Remedies

Court action to protect the forests has become much more frequent over recent years. "Civil public actions" were created under Act No. 7.347/85. Applications may be made to the courts by the public prosecutor's office, by environment or consumer protection associations or by the authorities in charge of federal states, regions or municipalities. No-fault liability for damage to the environment, introduced by the 1981 National Environment Policy Act, has led to many such forest protection cases being brought.

An obligation to provide information via the official press and regional newspapers has still to be introduced, however, as part of the procedure for obtaining permits to clear forests. Then, when permits are "transparent", the public will have a chance to monitor the deterioration of Brazil's flora and fauna.

Paolo Affonso Leme Machado

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Coskun Aral/Sipa Image

Transport of timber

The relationship between the human race

In this day and age, we are aware that the environment, and woodlands in particular, are only partly natural. Although town dwellers who visit woodlands have the impression that they are rediscovering their “roots” and getting back to nature, human influence has very much shaped their environment in virtually every wooded area. To find truly “natural nature”, they would have to go to one of the very few European sites of exceptional ecological interest, such as Slatiora, in Bucovina (Romania). There, nothing is regulated and there is no human intervention: all species and ages coexist, and dead trees merge with the ground as they rot in a joyous, centuries-old ecological balance. It is an impressive sight!

An extravagant use of forest resources

In fact, it is largely human activity over the long term that determines tree populations and species selection. This makes clear the meaning of the “culture of wood” idea. The relationship of human beings with wood has not always given rise to harmonious management of natural assets. We should not forget the systematic clearing of whole forests back in Roman times, wherever it was decided to site towns, or during the search for both fuel and building materials.

In the 17th century, peasants were still chopping down centuries-old beech trees in the mountain forests of the Pyrenees, in southern France, but



P. Rocher/Jerrican



Wooden mountain chalet

Zintzmeyer/Jerrican

only making use of the branches. They left the tree trunks where they fell, unable to cut them up or transport them because of their size. The same ecological drama is being played out on a daily basis in the Sahel, involving the last of the giant baobabs.

There are still certain regions where the illusion that wood is abundant causes people to behave in ways that can hardly be described as economical. In the Carpathians, some “resonance spruce trees”, known for their good acoustic qualities for three hundred years, are still going up in smoke on country dwellers’ fires. The same kind of wood was systematically requisitioned by the Austrian forestry authorities in the 19th century for use by the manufacturers of musical instruments.

France’s extensive oak forests were managed by the royal authorities between 1669 and the Revolution of 1789. Peasants were denied access, so they stole branches or built their homes of other materials. This shows that local people do not necessarily make use of a “naturally available” material just because it is present. Nature proposes, and human beings dispose. In the 18th century, the effects of an architectural style that favoured the use of stone for building were visible in Picardy in France, an area where villagers had previously built with wood or clay. There was no

difference in material availability from one period to the next; it was just the users idea of their buildings that differed.

The use of timber for religious buildings in central Europe often used to be the result of occupiers’ prohibitions, such as that issued against the Orthodox churches by the Catholic Hungarian authorities, for example.

In Romania during the latter part of the 20th century, the systematic use of timber for house-building in mountain areas was often just as much a reflection of an emblematic attachment to wood as a building material as it was of the constraints of an economy in straitened circumstances. If country dwellers have the choice, they often prefer bricks and mortar, or even to imitate bricks and mortar by applying cement to the outside of their homes.

Building with a living material

Yet in many cases, builders deliberately opt to use wood, and do not use it because their desire for mineral materials has been frustrated. People who build with timber are using a living material, with fibres that move and breathe in a manner comparable with the human body. Various societies offer plentiful examples of terms for describing wooden architecture that point up the symbolic similarity between areas of the body and parts of the timber home. Tradi-

and wood

«Touch wood»

tional rural homes in Lorraine are based on a timber framework popularly known as the man who stands and holds the building up (“l’homme debout”).

Vernacular architecture in some French regions during the 17th and 18th centuries made use of a wooden frame to provide a flexible arrangement of space and for the sake of building “mobility”. Timber houses in regions such as Bresse and Alsace were regarded as movable, not immovable property. It was easy to share them out or move them if the owner died or a new owner acquired them. And many buildings can be rolled along, or slid along on wooden rails, as observed by the working group on wooden culture held in May 2001, in Ieud, an attractive village of Maramures, Romania.

Traditions and modernity

In Poland, timber architecture in the style of the Zakopane region took on

a strong role in terms of identity during the Austrian occupation, when it came to play a valuable part in the affirmation of national feeling. The architect Stanislaw Witkiewicz was a highly active advocate of wooden architecture in the early years of the 20th century, regarding it as a typically Polish cultural expression.

As the 21st century began, interest in wooden architecture was again reviving in some countries of Europe. Exposed wood is sought after for its warm appearance, its aesthetic qualities and its propitiatory value. People “touch wood” as a symbolic gesture when seeking protection.

Concluding this brief piece, I should like to remind the reader that it is a well-known fact that wooden architecture holds up well in the face of earthquakes or bombardments. Some buildings several storeys high were flexible enough to stand up to the shock waves and blasts caused by

Valgran/Bios



Wooden house

bombs during World War II. In our troubled times, I may be laughed at for pointing this out now that we have seen the dreadful fate of the World Trade Center, but it supports my argument that wood can be used both traditionally and in modern ways in our everyday existence specifically to protect human lives.

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Countless things can be made with wood!

Bear in mind, though, that each type of wood is better suited to some uses than others. It would be pointless for example to make a hammer or axe handle with poplar wood since it would break at the first blow. Similarly, it would be a terrible waste to use cherry wood as firewood. It is so beautiful that it is generally reserved for furniture making.

Conifers

As a rule, the light, resistant wood of conifers such as the fir, the spruce or the Douglas fir are reserved for construction and paper pulp is manufactured using the by-products of the milling process. Pine wood is easily impregnated and is used to make electric poles. The durability of larch wood (in other words its ability to weather the elements) makes it a favourite for external construction work such as balconies and curtain walls.

Broad-leaved woods

Some broad-leaved woods such as ash have long solid fibres and so they are used to make handles for tools or sports equipment. Other trees such as the walnut, the cherry and the red oak have coloured wood which makes very good furniture. The wood of the lime tree is soft and so it is often used by sculptors. Maple wood has a very



Lecourieux/Jerrican

fine grain which makes it highly suited for turning. The European oak provides the best wood to make barrels for the ageing of fine wines.

In addition to solid woods, it is becoming increasingly common to use panels made of wood fibre or wood particles in building and furnishing. A technique of heating wood while shielding it from air to prevent it from burning is used to make a new durable and waterproof material.

The uses of wood are virtually unlimited and so much the better, as it is a warm and noble material which stores up carbon and is naturally renewable. Wood is indeed the future of mankind!

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The tree, the house and the landscape

One spring morning on the RN7 main road between Brignolles and Aix-en-Provence in the south of France, a monumental growth far to the right caught my eye and invited me to turn off the road at the first opportunity and go and look at it from closer up. Two immense plane trees, pruned into a bowl shape perhaps a hundred and fifty years ago, each raised four enormous main branches to the sky. Competing with one another, they reached up as high as possible to get as much light as they could. These magnificent trees, signalling the presence of the house behind them, called

described by the first travellers and which we still enjoy today.

A practised eye will take pleasure in discovering landscape and architectural culture typical of every region in every province in Europe: lime trees pruned in the French style announce the beautiful residences of the Paris basin, copses of broad-leaved trees from which a cedar emerges surround Gascon farms perched on the hilltops, the avenues of cypress trees in Tuscany ...

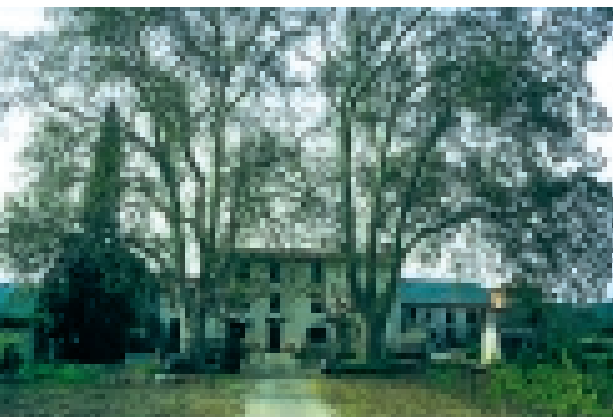
The species chosen often give a history lesson by telling us of the region's and its inhabitants' relationship with the rest of the world, like the monkey puzzle trees of Chile that Breton sailors who had rounded the Horn brought back to plant in their gardens, the palm trees of South America that decorate the houses in the Basque country, or the plane trees of the South of France, immigrants that arrived from the Middle East in the 18th century and gradually supplanted the mulberry and elm trees to become one of the essential components of regional identity.

Trees play a part in a number of traditions, beliefs and religions: the symbolic tree

planted when children are born so that they will put down roots in their region of birth, the pine trees planted close to the houses in Cathar country signifying that heretics would be given asylum, the tree of freedom.

In order to establish good relationships between buildings, gardens and the countryside, very simple compositions allow every form of arrangement: an isolated tree that acts as a signal, trees in pairs forming a leafy doorway, in a square to form an outdoor lounge, in half-moons or in avenues. Pruning makes it possible to adapt a tree's shape to the functions one wants to give it, but the further away a tree moves from its natural bearing, the more skill and discipline is required. Pruning trees into a bowl shape or a cat's head, espalier screens, canopies, all these shapes create special atmospheres, characteristic of a region's image.

Planting a tree will structure an area for several generations. It is a commitment to the future. So let's take the time to look around before we start planting. All one has to do in order to learn how to visualise and imagine the atmosphere that a young plant will create when it matures



R. Ambroise

out to you to come and take shelter, forming a sort of oasis of shade in the middle of the vineyards that grew right up to the verges of the road.

Behind the gate framed by these two giants the farmhouse came into view, a beautiful building like so many others in Provence. Just outside the entrance to the house, two other plane trees formed a bower on a more human scale, echoing the dimensions of the building. In these closing days of winter, they still let the sun's rays through, but in summer, the gentle shade of their leaves formed a transition from the glare of the agricultural landscape to the half-light inside the rooms. Their more complex architecture was the result of regular pruning.

A house of stone and twice-times two plane trees, these were the ingredients that an enlightened 19th century farmer combined in particularly harmonious fashion to make a contribution, as did so many others, to his era, to this Provençal landscape culture that has been sung by poets, admired by the greatest painters,

Trees in rural areas

In their various forms – standing alone or in lines, in hedgerows, in clumps or thickets, in orchards, in grazing forests and wooded pastures – trees in rural areas shape landscapes and their identities...

Trees standing alone (or in clumps): As the focal point of arable land and meadows, they stand out like beacons or places of shelter, contrasting with and reinforcing the impression of light given by the fields and pastures. Their significance in ecological and visual terms and as places of shelter for livestock and smaller species bears no relation to the small space they take up in the landscape.

Orchard pastures: These are like "natural living rooms", carpeted in green and with tree trunks bearing a ceiling of foliage covered in blossom in the spring and fruit in the autumn. They provide typical images of different regions, with apple trees in Normandy and mirabelle plum trees in Lorraine... Farmers who have rejected methods based on specialisation and have modernised these complex systems producing both forage and fruit have made a wise business decision.

Hedgerows: Sometimes cut low with just a few higher clumps left to provide shelter for livestock, they define property boundaries and structure the entire surrounding area, giving it depth. When allowed to grow tall in Breton bocages, they either provide protection or shut things in, depending on how you look at it. They are pruned differently from region to region and offer an excellent example of mul-

tifunctionality, making a contribution in agronomic, energy, ecological, hunting, water-related and landscape terms. Those working the land must be made properly aware of hedgerows again.

Lines of trees: As the survivors of felling operations along roadsides and farm tracks, these remind us of the alleys leading up to castles and of formal gardens. Their darkness contrasts with the surrounding light, and the openings between the regularly spaced trunks point up the features of the landscape. In areas with large expanses of farmland, they direct our gaze towards infinity, reinforcing the impression of immensity. The way they are pruned and the species found vary between individual regions. Nowadays, these lines of trees and the grassy strips of land they stand on act as filters for surplus fertiliser and pesticides and provide shelter for smaller species.

Grazing forests, wooded pastures and agroforestry offer gentle borders and clearings, helping to form outstanding landscapes. The frequent breaks between the bright areas of farmland and the dark wooded areas symbolise a transition that calls for contact between the two and bears witness to the interrelations between farmers and foresters. These special, much appreciated environments have proved ideal for the development of cross-country skiing in upland areas, while limiting the natural risks of erosion, fire and avalanches. Agroforestry is a modern type of agriculture that can help create high quality contemporary landscapes.



Cavalli/Sipa Image

is to open one's eyes and benefit from all the lessons landscapes give us.

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Bruno Manser's struggle

In 1984 Bruno Manser travelled to the Malaysian state of Sarawak where he spent six years living with the Penan tribe. He learnt the language and customs of this people, who are the last on the island of Borneo to live exclusively from hunting and gathering.

During the time he was there, he saw the living environment of his Penan friends being gradually laid to waste by the logging companies. Bruno supported the Penan in their fight to resist this unscrupulous process of deforestation, carried out with complete contempt for their property rights, and helped them to organise peaceful protests in which they blocked the roads built (illegally) by the logging companies. In the end he was forced to flee Malaysia and was only able to re-enter the country by roundabout means.

In Basel he set up the Bruno Manser Foundation to support the Penan and other forest peoples. In 1993 he went on a hunger strike in an attempt to halt timber imports from Malaysia, but his campaign failed. Nonetheless, he did succeed in convincing hundreds of Swiss, French and Austrian municipalities to refrain

from using wood derived from unethical logging in the construction of their public buildings. Despite Bruno Manser's commitment, destruction of the rainforest continues unabated all around the world. Dozens of species disappear every day. The nomadic Penan people, who are in a more critical situation than ever, are still waiting for their traditional rights to be recognised.

In 2000, Bruno Manser tried once again to visit his friends and organise a campaign to alert world public opinion to their plight. It may be that this cost him his life. He has not been seen since 23 May 2000, two days after he crossed the wooded border into Sarawak.

Bruno Manser recently worked with Naturopa contributing an article to issue No. 91 in 1999 entitled "Forests - why should they be considered a common heritage?"

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Forests and trees

Klingenthal colloquy

Are trees and forests:

- essentially economic resources, producing wood for carpentry, heating, paper pulp and cooking, pharmaceutical products, rubber and food;
- a source of various types of leisure activities and psychological well-being, including human spiritual needs;
- or an absolute necessity for the development of an exceptionally rich biological diversity and for ecological balance?

They are of course a combination of all of these. There is indeed no doubt that we underestimate the countless functions that the vast diversity of the plant world performs in the biosphere. And yet the area of the world's forests has shrunk significantly and continues to decline at a rate of 15 million hectares per year, including 14 million hectares in tropical regions. In addition to this, existing forests now have to face major threats

to their health, including increasing atmospheric pollution. So what do we do?

The 4th Klingenthal Symposium, on the theme "*The tree and the forest - from cultural symbol to planned extinction?*" addressed all of these environmental, economic and socio-cultural problems and made a series of recommendations, emphasising the need for universal application of sustainable forest management principles. It called in particular for:

- the introduction of legislation, drawn up in consultation with all the interested parties and backed up by independent monitoring mechanisms and possible sanctions;
- eco-certification of wood, particularly tropical wood, giving details of the species and its origins;
- encouragement for the use of eco-certified wood;
- the introduction and application of ethical rules;

- schemes aimed at encouraging direct contact between young people and trees and forests to help introduce them to or remind them of the link between human beings and forests;
- action by religious and spiritual movements and other voluntary associations to promote a sense of respect for Nature and the Creation through spiritual education and development.

The approach of various religious groups and in particular the indigenous peoples has been particularly inspiring because all of their relationships with nature's various components are imbued with respect. When will we adopt this attitude?

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The music of the forest

Before giving a concert, violinists tune their instruments. When they finally bring the bow into contact with the strings and begin to play, it is the echo of a whole forest that rings out and gives such great pleasure to the audience. Between the tree and the music there is a whole series of transformations, creating an extraordinary symbiosis between nature and art.

However, it is not enough for a tree to be made of wood for it to take up a musical career! In this recruitment process there are many applicants but very few successful candidates. As with human beings, there are some families of trees that have a natural flair for music.

*When it comes to making a violin's sounding board, bass-bar and sound post, whose task is to relay instantaneously the sound waves created by the bow, the long and supple fibres of the spruce (*Picea*) have no equal. However, for the neck, back and ribs which keep the sounding board under tension and reflect the sound waves, the short, strong fibres of a broad-leaved tree such as the maple (*Acer*) are required.*

Wind instruments are designed not to vibrate but to hold a column of air, and so quite a number of them are made using European or exotic types of wood which are among the world's hardest. Some of these even sink in water! Wood like this is the ideal material to enclose the musician's breath and can have holes drilled in it without being weakened.

Choosing the tree

Like modern day trappers, Quebec's instrument makers usually buy their materials from specialist suppliers. However there are some who, as in Stradivarius's time, will go into the forest to find the ideal tree – a kind of perfection in wood! How then do they recognise the perfect candidate?

First of all they look ...

The tree must be mature. A hundred or a hundred and fifty years old, sometimes more. It has to have a thick round trunk.

It has to have had an easy life: a well-drained soil, a position away from prevailing winds which may have distorted the symmetry of its growth rings or caused it to grow twisted.

The trunk must be straight as this is the sign of a straight grain.

The bole must be free of branches and tall – the guarantee of a wood without knots.

The bark must be healthy and free of blemishes.

Then the candidate must be given an audition ...

The instrument maker strikes the trunk with the flat of his axe and listens. Some trees are naturally in tune, giving a clear, strong, sustained note, while others sound a false note or the sound is stifled at the first vibration.

Finally, if the tree has a promising voice, the instrument maker removes a core of wood going right through to the heart of the trunk to ensure that the tree is in good health, that there are no traces of fire, frost-crack or infestation by fungi or insects. This meticulous inspection prevents the instrument maker from having a tree felled which does not come up to his or her standards.

However, there is still much to be done before the wood can be made into a violin, guitar or harpsichord.

Felled but not dead

The best time to cut down a musically talented tree is in winter when it is in a deep sleep and its sap is no longer flowing. With the wood at its driest, it will dry out more quickly and there will be less risk of splitting. Once the tree has been cut down it is left on the ground with its branches still on. This means that in spring it will still produce leaves which, through photosynthesis, will empty it of all its water before drying up themselves. After this it is time to collect the trunk and it is best to do this quickly because fungi, insects and other decomposers are quick to attack the wood.

Now comes the crucial and precarious stage of drying. Unlike a fine wine, a piece of wood is never too old or too dry to be of use to an instrument maker. When wood dries out it shrinks. If this shrinking takes place too quickly then, crack!, it splits. If this happens our musical tree may end up as a board rather than on the boards. To save it from this sad fate, it is enough to coat the outsides of the pieces with a wax which prevents splitting, acting like a belt.

The wood is now ready for its final transformation. And it is the instrument maker, guided by his experience, his patience, his enthusiasm and his skill, who will enable this piece of maple or spruce to echo for more than a century! What a noble destiny!

Extract from the texts produced for the exhibition "Le bois qui chante" staged by the Montreal botanical garden tree information centre. This exhibition, requiring an area of 100 m², is available for hire. For information contact: maison_arbre@ville.montreal.qc.ca

M. Tremblay



Poster from "The music of the forest" exhibition

TPH/Sipa Image



Jerrican/Transglobe





Typology of wooden constructions in Europe

As an easily available material – originally the only available means to span long distances in construction – wood was the dominating building material in prehistoric Europe. Primitive huts with thatched roofs and walls built of timber posts and wattle-and-daub thatch evolved into the *megaron*, a single-room house with a hearth in the middle of the building. Starting from these simple constructions, the evolution of wooden architecture has taken various directions, funnelled by local conditions, such as climate, different kinds of timber available, society and culture. Fascinatingly, though certain traditions of carpentry long since vanished from the heartland of Europe, examples of these can still be found in the outskirts of the continent, even as living traditions.

Wooden constructions have been utilised in vernacular, urban, defensive and religious architecture. Most wooden fortifications have, not surprisingly, disappeared, but fortified villages and fortresses with palisades or log walls are known from the Iron Age until the end of the 17th century. The vital role of wooden constructions in vernacular architecture is self-evident, as well as their presence in many European towns. In religious architecture the most impressive examples are the log churches of eastern Europe and the Nordic countries. The forms and structural principles of traditional wooden construction have sometimes also been adapted to modern architecture.

Two types of construction

According to the primary structural principles and building methods, the historical wooden constructions in Europe can be roughly divided into two main categories: the variations of post-beam construction and the log construction. Log construction, which originally had been utilised all over the continent, gradually became the prevailing type in the east, whereas the post-beam structures dominated central Europe. Geographical divisions like this are nevertheless highly generalised: the boundaries of the territories of each



S. Mentu

Pukkila manor, built in 1762, southwest Finland

type being greatly blurred. Various construction types have been used within one region, sometimes even within one building.

The post-beam construction

The post-beam construction (*stave building, Stabbau*) in its pure form apparently has a prehistoric origin and has in its most impressive form been preserved in the earliest wooden churches (*stavkyrkor*) of Norway. The frame construction makes use of massive round timber posts, which are connected with horizontal beams. The walls consist of vertical plank surfaces, which are mounted on a ground sill and bound with a head plate. The *timber-frame construction (skiftesverk, Bohlenwerk)* is also based on vertical posts resting on a cross-tied timber frame. The horizontal timbers or planks forming the walls are fitted into grooves in the vertical posts.

The *lattice structure (half-timbering, Fachwerk, colombage)* was already used in a primitive form in the Lombardian plains and in the Danube area in prehistoric times. As a vernacular building style the lattice construction was used extensively in central Europe, especially within Germanic and Anglo-Saxon territories. In northern Europe and southern parts of Scandinavia the new construction method replaced log

building in the early Middle Ages due to the increasing scarcity of timber. The lattice structure can be constructed of relatively short and polymorphous pieces of wood, and is therefore well suited to regions with limited forest resources. The vertical posts of the framework of a lattice-work house, always rectangular in section, are made of stout timber and supported with horizontal or diagonal beams. The interstices between them are filled with wattle-and-daub, brick or stone. The whole structure can be covered with plaster, weather-boarding or tiles. A structural system like this requires a well developed proportioning and jointing technique to ensure the rigidity and durability of the construction. Architecturally this construction provides for creating an ornamental network on the facades, often replenished with various types of brickwork and decorative painting. The lattice construction is typically used in vernacular buildings and town houses, to a smaller extent also in religious architecture.

The log construction

The log construction (*blockwork, Blockbau, chalet*) is the major building type of the eastern parts of the continent from the arctic region to the Carpathian mountains and the Alps. The use of log construction calls for a good supply of long and straight

timber, and is therefore suited to areas with plentiful resources of coniferous wood. The horizontal wall timbers of a log house, either round or hewn, have to intersect and in most cases overlap at each corner of the building. A firm jointing is the key question of this simple construction. The solutions evolved for this purpose vary from rough one-sided notches to complex locking systems used in order to create even surfaces at the corners. Despite its simplicity, the log construction has been an extremely versatile building method, enabling the builders to reach large proportions and complex architectural forms. The wooden churches of east Europe and the Nordic countries are the best surviving examples of this diversity of forms.

In the methods previously mentioned the emphasis is on the construction techniques of the building frame. A more complex typology is created, if other building parts (roof constructions, roofing techniques, wooden vaulting, windows and doors) are included in the study.

Awaiting an inventory

Delineating the typology of European wooden constructions, even without defining precise categories, requires a certain degree of generalisation.



S. Mentu

Lyytikälä storehouse, 18th century vernacular architecture, Finland

The building tradition covers a long period of European history and has been adapted in different kinds of cultures and architectural styles. A relatively good selection of case specific studies on wooden construction is already available, but any survey of general typologies has not yet been completed. This task will be challenging for researchers and experts, and an excellent opportunity for international co-operation.

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J. Czajkowski

Baczal Dolny church dating from 1667, Sanok open air museum, Poland



O. Leclerc/Pluriel

Protection of wooden architecture

Examples in central and eastern Europe

Many wooden houses have survived, but in bad condition

The extent of the values of the natural and cultural heritage in central and eastern Europe – nature, architecture and urban environments – does not exist in a corresponding way in the western European countries. Generally the values are in very bad condition – but still preserved. Take for example the wooden architecture estimated as being of international value in the countries in the northern part of Europe. The landscape contains a lot of habitats and great bio-diversity and it is close to the ideal open agricultural land that many western European countries are aiming for in nature protection.

The increase of wealth in the first decades of post-war western Europe destroyed much fine and valuable architecture. Protection thoughts were not common. Valuable houses were “modernised” – which means radical changes, often complete clearance because new houses were preferred. Cities were renewed due to traffic and commercial development and mainly without other considerations. Great new roads and car parks brought total redevelopment of old town districts. Welfare aims destroyed traditional and often valuable architecture.



J. Bach Rasmussen

Along the Baltic south coast there are many health resorts with beautiful wooden summerhouses as for example in Jurmala, a region of particular interest, located on the coast close to Riga.

One of the threats to traditional wooden buildings today comes from the rich people from Riga who want to live in the area – an attractive place to live located both near Riga and near a broad sandy beach. The new owners either demolish existing wooden buildings (often in bad condition) or modify them, changing their traditional characteristics. The overall protection of wooden summerhouses and hotels along the Baltic south coast has to be linked to quality tourism development, preferably in environments with traditional – and often unique – wooden architecture.

others are bad. But there are differences between the situations, and reasons to be a little optimistic. The public is much more aware of the destruction of values – for example through NGOs. And – what could be the most important reason – protection of the typical and traditional architecture is an important part of the “new” national identity foundation, which is especially important for “new” independent nations.

There is no doubt that the general welfare increase must have first priority – no one can question this. But other considerations must be handled at the same time. It means for example that ways must be found to change the old houses to a modern standard without destroying architectural values.

Seen from a point of view of geography and location there are various types of wooden houses according to whether the houses are in towns, in the countryside and villages or for example along the coasts and lakes (summerhouses). Various kinds of problems and threats are connected to various areas, due to the changes from public to private ownership and other comprehensive changes of society. Wooden houses are often demolished in big town centres to be replaced by modern buildings whereas the farmhouses in the countryside decay and are left by occupiers because of lack of local employment.

protection of the wooden houses must be strengthened through:

- regional and local registrations of houses and areas that are worth protecting and description of local characteristics as a result of local resources, influence from outside, etc. It is especially important to get an overview of wooden architecture, condition of the houses, etc.
- starting interpretation activities and public debate
- ensuring that the wooden architecture will be worked into official spatial plans, e.g. municipal and county plans. These activities must be followed by practical actions: legal protection of the houses, support for various kinds of restoration work, etc.

Co-operation is needed

The most important action is to establish broad co-operation between all actors in the process: politicians and civil servants from all levels of authorities, owners of the houses, experts in restoration and the public (NGOs). The success of this co-operation, carried out in a democratic way, will give sustainability and stability to preservation works and – in the end – determine the success of protection of wooden architecture in the former Soviet countries.

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J. Bach Rasmussen

A traditional forester's house in the Latvian countryside. Nearly everything is original in the house, but in very bad condition. Note the shingles (unfortunately not preserved in many wooden houses) and the remains of a very rare wooden gutter. The house needs expensive investment for its restoration, which cannot be carried out by the owners or tenants – and indeed will there be anyone in the future to carry out this task as rural populations move to the cities?

Will the faults of the West be repeated?

Will central and eastern Europe repeat the same faults as the western countries before an effective protection effort can be made? Some signs are good –

What can be done?

Seen from the point of view of spatial planning and regional development the

Restoration of wooden churches in Poland

Why and for whom?

Old sacred buildings which survived to our times constitute very important landmarks in Poland's cultural landscape. Some of them still have original interior decorations and furnishings. They are unique in Europe and contribute to our national identity.

Poland has one of the biggest collections of historical wooden temples in Europe. Most numerous are Roman Catholic churches, some of them dating back to the 15th century, numerous Orthodox churches, Uniate church temples as well as Protestant ones. You can also find wooden Tartar mosques reminding us of the Islamic influence in Polish history. Unfortunately all the wooden synagogues which represented outstanding carpentry art were destroyed during the second world war.

Essential restoration

All wooden historical sacred monuments are under conservationist protection. The scope and the pace of work depend on the amount of funds available. The state devotes considerable sums of money for projects which aim to save this fragile heritage. Unfortunately sometimes more urgent needs limit this help to no more than a symbolic gesture.

A good example of international co-operation in saving a unique wooden monument is the case of the Evangelic Augsburg Church of Peace in Swidnica which has a very interesting frame construction. Comprehensive, very well prepared and professional work is being carried out by Polish and German specialists supervised by the Polish preservation authorities.

Of course there are also difficult situations when local people reject old values and tra-

ditional concepts of beauty. They are fascinated by something which they consider to be "modern art". Their old wooden temple is abandoned and next to it they build a new brick one, often very ugly and of no aesthetic value or identity. This trend is probably caused by watching popular TV series showing examples of pseudo-modern architecture. However they should not treat their old temple, even if it is neglected and abandoned, as their exclusive property. It belongs to the whole nation and is often of unique artistic and historical value!

Living traditions

Do you happen to know the Polish Tatras and the Podhale region? These are the places where traditions of wooden architecture are still very much alive. Podhale, a mountainous region in the south of Poland, is famous for its beautiful wooden Roman Catholic churches built by very talented artists. You should visit unique temples in Debno, Blizne, Binarowa, Sekowa, Haczow, Lachowice, Orawka, Lipnica Murowana i Szalowa. These churches have a very sophisticated technical construction and were built with great precision. They have been recognised worldwide and nominated to be put on the Unesco World Heritage list. The tradition of carpentry is passed down from one generation to the next. Unfortunately young woodworkers cannot equal old masters. Sometimes they do not understand traditional wooden constructions and make serious mistakes.

The group of wooden Orthodox churches is also very important. Located in the eastern regions of Poland they are very beautifully composed in a landscape where

D. Maczynski



Tarnoszyn church in Lublin, 1759

we can admire their unique architectural and artistic values.

Recently one endangered Greek Catholic church dating from 1759 was successfully moved from Tarnoszyn to the open air museum in Lublin. It has been reconstructed and still retains its sacred function for the Greek Catholic church parish although it is situated in the premises of the museum.

This successful preservation scheme for Polish historical wooden churches helps to save this rich cultural heritage in Europe and for Europe. We need these programmes to save this unique form of architecture, to educate people and teach them the original traditional techniques necessary to preserve these historical monuments.

A threatened heritage

Needless to say the biggest danger to historical wooden temples is fire and the lack of necessary fire protection systems, such as smoke detectors. Every year fires destroy some of these exceptionally fragile monuments. Smoke detection and alarm equipment is an absolute must to diminish the risk of losing these precious buildings together with their original interior decoration and furnishings.

The preservation of wooden churches in Poland is a valuable contribution towards saving our common European heritage.

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Church interior dating from 1666

D. Maczynski



Procession, open air museum, Lublin

D. Maczynski

Domestic wooden houses of Turkey

Since very early times many different civilisations have settled and developed in Turkey. The history of dwellings starts from the neolithic period. The construction of houses at “Çatalhöyük” (7000 B.C.) and at “Hacılar” (6500 B.C.) presents well developed structures. Anatolia has always been an important bridge between Europe and Asia in many aspects. Even today researchers can easily notice many similarities in the development of European and Turkish house cultures. There are also certain resemblances in the construction of wooden houses among the western and northern parts of Turkey and some parts of Europe.

A rich heritage

Densely forested areas can be found mostly in the north, west and in some coastal regions of Anatolia. Therefore most of the examples of wooden houses are present in these regions. The “log houses” of Turkey are mostly situated on the hillsides along the Black Sea area of Anatolia and there are many similarities in their construction techniques and building forms with their European counterparts. In Turkish timber-framed houses we can observe similar types of construction systems and techniques to European ones. Timber-framed houses are often seen along the Aegean, Mediterranean and Black Sea coasts and also in some parts of central Anatolia. However the highly developed examples are located in Istanbul and close surroundings.

At present we have about 45 000 registered monuments and dwellings in our country. Most of them are wooden houses

Timber-framed houses in Yorük village (Safranbolu, Turkey)
C. Hersek



Traditional village house
C. Hersek

and are situated at over 4 000 different sites. Such large numbers of houses pose problems for the conservation of this valuable heritage. They bear witness to the last existing features of a past lifestyle. The inscriptions of the houses show that the oldest ones were built during the 17th century whereas the majority of them are dated to the end of the 19th century.

In need of protection

In Turkey the rapidly increasing population and a tendency towards modernisation and industrialisation are causing changes in the original characteristics of the settlements. Due to the use of modern techniques in building construction and in repairs, the physical environment is losing its original characteristics. These continuous changes have already affected and contributed to the deterioration of the original identity of our big cities.

For the same reasons, certain unacceptable developments have also taken place in areas of Anatolia. However these changes and signs of destruction have not yet gone too far. There is still time to protect some samples of our cultural heritage by intervening before

the pressure of housing development becomes too strong.

Time to act

Endeavours to protect such traditional settlement areas are unfortunately insufficient even though local authorities and representatives from the Ministry of Culture are trying to encourage residents' interest in restoration of their buildings and in learning old construction techniques. There are many successful restoration projects which have been initiated by the government and also by other public organisations. In Turkey we have carpenters, restoration architects and art historians with a knowledge of old building techniques. After the big earthquake catastrophe of 1999, the people of Turkey began to realise the advantage of the traditional type of wooden house.

Traditional wooden houses are an important cultural heritage that remind us of a past life, which was healthy, comfortable and full of beautiful things. These have been overtaken by today's contemporary lifestyle. But there is still time to stress that Europe has a common architectural heritage and traditional wooden houses are one of the most important values that we have to hand down to future generations.

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Wooden heritage in towns of Latvia

The Republic of Latvia is situated on the south coast of the Baltic sea. With a territory of 64 589 km² and 65 towns, the total number of inhabitants reaches 2.37 million of which 68 % live in towns. 44 % of the territory is covered by forests. The biggest ethnographic regions are Vidzeme, Kurzeme, Latgale and Zemgale. The capital of Latvia is Riga with 0.82 million inhabitants.

The oldest construction material

Wood (fir tree, pine tree) is considered to be the oldest and, until the 13th century, the only construction material in Latvia. The comparatively small territory was inhabited by several Baltic and Finno-Ugrian tribes who built hill forts. Small townships developed close to these wooden castles but these were destroyed during the crusader invasions against the Baltic peoples. Sometimes the Knights' Order masonry castles were built at the same places. During the Middle Ages eight Latvian towns were members of the Hanseatic Union. These settlements, that were planned to resemble European towns, were still built in wood. The only exceptions were fortification buildings, fortified Order and bishops' castles, as well as churches. Merchants and tradesmen, who most often were immigrants from Germany, Poland and Russia, mostly inhabited the towns. The majority of native inhabitants lived in the countryside, in villages or separate farmsteads, and their number in towns up to the 19th century was quite small. The biggest landowners were German nobility and it was the noblemen who controlled the whole administration in the territory outside the towns. This historical fact explains the specific differences between the "national" countryside and "international" town architecture that remained unchanged until the 19th century. Now it is quite difficult to find a settlement without wooden buildings, because the masonry tradition from the Middle Ages is only found in old Riga. The development of



Late 19th, early 20th century dwellings of Ludza, in eastern Latvia

Heritage Documentation Centre



Matisa Street, Riga, built in 1870

G. Yemeljanovs

towns was irregular and unequal. The greater development for economic needs during the 17th and 18th centuries can be seen only in a few of them, for example, in the harbour towns situated on the Baltic sea (Liepaja, Ventspils, Riga), as well as in the most important Kurzeme duchy towns of the 17th century and both former historical capitals Kuldīga and Jelgava. In other localities there were small local centres, where development was episodic and towns received their status much later.

A varied architecture

In spite of the fact that Latvia is a small country, its architecture in towns has many regional differences. In the eastern region, which until the formation of the independent Republic of Latvia in 1918 was in the territory of Vitebsk (now the Russian Federation), the town planning as well as building styles were under the influence of some Russian traditions. At the same time in the Kurzeme region one can detect the north German and Prussian influence. The origin of the builders and carpenters was also important. Thus the western part of the country was a traditional migration way for tradesmen between Germany and the north Baltic states, but in the eastern part and along the river Daugava, there were more builders of Polish and Russian nationality. The ancient building traditions of the Latvians still existed and developed mainly in the countryside and in villages in the form of wooden churches, as well as outbuildings of manors. There are nine small towns in Latvia (dating from the 18th-20th century) in which the density of wooden buildings is about 75 %. To this specific "wooden town" group one can also add the biggest resort town in the Baltics, Jūrmala, with 70 % of wooden summerhouses (Swiss style, eclectic style and neo-style) built between 1880–1940. About 4000 of these are remarkable buildings, and some 400 are considered as cultural heritage monuments.

Nine other towns are of significant historical interest due to the wooden buildings (30–35 %) which have still maintained the traits of the styles of 17th – 19th centuries.

The example of Riga

The capital of Latvia, Riga, is also famous for its historical traditions of wooden buildings. In the fortified part of the city in the Middle Ages wooden buildings were forbidden but outside the fortification walls until the 19th century Riga developed as a wooden city. In the 20th century there were more than 12 000 wooden buildings in Riga. Since 1904 the construction of wooden houses in the "new centre" of the city has been forbidden but today in the city centre as well as in the periphery several hundred magnificent wooden buildings dating from the second part of the 18th century to the early 20th century have been preserved. One can still see wooden buildings reflecting many different architectural styles: architecture of peasants, baroque, classicism, empire, late classicism, eclecticism and historicism, as well as art nouveau, national romanticism and functionalism. This heritage has remained due to the slow tempo of building after 1914, and during the changes of the 19th and 20th centuries building was influenced by the development of art nouveau masonry houses.

The originality of the architecture of Riga city is the symbiosis of 19th century art nouveau and wooden building, which reflects the dynamics of the city development and is an integral trait of the city face. Riga historical centre was included in the Unesco World Heritage list with one of the greatest values – the heritage of wooden architecture.

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Detail from a neo-renaissance building dating from 1890 at 62 Kalnciema Street, Riga

A. Meiers



Wooden culture through Europe

A transnational project of the campaign

Countries involved

Experts from Finland, Lithuania, Romania, Turkey, France, Poland and Sweden carried out the activities concerned.

The 2nd Summit of Heads of State and Government, held in Strasbourg in 1997, adopted an Action Plan which proposed the launch of a broad-ranging, awareness-raising campaign on the cultural and natural heritage of Europe. The "Europe, a common heritage" campaign was intended as a campaign where heritage was considered as an exercise of citizenship and as a means of promoting mutual knowledge and understanding between communities.

In the framework of that campaign, the Council of Europe launched a transnational project entitled "Wooden culture throughout Europe" in Romania on 24-28 June 2000. Wood is an essential cultural material for many living traditions and is a central link in a common European area, from Scandinavia to central Europe, from Portugal to Georgia. After analysing the contributions from the national committees in the campaign, it was clear that much attention was given to this subject. The campaign has been considered as a good framework for a global discussion, taking into account the holistic concerns and circumstances of the wooden heritage which range from architectural details to complex landscapes.

Even if archaeological remains or vernacular architecture express the creative force of wood over centuries, wooden heritage is mostly an active tradition. Traditional wooden architecture and handi-

crafts provide a current context for the past, especially in countries where these traditions are the way of explaining the current way of living after totalitarian systems. For many reasons, wooden materials are experiencing a significant renewal. When traditions have been interrupted, the nostalgia of the past reinforces the woodcrafts as well as the cultural significance of ancestral techniques.

Intentions

It was agreed that the scope of the project should be broadened to include the whole set of problems implicit in the conservation or restoration of the wooden heritage. Moreover a heritage preservation policy could only be effective if it were thoroughly incorporated within an overall development policy.

The priorities for action and the general programme of activities were based on a conclusion coming from an evaluation questionnaire sent to the delegations before the meetings. It was a very useful tool to set up the basis for a first common reflection, as well as stimulating the interest for European co-operation in this field.

Who prevents traditions from disappearing?

The questionnaire focused attention on the legislative situation, on national administrative procedures, as well as on the social awareness-raising policies related to the perceptions of the cultural value of this heritage, giving access to good quality day-to-day surroundings or maintaining this quality. Special interest was addressed to training policies. Countries are short of scientific institutions which could take charge of the training and specialisation of experts, or stimulate and organise the formulation of varied artisan training. The pressure of industry, the rural exodus, the low degree of legitimisation of the crafts and the craftsmen led to the decay of tradition. Questionnaires emphasised the risk of traditions becoming completely lost in certain areas.

The questionnaire sought essentially to define in terms of European co-operation what the European wooden heritage represents, to whom it belongs (to those who created it, to those who have an interest in it) and how it is recognised by Europeans.



A. Barca

18th church, moved to another village in the 19th century, Romania

Common values, common worries and common deficiencies are defined without forgetting the differences from one country to another. The compensation of assistance is actually the added value of this project. The enhancement of the living aspect reinforces the interest in co-operation and necessitates a clear definition of the concerned fields and the different roles and responsibilities of the actors involved in an integrated conservation policy, at the same time respecting the singularities as a rich expression of the European heritage.

In the framework of this project, three meetings were organised. The first one took place in the Romanian region of Maramures in June 2000, the second one in the Turkish region of Safranbolu in September 2000, and the third one in Järsöv county in Sweden in March 2001.

The aim of bringing the questions of traditional wooden craftsmanship to a European level is partly to circulate or develop knowledge produced within national contexts, partly to increase the conditions for taking advantage of techniques and methods that in many regions are still in use: ancestral *savoir-faire* needs to be matched with current management plans and contractual situations. By doing this there would be many opportunities to learn from the know-how of older wooden craftsmanship but also to give local craftsmen, citizens and others the opportunity



G. Andersson

Two Romanian craftsmen hew a beam out of an oak tree trunk. Workshop in Romania at the end of August 2001

to join the interpretation of it and the recounting of their own history.

As general co-ordinator of this project, I would like to thank the national committees involved in the project as well as the representatives for their enthusiasm which is only matched by their knowledge and *savoir-faire*, but I especially want to thank the Romanian artists, Turkish families and Swedish farmers for their warm hospitality which enabled us to participate in the immense richness of their heritage by opening the doors to their daily life.

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The framework of activities

After the third meeting in Sweden, three actions were defined as priorities for European co-operation:

Action 1 - Workshops for craftsmen at wooden building conservation sites

In each participating country, a mobility programme for training: crafts in wood for conservation/restoration was set up. A selection of conservation sites in the countries involved, as "European places of know-how" was made. The general objectives are:

- to analyse and record traditional building methods, to compare experiences and skills. To share ideas and methodologies on preserving the wooden heritage. To encourage practical exchange of information *in situ*, providing a dialogue and consultation in a working situation;
- to improve the conditions for taking advantage of techniques and methods representing a living tradition and that are still in use in

some regions of Europe. To reflect on how to raise awareness of the social and economic value of wooden traditions in local communities;

- to collaborate in developing methods for analysis and interpretation of wooden constructions, based on knowledge of traditional crafts in a "European atmosphere".

Action 2 - Inventory of religious, domestic and civil built constructions

A detailed inventory of religious, domestic and civil built constructions already protected by national laws, to be completed with actions of awareness-raising. This action is considered a first step to define an integrated conservation policy on protected wooden cultural heritage.

Action 3 - Inventory of professionals in wooden heritage around Europe

Who is who? With the definition of skills and conservation/restoration associated practices.

European co-operation - Future workshops in Europe

In Finland

The workshop in Finland will take place in Mieslahti village in the Kainuu region in north east Finland in June-July 2002. Kainuu has been chosen as the target area because of the well-preserved local tradition in log building, handicraft skills and forestry. The production of pine wood tar, traditionally used as a surface treatment for wooden buildings and boats, is also alive in the region. The international working group will participate in the construction and use of a *tervahauta* (a burning pit producing pine wood tar by dry distillation) during the workshop.

The proposed sites are farmsteads built in the early 19th century. The participants will learn about the Finnish log-building tradition, wood-crafting and vernacular building types. A regional study tour to water mills, peasant houses, crofts and wooden churches will be arranged during the workshop. The information about the Finnish wooden heritage will be completed during the return trip to Helsinki by visiting wooden manor houses and churches.

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In France

France has a large wood heritage, in terms of both wooden architecture and furniture, and thriving wood-building skills. Vernacular architecture in particular offers a wide diversity of local forms and practices. In both rural and urban environments in various regions, houses are built using timber framing (half-timbered houses), or, in mountain regions, log-pile structures.

The French Ministry of Culture is trying to encourage European carpenters, architects and heritage commissioners to exchange know-how.

A European training site is to be opened in the Boucles de la Seine regional park in Upper Normandy in spring 2002. The site will be a traditional half-timbered house with clay-filled spaces.

A training organisation, GRETA Vercors, also wishes to fund and organise, with the help of the Romanian Ministry of Culture, a site where people can learn the traditional techniques used in building wooden houses and roofs (Romania).

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In Lithuania

This workshop has been held from the 22 September - 2 October 2001. It was organised jointly by the Ministry of Culture of Lithuania and the Daugyvene cultural history museum with support from the Soros fund and some private organisations.

The workshop took place in Kleboniskis village which is part of Daugyvene cultural history museum. This village is typical of central Lithuania, dates back to the royal land reform in the 16th century, and is now being rebuilt after the destruction of its primary structure in the 20th century. A granary and a dwelling house (built in 1885) will be transferred to Kleboniskis village during the workshop. This working procedure was influenced by the fact that there are no possibilities to save valuable buildings *in situ*, and wooden country architecture is fast disappearing due to the urban changes in the countryside of the rapidly growing east and middle European countries. A seminar about the problems of restoration and preservation of wood will be organised for local authorities during the workshop. The workshop will be held in the museum which will

remain open and the many visitors will have a chance to observe the restoration of the buildings, which will be the best advertisement for the popularisation of wooden building in society.

Dale Puodziukiene

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In Poland

In Poland a lot of wooden churches with rich polychrome on the walls, ceilings, *retables*, and altars, sculptures and other wooden furnishings are still preserved. The conservation of these wooden buildings and interior decoration necessitates the skills and knowledge of many specialists.

A great number of qualified specialists in many different branches connected with restoration of works of art are to be found: restorers of painting and sculpture, architects, building experts, engineers, research librarians and craftsmen.



K. Chmielewski

17th century polychrome decorations, Biranowa, Poland

Students can study at three university departments of restoration of works of art: the Academy of Fine Arts in Warsaw and Cracow and Torun university. The restoration of objects on a wooden support is an important part of lectures and practices.

Cooperation within the framework of the wooden culture programme between specialists from different countries is a real chance not only to exchange experience but also to discuss important problems concerning conservation of wooden architecture: the type and range of intervention in the original structure of a monument, use of new materials and technology, removal of non-original elements, range of possible reconstruction. These problems still await adequate solutions.



D. Puodziukiene

Village house dated 1885 which will be transferred to the Daugvyne museum reserve, Lithuania

The State Office for the Preservation of Historical Monuments held a seminar concerning integrated conservation approaches for the protected wooden heritage. Its aim was to enlarge the queries of the workshops and to situate the discussion in an overall approach, which concerns polychromes, sculpture, furnishing, use and re-use of wooden protected monuments and sites. It took place from 10-14 October in Malopolska region, an area rich in wooden protected churches noted above all for their polychrome interiors (15th-19th centuries), some of which are included in the Unesco World Heritage list.

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In Sweden

The workshop will take place in the northern parts of the province of Hälsingland in May 2002. This province is famous for the big economic rise during the 18th-19th centuries, mainly based on the growing of flax for different kinds of linen materials. In Hälsingland, as in all the northern provinces in Sweden, the population consisted of independent farmers.

This period of relative economic wealth in Hälsingland gave rise to big farms with exceptional dwelling-houses, regarding both the size of the houses and the richness of the interior design.

The participants will take part in restoration of the different kinds of buildings that belong to these farms. There will also be possibilities, beside the restoration, for them to experiment with different kinds of Swedish log-house techniques. There will be excursions to dif-

ferent types of forests and different types of cultural environments. Discussions on restoration, differences and similarities in materials, techniques and history will be organised.

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In Turkey

Kastamonu, which is known as one of the oldest settlements in Anatolia, has been chosen as the workshop venue for October 2002. The city is located in the western Black Sea region of Turkey. The settlement is situated along the creek and on both sides of a valley, one facing north and the other south. To the west of the city, on the hill surmounted by a fortress where the old quarters remain, the organic pattern of the traditional settlement is a typical example of an Ottoman city. The entire city looks like an open air museum with its richly decorated timber-framed houses and many monumental buildings around the old commercial centre.

Field studies on timber-framed buildings, competitions, exhibitions, documentary studies and excursions will be included in the workshop.

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The social and professional role of wood craftsmen

It takes a long time for a tree to die. Men of the trade and craftsmen of traditional carpentry and building crafts know this. In one way a piece of solid wood never dies – it always reacts quickly to the surrounding conditions and adjusts to the air humidity. In modern construction this slow process of adjusting is a major problem. Today's solutions are to saw or chop the trees into smaller pieces to get rid of tensions and movements. The smaller pieces, like sawdust particles glued together are formed into different types of board for better control. Modern methods require wood products that are preferably as dead as stone, or at least as concrete or iron.

Wood, an exclusive material

This is the first thing we must bear in mind. Yesterday's craftsmen had to have this knowledge. Today this knowledge is still needed within special areas of the carpentry industry, for example interiors and solid wood furniture. But for the volume products of our modern society, like furniture and kitchen interiors for the ordinary man, solid wood and the knowledge it needed has lost almost all marketable value. However in special cases, in exclusive architecture, there still can be a demand – if the people involved know about the potential of the craftsman's tradition because traditional knowledge about wood as a construction material has become an exclusive knowledge.

Yesterday this was of course just ordinary, practical knowledge handed down from one generation to the next, something that almost everybody had to know about to get by in everyday life. It represented an unbroken chain of knowledge about the trees in the forest to the house or the furniture in the villages. Only the particularly gifted, the specialised artisans, were entrusted with tasks like the interiors of churches and monasteries.

A wood craftsman

The traditional working of wood is a completely different outlook from the industrial and technological wood techniques and we must not lose two important factors of our cultural heritage from sight.

True actor of our cultural heritage

From my point of view the craftsmen should not only be executors of good restoration. In the context of preservation, where different professions are involved, the craftsmen familiar with the artisan tradition are needed much earlier in the preservation and restoration process. They are needed as interpreters of their own cultural heritage, representing the same kind of logic that once created the historical object or *milieu*. They can discover new and other values that the untrained eye cannot see and add other aspects to the evaluation of our cultural heritage.



G. Andersson

Roofs covered with wooden shingles are still in use in Europe. Here, a Romanian craftsman cuts thin shingles

Ambassador of a region

Another important role for the craftsman familiar with the old techniques and methods that should not be neglected is the role of ambassador at the local or regional level. Well trained and with experience from different regions the craftsman can be a very good guide to historical awareness in the local community. My experience is that the craftsman in many cases gains more respect and speaks with much more authority in the local context than people whose knowledge is based on theory like myself. The authority of a genuine craftsman derives from his local or regional roots.

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The open air museum of Skansen, Sweden

Skansen was the first open air museum in the world. It was founded in 1891 by Artur Hazelius in the Skansen park in the city of Stockholm.

About 150 buildings have been moved from almost everywhere in Sweden to Skansen. Already from the beginning Skansen was meant as a "living museum" and therefore there are both people and animals in many of the different areas of the museum during summer time. Hazelius was mainly interested in the farming and Lapp cultures of the 18th -19th centuries.

Today there are buildings that also show the conditions of agricultural labourers and of the upper classes. Industrialisation during the 20th century is also displayed. The oldest building dates back to the 14th century. Today the word "skansen" is syno-

nymous with open air museum in many countries.

www.skansen.se



Skansen Museum archives

Romania – a land of living wood

The wooden buildings of Romania belong to the vernacular architecture of south-eastern Europe. Buildings surviving *in situ* or preserved in open-air museums give an indication of the geographical extent of this wooden architecture, its evolution and the direction of influences in its development. The typology of wooden buildings is consistent throughout Europe. The Carpathian chain favoured the emergence of zones of cultural convergence. As it was not limited by political frontiers, wooden architecture knew more flexible borders, with structures and constructional techniques largely the same over extensive areas.

Wood is an essential element of traditional architecture throughout Romania, where extensive and rich forests have permitted the development of construction in solid timber. Wooden architecture in Romania cannot be confused with that of other parts of Europe. It is characterised by the union of a few simple volumes, and by techniques which bring out the qualities of the material. Complex harmonies emerge from the relationship between the whole structure and its details. The sculptural and pictorial qualities of the forms and ornaments are enriched by the interplay of light and shade. All the elements are combined with purpose and forethought in a sober architecture, in keeping with its natural environment.

Fir, spruce, pine and oak

The principal woods used in construction were fir, spruce, pine and oak.

The wooden architecture in Romania is an art of monumental walls, in which the same material is used for both supporting and enclosing structures (blockbuilt system). Beams, rafters, shingles – so many faces of wood, which relate to the main practical functions of homestead constructions. This is an architecture characterised by ingenious methods

large areas the use of wattle-and-daub in a timber frame, or of unbaked earth bricks has been adopted.

Domestic architecture

Regional differences appear mainly in details and relative proportions. The way in which the different parts of the construction are combined, its vertical development and the specific



Traditional wooden Romanian house with half open porch and shingle roof

of working and using wood as material, and a skilful handling of volume and relief. The jointing of beams at the corners of the building, has many different forms, displaying not only technical proficiency but also a remarkable expressiveness.

form of the roof play a decisive role in particularising domestic architecture. The body of the construction, unimpeded by subdivisions, is characterised by its clear forms and the solidity of its masses. The roof, with its expressive silhouette, is an identifying feature of village architecture. The entrance to a wooden house is enriched by the creation of a half open porch space, which offers a concentration of important decorative surfaces. Its well defined volume is integrated structurally and aesthetically in the volume of the house. It is a multifunctional intermediate space, the site of activity or rest, the place of communication between house and yard. Its horizontal character, punctuated by the rhythm of the vertical posts, suggests protection and the organic nature of the house, which is enclosed but at the same time open.

Religious architecture

In Romania there are 1200 wooden churches listed. The religious building occupies a special place in all rural settlements. It is surrounded by the churchyard and cemetery. Religious

The construction of walls from solid timber continues until the middle of the present century in mountain and hill country. Analyses of forest soil, linguistic evidence and the detailed descriptions of rural and urban buildings left by foreign travellers in the Romanian lands all support the view that wooden architecture was formerly widespread throughout the present territory of Romania. The establishment of settlements by clearing areas previously covered by forests, agricultural and pastoral activity, administrative measures imposed in some villages, the uncontrolled exploitation of forests, rafting and the trade in timber, have combined to produce a reduction in the number of constructions with timber walls: in some zones architecture in solid wood has disappeared altogether, and over



Wooden houses are still being built using the same techniques as in the past: the building is laid out in pieces on the ground and then assembled from the base upwards



A. Barca

Interior of a farmhouse

architecture is more conservative, with little diversity in the basic structure, which remains horizontal, however it has room for variation in the form and covering of the bell-tower, which may be incorporated in the body of the building, rising above the main roof.

The peasant household as the church lie at the meeting point of the material and spiritual worlds. Decoration adds to the significance of created objects. It enhances the built space, drawing on a traditional stock of signs and symbols.

Decorative art in wood

The craft of decoration in wood calls on a series of techniques which have been discovered and perfected over the years: sculpting in relief, carving

deep into the wood, engraving designs on the surface or cutting them out with the fretsaw. This enlivening of the material involves processes and tools similar to those used in the construction of buildings, but applied to relatively reduced volumes and surfaces. Wood has proven to be an ideal ground for designs and images evocative of the mysteries of existence. Some motifs come out of the mists of antiquity, recalling the ancient practices by which people sought to avert evil. Cosmic or zoomorphic symbols, of pagan or Christian origin, carved in the wood of the gates, the heads of beams or the frames of doors and windows, put the dwelling under the protection of divine forces. The repertory of architectural ornaments consists largely of geometrical motifs. Such representations sometimes

The workshop in Romania

The fine domestic and religious architecture, as well as the very vibrant situation of the traditional techniques, made Romania one of the most important European examples for built wooden heritage and skilled know-how. The first workshop was held from 20-31 August 2001. The villages of the Salaj county were selected: Baica and Racas, about 550 km north of Bucharest. The programme was organised jointly by the Romanian Ministry of Culture and Cults, the museum of Salaj county and the Regional Directorate of Culture. This first "laboratory of European workshop methodology" demonstrated the sustainability of traditional building materials and technologies through the conservation of two existing historic buildings.

occur on metal and ceramic objects unearthed by archaeological excavations. The twisted line found on Bronze Age sickles is frequently seen on the door frames of houses and churches. The same twisted rope motif, carved in a single piece of wood (a gate post or wall beam) guards the entrance to the homestead or encloses the body of the church like a belt. The sun is represented by a rosette or by a square inscribed in a circle. Often associated with the cross, it is a recurring motif on gateposts and the door frames of churches, and over the threshold and on the principal beam of houses. Pagan beliefs related to the cult of the sun and Christianity, with the domestic dimension specific to its eastern traditions, are thus united in the juxtaposition or even superimposition of the rosette, cross and star motifs. There is a clear syncretism of symbols extended to the whole village.

The heart of the village is a territory surrounded by boundaries, taken possession of by an act of foundation, the memory of which is kept alive in the community. This well chosen site ensures not only living conditions but also protection for its inhabitants, thanks to its natural qualities and the ritual acts by which its traditions are maintained.

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A. Barca

This newly built wooden church, erected on the site of one destroyed by fire, respects the traditional plan and architectonic forms



A. Barca

Landscape in northern Romania, where natural and built forms are in perpetual dialogue

The wooden culture

One of the aims of the “Europe, a common heritage” campaign was to search our continent for cultures, traditions, skills and lifestyles which reflected and embodied local identities, but were also focal points for cohesion and convergence. Throughout the campaign, we insisted on the need to launch or revive cultures of history, town planning, landscape and religion – in short, cultures of “otherness” – which could be traced through the various elements, material and non-material, which make up our shared heritage.

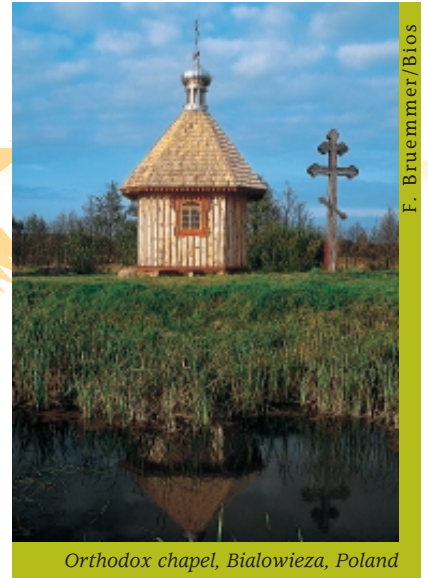
We soon found that wood – wood culture, wooden architecture – was one of the most promising areas of study. Our cross-sectoral project on wooden architecture, taking in both natural and cultural heritage, proved a notable meeting-ground: wherever we looked – Scandinavia, the Baltic countries, the Caucasus, the Balkans, central and eastern or southern Europe – we were made aware of the significance of wood

and wooden architecture in our daily lives, everyday environment and heritage.

We soon realised, too, that this was an area where shared interests made contacts both easy and mutually rewarding. And indeed, synergies are already being created and new forms of co-operation emerging. May the process continue, with exchange, understanding and solidarity as its keynotes. May it help to bring us together, and help us to develop a wood culture in Europe and beyond. For cultures like this, in all their everyday diversity, are among the many building blocks of a Europe which really means something to individuals – and as such represents a guarantee of peace for the future.

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Orthodox chapel, Bialowieza, Poland

F. Bruemmer/Bios

work encourages states to protect over 40 types of threatened forest ecosystems, such as western palaeo-arctic fir forests or Mediterranean pine woods. States are in the process of selecting appropriate sites.

Apart from habitat protection, the Convention has focused its attention on species or groups of species of special relevance to forest ecosystems, such as wood-eating (saproxylic) invertebrates or threatened birds or mammals, such as those mentioned below.

Saproxylic invertebrates have been the subject of specific work under the Convention and the Council of Europe. The Committee of Ministers adopted Recommendation (88) 10 on the protection of saproxylic organisms and their biotopes. This Recommendation encouraged forest practices aimed at protecting wood-eating insects, such as avoidance of removal of dead wood and maintenance of ancient trees and fallen trees.

Some forest birds have been the object of action plans drafted by BirdLife International and adopted by the Standing Committee to the Convention. This includes globally threatened birds from mountain forests and the Mediterranean plains (Cinerean vulture, imperial eagle, Spanish imperial eagle) and the most threatened birds from the forests of Madeira (Azores) and the Canary islands

Bern Convention action to promote biological diversity of forests



Imperial eagle on the nest

J. Gonzales Grande/Bios

The Convention on the Conservation of European Wildlife and Natural Habitats ratified by the European Community and 44 States (including four African states) had traditionally focused its attention on the protection of threatened species and their habitats. It confers legal protection on all vulnerable and endangered forest vertebrates, as well as on a number of interesting forest invertebrates. Article 4 of the Convention provides legal protection to the habitats of vulnerable and endangered species. To help the conservation of forest biological diversity the Convention has created a network of Areas of Special Conservation Interest (called “Emerald Network”) in which over 30 states are participating, including those of the European Union through their own Natura 2000 network. The Emerald Net-

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(Madeira laurel pigeon, dark-tailed laurel pigeon, white-tailed laurel pigeon, blue chaffinch and Azores bullfinch). These action plans are implemented by the Bern Convention states and supervised by a specific group of experts.

Action plans for large forest carnivores (in particular the European lynx, the Iberian lynx, wolf, bear and wolverine) drafted by the Large Carnivore Initiative for Europe (LCIE-WWF) have been endorsed by the Standing Committee of the Convention and have given rise to a number of interesting conservation initiatives carried out by LCIE and the Bern Convention.

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Europe arrived at the targets after hard work. They cover issues such as Important Plant Areas, protected area management, information exchange, capacity building and development of the Planta Europa Network.

At the conference Dr Jan Plesnik, chairman of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to the Convention on Biological Diversity (CBD), announced that the European Strategy will become part of the emerging Global Strategy for Plant Conservation which is being developed under the CBD.

Planta Europa hopes that as the first regional plant conservation strategy produced, it will serve as an example for other regions who wish to undergo the same process and ensure that the Global Strategy contains 'bottom up' elements – for after all the CBD is designed to be implemented at national level. A refined draft of the Strategy is shortly to be submitted to the CBD Secretariat for the SBSTTA meeting in November and to the Bern Convention Standing Committee. Progress will be reviewed at the next Planta Europa conference to be held in Valencia, Spain in 2004.

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Towards a plant conservation strategy

The botanists and plant conservationists of Europe pulled off an amazing feat. They came together for the third Planta Europa conference* on the conservation of wild plants in Pruhonice, in the Czech Republic (23-28 June), to develop a European Plant Conservation Strategy.

The Strategy, being developed jointly by the Council of Europe and Planta Europa, contains both long term policy directions and a set of medium term targets produced at the conference through a highly participative process. A series of workshops involving 157 delegates from 38 countries across



D. Fiat/Ecrins National Park

Orange bulbil lily



Hafer/ Wollmatinger Ried Nature Reserve

Forget-me-not

* The Planta Europa conference was organised by Planta Europa, the Council of Europe and the Agency for Nature Conservation and Landscape protection of the Czech Republic.

Planta Europa has now been formally constituted as a programme of Plantlife International. Governmental and non-governmental organisations involved in plant conservation are invited to join as Planta Europa partners. Please contact the Planta Europa co-ordinator, Liz Radford, at the address above for details or see websites www.plantlife.org.uk or www.plantaeuropa.org



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