



# LANDSCAPE ISSUES

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# FOREWORD

Paul Selman

These papers arise from the 1993 conference of the UK Region of IALE, on the subject of **cultural landscapes**. The notion of a "cultural landscape" derives from the observation that, in long-settled countries, the dynamics and appearance of the land are products of both natural and human ecology. Cultural landscapes are not pristine or abandoned ecosystems where nature dominates; nor are they intensively harvested systems where nature is subjugated. Over many generations, cultural landscapes have acquired distinctive values and qualities – both human and scientific – and their retention requires the maintenance of a complex balance of local conditions. These conditions are subject to disruption, especially from relatively recent pressures and innovations; landscapes which have endured for centuries are now in imminent danger of disintegration. There is an urgent need to record, understand and, in selected cases, protect.

A central purpose of the conference was to address interdisciplinary issues. The subject of landscape ecology, by and large, displays its scientific origins. For practical purposes, it may generally be thought of as "ecology practised at a scale above that of the community level". Yet the maintenance of extensive ecotopes requires the active collaboration of land managers and other users of the countryside: scientists thus need to engage with researchers and practitioners from the humanities and social sciences.

At times, delegates queried whether landscape ecology was exploring old ground – subject matter which had already been exhaustively studied by cultural geographers, for instance. Whilst there are many convergent areas of interest with other subjects, landscape ecology can justifiably claim its own niche by virtue of its concern to link aes-

thetics with management systems and biodiversity. It has also contributed new techniques, the Institute of Terrestrial Ecology's land classification scheme now being recognised as amongst the most important of these. With regard to IALE in particular, there is also the virtue of an international network, providing a mechanism whereby conservationists in different countries can share their experience of working in particular situations.

The papers here have been themed differently to the way in which they were presented at the conference, to reflect three key concerns of landscape ecology. These are: stocktaking, and appraising the nature and significance of changes in the ecological stock; ways of perceiving and living in landscapes; and agendas for future action.

## 1. Taking Stock

Antonio Gómez Sal and Miguel Morey assess the remarkable variety of cultural landscapes in Northern Spain and the Balearic Islands. The former possess unique qualities by virtue of their location at the convergence of oceanic and continental climatic zones, whilst the latter share features with other (under-recorded) Mediterranean landscapes. Activities such as contemporary agriculture, tourism, industry and urbanisation frequently pose serious threats to the ancient cultural landscapes. Whilst some landscapes are apparently stable, beneath their timeless visual exterior lies a sea change of management systems and local economies. Yet the sites which may be lost – through attrition or obsolescence – may possess biodiversity, spatial heterogeneity, endemic and rare species, endangered crop cultivars and cattle breeds, and high aesthetic, cultural and recreation value.

Moving east across the Mediterranean, Almo

Farina describes the impact of the withdrawal of traditional farming systems in the Apennine chain. In this area there has been a long history of co-evolution between people and nature which has produced a distinctive, patchwork landscape, and has underpinned the stability of geomorphic systems. Land abandonment has, amongst other things, led to a complex catalogue of vegetational and faunal changes, and an increase in slope instability. Anne Jones and Christopher Hunt's fascinating study of the ancient water distribution networks of Gozo demonstrates the richness of heritage which is at risk from modern technology. Their observations about indigenous systems which have been environmentally stable for long periods before collapsing for political or social reasons, have a more general significance than the specific focus of their particular research.

In their Northern Ireland study, Alan Cooper and Andrew Stott demonstrate the value of ITE's sampling frame in deriving estimates of change in ecological land cover. From the spectrum of landscapes, both the uplands and the enclosed lowlands emerge as largely cultural landscapes for which future management interventions need to be prioritised. Ingvild Austad demonstrates the challenges facing conservation workers who attempt to restore and re-establish traditional landscape types. She issues a timely reminder of the need for research with a long-term perspective.

## 2. Living in Landscapes

One of the most thought-provoking contributions at the conference was that from David Crouch, perhaps because it provided a contrast to the more familiar territory of science and public policy. He counselled caution about the professional and bureaucratic categorising of landscapes. Official categories may have great significance to those who intervene in countryside change, but may mean little to those who inhabit such landscapes, and whose cherished scenes may be considered banal or heretic by officials. Landscapes must have meaning for the people, not just the plants and animals, which occupy them.

Further insight into the "insider" status of landscapes is provided by Nicole Sauget, in her farm surveys in the Midi-Pyrenees. As with many of the regions described at the conference, much of the scenery remains virtually intact, whilst the social and economic fabric which holds it together is disintegrating. Her interviewees perceive themselves as living "on the land" rather than "in a landscape", and they offer fascinating glimpses into vistas which appear to be vital or moribund. Clive Potter, too, emphasises the need for more information about the socio-economic causes and consequences of agricultural landscape transformation, and the ways in which farm management decisions produce systematically different environmental results. He roundly dismisses simplistic views of farmers and their actions, and reminds us that solutions to countryside conservation cannot be seen merely as "one person deep".

## 3. Agendas for Action

All of the papers presented to the conference were action-based or had relevance to practitioners, and it is perhaps unfair to single out a few on this basis. Nevertheless, some did appear to be of particular assistance in guiding a future agenda. Graham Fairclough outlined English Heritage's approach to the definition of historic landscapes, whilst expressing his concern at potential proliferation of countryside designations, where rationalisation might more helpfully be achieved. He made a valuable contribution in presenting the cultural landscape as a combination of spatial, temporal and social variables, representing "ecology with time depth". Bryn Green again focused on the need to identify and define cherished and valuable areas. His account of the efforts of the IUCN-CESP working group on the listing of endangered valued landscapes, demonstrated the advances in landscape ecology which are now providing policymakers and planners with accessible information.

Michael Dower similarly referred to the work of the Countryside Commission, ECOVAST and others in pressing for a European Convention on rural landscape protection.

Identify, record and understand were his keywords; without seeking to "stop the clock" on countryside change, we must have the awareness and humility to learn from our heritage. He left us in no doubt about the importance of rural landscapes: to enrich the quality of human life, to provide cultural roots and local distinctiveness, to retain sustainable management practices which may gain fresh significance in the future, and to provide a rich resource of evidence about historical human interactions with the land.

Future generations must have regard to the complex and vulnerable nature of cultural landscapes. Several of the papers attested to

the actual or incipient collapse of seemingly stable systems due to economic or political change. A recurrent theme was the sheer complexity of the nature, dynamics and management regimes of rural landscapes. Some papers drew upon local practices, such as landownership patterns, ownership of water resources (Gozo) and the use of wind energy (Mallorca). This understanding of the ways in which landscapes are used by "insiders" must be matched by "outsiders'" knowledge of aesthetics, ecology and planning. Urgent action was often advocated by delegates. But effective action will clearly only succeed if based on soundly conceived programmes of survey, analysis and policy support.

## THE RURAL LANDSCAPES OF NORTHERN SPAIN

Antonio Gómez Sal

### Introduction

The aim of this work is to give a perspective of the most common types of landscape in northern Spain. The approach involves the differentiation of those components we believe to be basic in shaping these types and the analysis of their main characteristics. Present landscapes can be assessed as a combination in different degree of these components.

The main physical formation which defines the territorial features of northern Spain is the long mountainous arrangement formed by the Pyrenees and the Cantabrian range (Figure 1). This is due to the following reasons:

1. Its considerable average altitude hinders communication between both sides – north and south – of the range. Along its more than 1200 km, and with only the exception of the mountains of the Basque Country, many peaks over 2000m can be found. Especially relevant are the massifs of mid Pyrenees, with several summits over 3000m and Picos de Europa, about 2500m, between León and Asturias.

2. Its position, parallel to the coast and perpendicular to the dominant Atlantic winds, produces a steep climatic asymmetry: an oceanic climate with more than 1200mm of annual rainfall on the northern slopes and a continental-Mediterranean climate progressively drier southward. Beech (*Fagus sylvatica*) and oak (*Quercus robur* and *Quercus petraea*) forests on the north side contrast with the typical sclerophyllous woods and scrubs of the Mediterranean region on the south. An important feature that increases this climatic asymmetry is the fact that the Iberian Peninsula generates its own continen-

tal climate. This is mainly a consequence of its broad extension, squared shape, and the high elevation of the inland – the central plateau. This fact produces a particular environmental condition described as supra-Mediterranean or continental-Mediterranean bioclimate. It is just in the strip situated to the south of the Cantabrian-Pyrenean range where the transition between both climates (Atlantic and continental-Mediterranean) takes place. This produces a high diversity of habitats on a small territorial scale. Under these conditions the variation between different substrata and slope orientations is a determining factor.

3. It also possesses lithological and geomorphological diversity. A great variety of materials from different Paleozoic and Cenozoic periods are well represented, from massive limestone and calcareous conglomerates to quartzites, slates and sandstones. The granitic basement outcrops in the Pyrenees and constitutes the larger part of Galicia. This region, placed in the western extreme of the Cantabrian range, is geologically an ancient Hercynian block.

Together with these physical characteristics, it is essential to consider the role of the mountains as a factor of cultural diversification. The historical isolation of the populations in valleys and small regions with little intercommunication, as well as the variety of cultural influences – Romans, Germanic peoples, Arabs – implied a variety of customs and land uses. A good example of the above-mentioned cultural diversity is the fact that the four official languages of Spain – Galician, Basque, Catalanian and Castilian, the last commonly known as Spanish – as well as several local idiomatic variants, are represented along the Range.

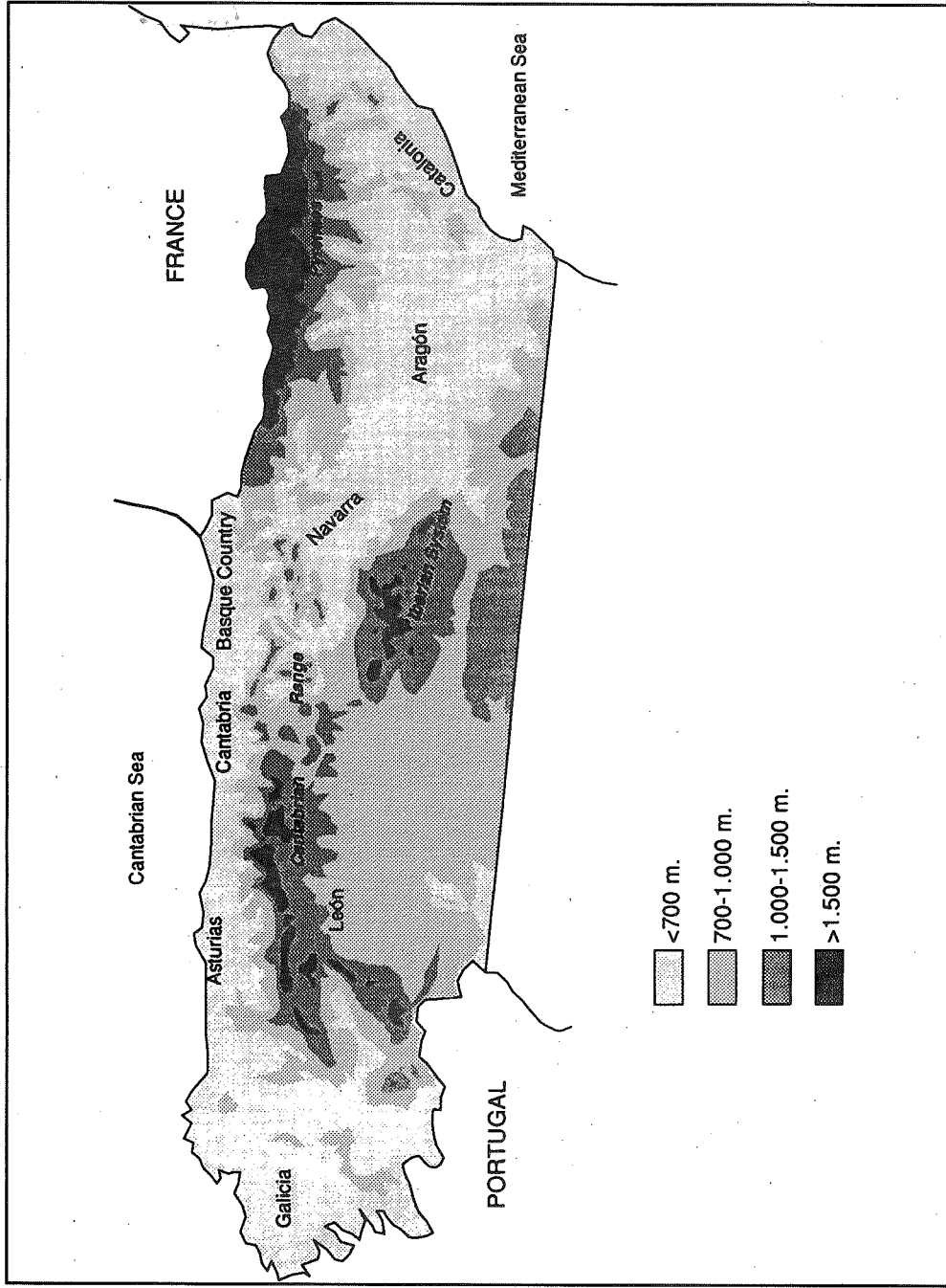


Figure 1 Altitudinal scheme of northern Spain. Cantabrian Range and Pyrenees.

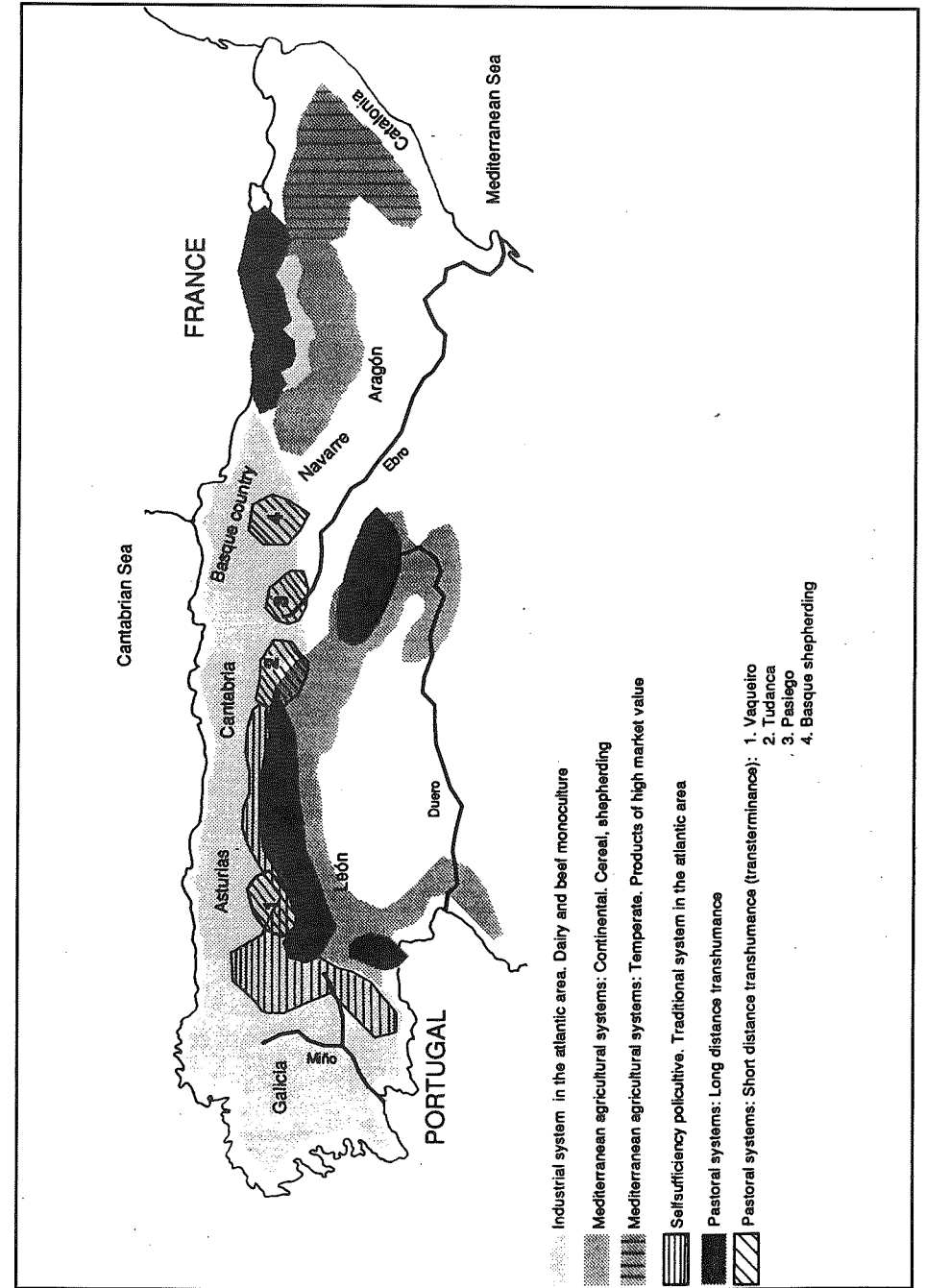


Figure 2 Distribution of the main landscape components

## Components of the Northern Spain landscapes

Several authors have analyzed the traditional rural landscapes in northern Spain. Among the more relevant we can mention Violant (1949), Solé (1951), Garcia Fernandez (1975), Cabero (1979), Daumas (1976) and Martin Galindo (1987). The different types of today's landscapes may be interpreted according to the importance and representation of the following basic components:

**Pastoralism.** Periodic displacements of livestock – mainly sheep and cows – have been imposed by the winter limitations in the use of mountain pastures. The long distance transhumance, which links the northern mountains with regions as distant as 800 km in the south of Spain, is a system strongly adapted to the physical characteristics of the country and facilitates the use of complementary resources. Other types of pastoralism, based on short displacements, can also be found along the Range. Pastoral systems are usually related to a high presence of ancient common lands which were not allowed to have a private use due to their strategic value. The systems of grassland management in Spain are described and analysed by Montserrat and Fillat (1990).

**Polyculture** This includes the survival of traditional self-sufficient economies in the Atlantic area. A typical consequence in the landscape is a sparse settlement pattern made up of many rural villages. These are formed by small groups of houses with interspersed crop plots among them. The presence of isolated farms also contributes to the almost complete occupation of the arable land. Towards the periphery of the inhabited centres and according to the land characteristics, fields are arranged in belts or zones of decreasing use intensity: vegetable gardens and orchards, meadows, cereal fields and woodlands. The high productivity that characterizes these systems arises from complex crop rotations, an active production of manure from woodland materials – gorse, heather, ferns, oak leaves – and the important contribution of livestock, mainly cows and pigs.

The bocage of hedges and small woods, a characteristic element of the landscape particularly on those sites with sandy and easily erodible soils, is essential for the maintenance of the fertility and persistence of the system.

**Mediterranean agriculture.** This is characterized by the abundance of winter cereal crops dominating the landscape. Open fields and the lack of hedges or any strip of prevalent vegetation is a distinctive feature. The bocage plays a "stabilizer" role – because it is a relatively mature successional stage, it has a positive effect in maintaining characteristics of maturity in the ecosystems. In the Mediterranean, this role is partially substituted by woody crops, which acquire an increasing importance as climate becomes milder. Distinctive elements in the land are works directed towards the control of water (the most limiting resource), the active construction and protection of cultivable plots (i.e. terraces on steep slopes where a very fertile soil is nurtured and protected) and the existence of sylvopastoral systems with a high diversity of livestock: goats, sheep, equines and cows. As the continentality of the climate increases, this landscape component gains more importance on the southern part of the Cantabrian-Pyrenean range, showing a milder character in the east, due to the proximity of the Mediterranean sea.

**Industrial agriculture.** Dairy or meat monoculture is a factor that provides an increasing uniformity in the land. New buildings differing from the traditional models, the elimination of hedges and woodland and an almost exclusive use of the land for artificial grasslands are the most appreciable consequences. Water pollution, loss of biological diversity and cultural identity both in the customs and in the landscape, are also derived from industrial husbandry.

### Distribution of the basic components of the landscape

Figure 2 depicts the areas where the different landscape components can be found. The main type of animals involved in the long distance transhumance were specialized breeds

of sheep: Merino in the western areas and Aragonese in the Pyrenees. From the 14th to the 18th century the merino fine wool represented an important source of wealth. For this reason shepherding was protected by the kings which promoted the creation of corporate institutions – powerful associations of stockbreeders – that greatly influenced the conservation of the pastures and drover roads. Nowadays, long distance transhumance is still performed but using railway and lorries as means of transport. Nevertheless, these long displacements are being progressively replaced by shorter migrations to lowland areas in the south of the range, only 100 or 200 km away from the high mountain pastures. The new winter areas are related to the use of wastes of irrigated cultures in the south of León province (Gómez Sal & Rodríguez Pascual, 1992).

Among the consequences that the historical preponderance of extensive livestock farming had on the configuration of very many Spanish landscapes, we can emphasize a special sylvopastoral system, the "dehesa", comprising grassland with scattered trees, mainly holm and cork oaks (*Quercus rotundifolia*, *Quercus suber*). This formation, well represented in the central-western and south-western Spain and very productive during the winter, is a suitable system for a sustained land use under Mediterranean climatic conditions. Another relevant consequence is a well-defined type of mountain pastures called "puertos", distributed along the Cantabrian Range, Pyrenees and the Iberian System – the preserve from ancient times of the transhumants. Puertos constitute a steppe-like landscape highly productive in summer and able to support a considerable amount of wild and domestic herbivores (Rebollo et al, 1993). Finally a surprising heritage: the extensive network of public property drover roads connecting different types of pastures. This network, about 100,000 km long, still occupies at present 500,000 ha, almost 1% of the Spanish territory.

The second type of **pastoral systems**, based on short displacements, link north-oriented summer pasture slopes with the winter

prairies placed at low zones closer to the sea. They can be found in different parts of the range and are generally related to human groups with a strong cultural identity, characterized by their semi-nomadic lifestyle and specialization as livestock raisers. Examples of these pastoral systems are the Vaqueiros in western Asturias, the Campoo-Cabuérniga community based on the use of the Tudanca cattle breed and the Pasiegos, these latter two in Cantabria. A short distance transhumance with Lacha sheep breed is found in the Basque Mountains (summer pastures in Sierra de Urbasa).

The Pasiego system is an extreme case of scattered settlement on steep slopes in the Atlantic climate (Montserrat & Fillat, 1990). Each family is the owner of several houses (huts with haylofts) placed close to the meadows. Traditionally all the family used to move, with their goods and animals, from one house to another depending on the cattle's needs and the grass phenology. The Pasiego increases the surface of meadowland by burning, and intense manuring of the heaths, which are grazed by equines, cows and sheep. At present the Pasiego system is changing to intensification and the Friesian dairy cow is now the dominant breed.

All these different types of itinerant pastoralism have a historical and ethnological interest, being a source of practical knowledge about the use of resources in specific limiting environments.

Landscapes derived from self-sufficiency, **polyculture**, are distributed through all the inland and more isolated zones of the Atlantic climate area and less represented in the coastal belt, which had more possibilities for a diversified economy (markets, fishing ports and industrial centres). Until recently, a good representation of polyculture in most part of Galicia and western Asturias and León was still found. The introduction during the 70s of the meat and milk specialized farms led to the near-extinction of these systems in Galicia, only surviving in the more mountainous areas between Galicia, Asturias and León (Garcia Fernandez, 1975; Otero, 1977;

Cabero, 1979). Traditional constructions like circular plant and thatched roof huts – pallozas, raised granaries – hórreos – and open-air haystacks may still be found. All this, together with the bocage conservation, crop diversification and an important woodland network, constitute a peculiar and very valuable landscape.

The influence of the **Mediterranean component** on the northern rural landscapes can be noticed on the southern side of the range. The enhanced continentality, which limits land uses, exerts an important influence in most of this area. On the one hand, this determines the type of crop utilized, being mainly winter cereal and, on the other, it leads to a concentrated type of settlement. Land and resource management was ruled by strict communal laws, in particular in the wide areas of low productivity pastures and scrublands, traditionally devoted to extensive shepherding. At the present time the vast territory located at the south of the Cantabrian and Pyrenean chains is one of the most uninhabited areas in Spain due to migration to industrial zones. This is leading increasingly to crop abandonment and what previously were arable and pasture lands are now being invaded by uniform woodland and scrubland with the consequent loss of the humanized landscape (Gómez Sal et al., 1993)

The mid-Pyrenees climate is also harsh as a result of its relative isolation from the sea. Most of the valleys in Aragón and western Navarra have transhumant traditions, driving the livestock to the plains of the Ebro Basin (Puigdefabregas and Fillat, 1986). At present those spaces are heavily transformed. In part, this is a consequence of the abandonment of traditional land uses which has restricted agrarian activity to the most productive areas. A second cause is tourism – both ski and summer – which mainly affects the villages of the upper end of the valley. Stockbreeding activity only remains on slopes with deep and moist soils, and also near the valley headwaters. This type of land-use forms a high value scenic bocage-type of landscape consisting of meadows surrounded by ash trees (*Fraxinus excelsior*). At the south of this

centre, where climate is dry and frosty, land abandonment and population loss are the factors which exert the stronger influence over landscape (García Ruiz and Lasanta, 1990). Farming activity comprises rotation of cereal with legume species, mainly sainfoin and lucerne, in addition to sheep and goat shepherding. On south-facing slopes, a small number of other marketable crops, complementary with cereal production, were grown with some difficulty.

In the mid-eastern Pyrenees, the presence of old cultivated land close to 2000 m a.s.l. on southern exposures is a characteristic feature. Although now these fields, called “paneras”, are devoted to grasslands they were originally utilized, in periods of scarcity, to grow cereals.

In this part of the Pyrenees, the proximity of the sea results in a milder and more humid type of Mediterranean climate which in turn allows a diversity of products, combining Mediterranean varieties with Atlantic husbandry. Highly marketable products (vines, fruits, olive and almond trees), typical of the mild Mediterranean climate, and forage crops and meadows, both supporting a well managed semi-intensive livestock farming (mainly pigs, cows and sheep) are the main sources of farm income. All this agrarian activity is complemented by the development of the industrial manufacturing of derived products.

#### Final remarks

The increase of pasturelands in order to enhance dairy and meat production is a common feature in all the Atlantic climate area of the north of Spain. It is advancing at the expense of the old agricultural fields, orchards and even natural woodlands. The tendency is a complete replacement, even in rough and remote areas, of the polyculture system and this is the only economic option under the present market conditions. The fragility of this situation comes from the fact that its products are already subject to restrictions because of EU agricultural surpluses.

From certain points of view polyculture is

considered to be archaic and therefore its elimination and substitution by more specialized productive systems is supported. However, it should not be forgotten that the complex cultural methods of this rural heritage, based on a profound practical knowledge of underlying ecosystems, have facilitated production of the highest yields, as well as the most diverse, sustainable and energy saving crops, in those places where they were correctly performed.

In our opinion the disappearance of polyculture in those few regions where it still partially survives, represents an irreparable loss of part of the European cultural heritage. The present economic system seems to be in crisis, and new strategies based on sharing out the limited industrial employment will probably somehow be favoured. In such a situation, where rural lifestyles which are less reliant on full-time agricultural employment may increase, basic knowledge about traditional land uses and their scientific significance may play a fundamental role.

In those regions where a polyculture system has persisted, it has not only represented a means of production but also a way of life which permitted the maintenance of a more or less stable population in the countryside as well as a structured and carefully managed landscape. In our opinion its conservation by the utilization of appropriate scale technologies which may allow the improvement of cultural methods, yields and life quality, should be a very desirable aim. This policy will avoid the loss of some valuable types of settlement and land use patterns. A prime example would be the dispersed population of the Galician countryside which, despite containing only 5% of the Spanish territory, contains half of its villages and hamlets.

With respect to pastoral systems – transhumance and short displacements, and their derived landscapes and drover road network – a policy based on the modernization of their production techniques must be a primary objective of nature conservation in Spain. The adaptation of these pastoral systems to the Iberian Peninsula conditions allows the use

of complementary resources. These systems do also have a very remarkable influence on the maintenance of biodiversity – sylvopastoral “dehesa” systems are important winter refuges of migratory birds – and on the existence of a high habitat diversity in mountain areas. These are also complementary reasons which endorse the interest and relevance of Spanish pastoral systems in the European context, and which have been emphasized on several occasions (Curtis & Bignal, 1990). In relation to this, many Spanish rural landscapes have been proposed to be part of the European ecological network (Bennett, 1991).

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## ANCIENT MEDITERRANEAN CULTURAL LANDSCAPES

Miguel Morey

### Introduction

As occurs in most classification problems, in landscape it is almost impossible to define a "natural" category, because of the continuous gradation which occurs between end-points. This is true for the definition of "cultural" landscapes, as opposed to "wild" ones. From the least disturbed areas in the world (wild landscapes) to those most influenced and transformed by human occupation (cultural landscapes) it is impossible to define clear-cut categories. In the Mediterranean basin, with an extremely long history of human settlement, there is no single category of landscape which can be termed genuinely "wild" (Trabaud, 1981; Naveh, 1982). Even climax communities, such as holm oak woodlands, are the result of man-nature coevolution (Thirgood, 1981). Nevertheless, for practical purposes, "wild" landscapes are here taken to refer to the least disturbed Mediterranean areas, and the remainder are classed as "cultural" ones.

This situation is further complicated by the fact that different types of cultural landscape have their origins in the different activities of human society in time and space. The coexistence of different cultures in neighbouring areas produces the simultaneous presence of different cultural landscapes. The cultural changes produced over time in the same area can result in the substitution of one cultural landscape type for another or the mixing of both types in variable proportions.

The Mediterranean basin, being the area where many important cultures and religions have originated and developed, is especially rich in ancient cultural landscapes. Nevertheless, the area is also densely populated and economically advanced, so that the use of modern technology has created many mod-

ern cultural landscapes (urban, industrial and/or tourist). These modern landscapes often pose a serious threat to the ancient cultural ones. Consequently, a study of the ancient cultural Mediterranean landscapes is urgently necessary.

In this paper attention is paid, first, to the principal extant Mediterranean cultural landscapes and, second, to the ancient ones in the Balearic Islands. In order to determine the present dynamics of landscapes (spreading, retreating or stressed) the typology of Rossi and Vos (1992) has been adopted. This describes ancient Mediterranean cultural landscapes as either "metastable relict", "unstable vanishing", or "metastable strained", adding "invader landscapes" to describe modern expanding ones. However, since it is almost impossible currently to record every type of Mediterranean ancient cultural landscape, the focus here is solely on those of the Balearic Islands. This can be viewed as a point of reference for the study of the whole diversity within the Mediterranean basin.

### Main Types of Present Cultural Landscapes in the Mediterranean Basin

Presently, a gradation of cultural landscapes exists in the Mediterranean basin, from those that have originated in the past and are now fully or partly functional and well conserved, to those of modern origin, associated with high population densities and/or modern technologies and trends (industry and mass tourism). The ancient non-functional cultural landscapes, for example Ephesus in Turkey or Knossos in Greece, are "fossil" landscapes and are not considered here.

In the first instance, the classification in Table 1 has been adopted for present Mediterranean

LANDSCAPE TYPE	LANDSCAPE STATUS
traditional rural landscapes: extensive pastures and agriculture	metastable strained or unstable vanishing (threatened)
traditional industrial landscapes: salt pans	metastable strained or unstable vanishing (threatened)
ancient urban landscapes	metastable relict (threatened)
modern urban landscapes	invader
urban-industrial landscapes	invader
urban-tourist landscapes	invader
modern industrial landscapes	invader
modern urban-tourist- industrial landscapes	invader

Table 1 Main cultural landscape types in the Mediterranean basin (in increasing level of alteration). Status after classification proposed by Vos and Rossi (1992).

cultural landscapes. The main current trend of the ancient cultural landscapes is for a reduction in area, and thus to become relict or to disappear. Alternatively, they may undergo internal change, usually as a result of the partial application of new technology (e.g. in salt pans), producing in them a greater or lesser degree of stress. By contrast, most modern cultural landscapes are expanding their area at the expense of wild and ancient-cultural landscapes.

In Europe, the modern urban, industrial and urban-industrial landscapes are ubiquitous, but the urban-tourist and urban-tourist-industrial landscapes are typical of the Mediterranean area and present characteristic conservation problems.

#### Principal Ancient Cultural Landscape Types in the Balearic Islands

Due to technological development and mod-

ern socio-economic changes, many ancient cultural landscapes have vanished, others are strained, and most are threatened to a greater or lesser extent (Rossi and Vos, 1992). Thus, the need for studies to describe, classify and conserve them is urgent. The classification and evaluation of Balearic examples can be a valid departure point for all the Mediterranean ones. In this paper, a tourism-based classification of Balearic landscapes (Morey, 1987) is adopted (Table 2). This is based on four criteria: main overall environmental features; geographical, natural, historical and cultural causes of origin and variation; cultural value; and level of threat and conservation opportunities.

The environmental value of woodlands and *garrigues* (Type 1) has been deemed to be low, because of lack of human intervention, but its natural environmental value is very high. One of the most interesting Balearic types is the semi-natural pasture (Type 2),

MAIN LAND USE OR OCCUPATION	DISTINGUISHING FEATURES	ISLANDS WHERE PRESENT	CULTURAL VALUE	STATUS ENVIRON.
woodlands and "garrigues" (Type 1)	extensive wood management, pastures	Ma, Mi, I, F	L	T
			L	T
dry pastures (Type 2)	on plains and/or hilly land, with villages	Mi	VH	T
dry crops (Type 3)	on plains and/or hilly land, with trees & villages	Ma	H	VT
dry crops (Type 4)	on plains and/or hilly land, with trees and scattered country houses	I	H	VT
dry crops (Type 5)	on plains and/or hilly land, without trees, and with villages	Mi	L	T
dry crops (Type 6)	on plains and/or hilly land, without trees, with scattered country houses	F	H	T
dry crops (Type 7)	on steep slopes (terraces) with villages	Ma	VH	VT
dry crops (Type 8)	on steep slopes (terraces) with scattered houses	I	H	T
big farms "possessions" (Type 9)	mainly agriculture, plus cattle	Ma	VH	VT
big farms "llocs" (Type 10)	mainly pasture for sheep and cows	Mi	VH	T
crops with irrigation (Type 11)	with windmills	Ma	VH	VT
crops with irrigation (Type 12)	without windmills	Ma	H	T
		I	L	VT
salt pans (Type 13)		Ma	H	T
		Mi	L	T
		I	VH	NT
		F	VH	VT
villages for summer leisure (Type 14)	sea shore of bays and beaches	Ma	VH	VT
small harbours (Type 15)	fishing and leisure	Ma Mi	VH	VT
big harbours (Type 16)	mainly commercial	Ma, Mi, I	H	NT

Table 2 Main cultural landscape types in the Balearic Islands (in increasing level of alteration).

Ma = Majorca; Mi = Minorca; I = Ibiza; F = Formentera; VT = very threatened; T = threatened; NT = not threatened; VH = very high environmental value; H = high environmental value; L = low environmental value. (Environmental Value refers only to cultural value).



which are exclusive to Minorca and resemble the pastures of Southern England. These pastures were introduced during the English occupation of the island during the 18th century, and are a good example of historical cultural influence (Morey, 1986). Terraced crops are frequent in mountain areas throughout the Mediterranean, but those of the Majorcan Mountain Ridge *Sierra de Tramuntana* (Type 7), with very old olive trees, are particularly important due to the steepness of slopes and extent of the hus-banded area.

Majorcan big farms or "possessions" (Type 9) and Minorcan big farms or "llocs" (Type 10) have their origin in the distribution of the land, as war booty, amongst the main warriors of the Christian conquest (13th and 14th centuries). Some of them have well conserved very ancient country houses and, until recent times, have been managed in the traditional fashion, conserving autochthonous varieties of crop plants and trees, and traditional livestock breeds. The landscape formed by irrigated crops with windmills (Type 11) is exclusive to Majorca, and nothing comparable exists in the Mediterranean basin. Situated to the east of Palma, near the airport, are about 1200 windmills in an area of about 2,500ha (i.e. almost 0.5 mills/ha). It is known that this area was occupied by a shallow lagoon connected to the sea in historical times, being a brackish marsh at the beginning of the 19th century. The present landscape was created by constructing windmills to pump underground water, thus drying out the marsh and transforming the area into irrigated arable land. Now, most windmills are abandoned and the most important heritage landscape of its type in the Mediterranean is seriously endangered. Finally, the old salt pans of Ibiza and Formentera should be noted; both islands have traditionally been known as "islands of salt", and the pans of Formentera are especially threatened.

Most of the ancient cultural landscapes, to a greater or lesser extent, possess ecological value. This may be associated with spatial heterogeneity, biodiversity, endemic and threatened plant and animal species, endan-

gered crop cultivars and cattle breeds, high aesthetic and recreation value, and high cultural value. For centuries, they have proved to be sustainable, but they are now seriously threatened by tourism development (Morey, 1987). It is reasonable to assume that similar studies in other regions of the Mediterranean would reveal a comparably rich yet endangered landscape heritage.

The ancient rural Balearic landscapes satisfy the fundamental conditions for inclusion in the List of Endangered Valued Landscapes (Lucas, 1992). Among these conditions may be emphasised:

- \* sustainability, having been actively used for centuries
- \* high diversity, comprising spatial heterogeneity, plant and animal diversity (biodiversity), and genetic diversity
- \* aesthetic and scenic value
- \* recreation value
- \* ethnic and cultural value (e.g. conservation of rural traditions).

These landscapes are seriously threatened by tourism development, and their conservation is important and urgent.

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# CHANGES IN A SUB-MEDITERRANEAN MOUNTAIN RURAL LANDSCAPE AND CONSEQUENCES FOR THE VERTEBRATE FAUNA

Almo Farina

## Introduction

The Mediterranean rural upland landscapes have a high inherent ecodiversity (Naveh and Lieberman, 1984). The land abandonment resulting from the recent withdrawal of agriculture has increased the fragility of these ecosystems (Naveh, 1991; Naveh and Vernet, 1991; Farina, 1991b; Lepart and Debussche, 1992; Vos and Stortelder, 1992; Gómez Sal et al., 1993; Pinto Correia, 1993; Vos, 1993a). This has also had severe consequences for socio-economic and cultural processes, diminishing and corrupting micro-cultures and traditions (Farina, 1991b). The dynamic of land abandonment is often driven by causes external to the mountain area, such as the attraction of employment opportunities in the lowlands, or the impact of urban mass tourism.

In particular, the Apennine chain preserves many of the ancient original cultural landscapes, rich in rural structures, including upland pastures, field terraces, olive and chestnut groves, and the unique vernacular architecture of the villages (Farina, 1991c; Vos and Stortelder, 1992). A long history of co-evolution between people and nature, and the innate regulatory feedback of the ecosystems, have shaped the landscape and conditioned the human communities for several millennia (Ambrosi, 1981).

In this area, a secondary succession typically occurs in the absence of human control and regulation but affected by disturbances such as fire and pollution. This generally develops as a dense monospecific shrub cover, replacing open cultivated areas and supporting a lower biodiversity (Farina, 1991a,b). The

landscape also becomes exposed to environmental hazards such as fires and landslides. The effects of land abandonment are visible also on soil morphology and on humus forms (Vos, 1993b).

The changes caused by land abandonment on the landscape mosaic, and energy and resource fluxes, exert a major influence on many species of vertebrates which are closely associated with human activity.

## Patterns and Processes in Land Abandonment

The patterns of landscape change have been studied during the last forty years in the northern Apennines (Figure 1). Prior to 1945 the landscape was characterised by a fine-

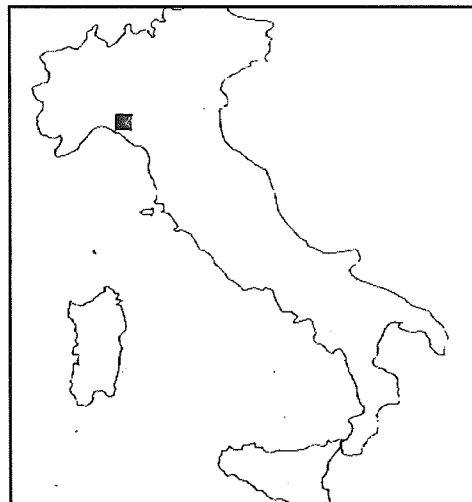


Figure 1 Location of the study region in northern Italy

grained mosaic, supporting a varied human population and land use matrix (like a "harlequin" pattern), associated with an intimate interaction between people and landscape.

Since the 1950s this landscape has been modified by the abandonment of farming practices, and gradually has shifted towards a coarse-grained mosaic of "renaturalised" woody patches. These have become progressively more separate from the remaining fine-grained human mosaic. This pattern is also common to other Mediterranean regions (Bernaldez, 1991; Fernandez Ales, 1991; Lepart and Debussche, 1992).

Although land abandonment increases with altitude, there are many local exceptions to this rule. Its extent is not readily predicted, and it varies with many factors, such as the geographical position of the area, the abiotic and biotic components, the history of land inheritance, administrative regulations, and the communications network.

Today, the livestock grazing regime is either dramatically restricted or completely disrupted, and replaced by a light wild ungulate regime and severe wild boar "tillage" in woodlands and fields. In the mountain pastures, *Vaccinium spp.* are invading the grasslands, at the same time as grazing pressures are being reduced (Table 1).

	1954 %	1988 %
<i>M. Orsaro</i>	19.26	4.27
<i>Alpi del Mommio</i>	17.35	7.8
<i>M. Prado</i>	25.00	8.39

Table 1 Relative importance of light grass-cover in 1954 and 1988 as an indicator of upland grazing pressure, within three different mountain groups. (Analysis based on MapGrafix and Gaia software).

The abandonment of wood harvesting practices, especially in the beech forests, has produced an increase in wood cover and reduc-

tion or disappearance of glades created by management for charcoal or pasturage. The abandoned mountain terraced fields, which in some cases have been turned into pastures, have been rapidly colonised by spinescent shrubs and ferns. The chestnut orchards, until recently intensely managed and widespread, are being abandoned, especially in the more inaccessible locations. The general decline of these orchards represents the loss of the unique - mature and park-like - Apennine forest. In the hills, agriculture has retreated and wood cover advanced, especially at the edges of fields (Table 2), although some cultivation of olive orchards and vineyards takes place.

Year	NP	P	A
1954	104	298	3058
1989	51	227	3716

Table 2 The changing structure of the landscape mosaic has been verified in the Aulla Commune comparing the distribution of woodland in 1954 and 1989. In general it is possible to see an increase of the wood connectivity and a decrease of openfields. NP = number of woodland patches, P = perimeter length in km, A = total area in ha. (Analysis based on MapGrafix and Gaia software).

## Consequences of Land Abandonment on the Vertebrate Fauna

### Mammals

Most of the mammals living in the Mediterranean are strongly associated with human activity and have, in response to human resource use, changed in abundance and adapted biologically to cope with changed distribution ranges (Cheylan, 1991). The increase in connectivity between woodlands and the reduced number of people in the fields have favoured the diffusion and movement of large mammals. These factors have assisted the rapid repopulation of deer, wolf and medium size mammals in the last forty years (Figure 2). The high level of woodland

cover and the connectivity of wooded patches have contributed to instability in the control of wild boar, a true pest for centres of population and a cause of serious crop damage.

The increase of small and medium size mammals (e.g. *Sciurus vulgaris*, *Glis gliris*, *Apodemus sylvaticus*, *Mustela nivalis*, *Martes foina*) is favoured by the shrub regeneration and reduced human pressures. On the mountain prairies, the transformation of open grasslands into dense shrub cover has produced marked changes in micro-mammal populations. Most notably, microtine species, more adapted to short grasslands, have decreased whilst murines have increased (Farina and Cenni, 1983).

#### Birds

Most of the birds living in the Mediterranean are synanthropic, markedly associated with open man-made landscapes and edge habitats (Blondel, 1991). Recent studies conducted on

Habitat	Autumn/Winter	Spring	Summer
open farmland	20	24	18
wooded farmland	12	48	21
olive groves	15		
mountain farmland	15		
riparian shrubland			15
downy oak woodland scrub	12		
hop hornbeam woodland	10		
sweet chestnut woodland	10		17
shrublands		26	
young wood		24	
Mediterranean maquis			16

Table 3 Seasonal bird species richness in farmland and wooded habitats of North Italy. (Source: Farina, 1989).

birds, out of the breeding season, clearly indicate a strong correlation between rural landscape and species distribution. In particular, open and cultivated fields and olive orchards attract many species of migratory birds in spring and autumn (Farina, 1987, 1988, 1989; Farina et al, 1990). The abandonment of culti-

vation strongly reduces the habitat availability and food sources for these species, whilst the cessation of grazing has transformed short grass prairies into scrub, unsuited to the foraging habits of most of the migratory birds. Woodlands and dense canopy thickets generally attract a smaller number of birds (Table 3). The reduction in extent of ecotones has also affected the abundance and distribution of many passerines, such as *Sylvia aratricapilla*, *Lanius collurio*, *Carduelis chloris*, *Turdus merula*, etc. (Farina, 1993).

#### Amphibians and reptiles

We have no quantitative data on these two groups, but it is evident that their abundance will reduce due to the disappearance of wood clearings, irrigation ponds and cultivated field margins. Most notably, rural abandonment has strongly affected the distribution of species such as *Bufo bufo*, *Rana dalmatina* and *Triturus alpestris*. Extension of woodland has also reduced the habitats of reptiles such as *Coluber viridiflavus*, *Elaphe longissima*, *Lacerta viridis* and *Lacerta sicula campestris*.

#### Fishes

Woodland extension has marked effects on streams and rivers in terms of water temperature and oxygen content. Whereas in the past, stream and river beds were cleared by timber harvesting and grazing, today the beds are shaded by foliage. It is hard to evaluate the effect on fish, but we can expect some benefit for species like *Salmo trutta* and *Leuciscus spp.* especially in terms of refuges, water temperature and oxygen content.

#### Discussion

The reduction in biodiversity associated with land abandonment has an adverse effect on many species of animals. This is paralleled by a loss of cultural and natural identity. The Appenine mountain landscape urgently needs a new management policy, able to conserve the key natural and cultural structures and processes. The conservation of this unique landscape and its vertebrate fauna depends on

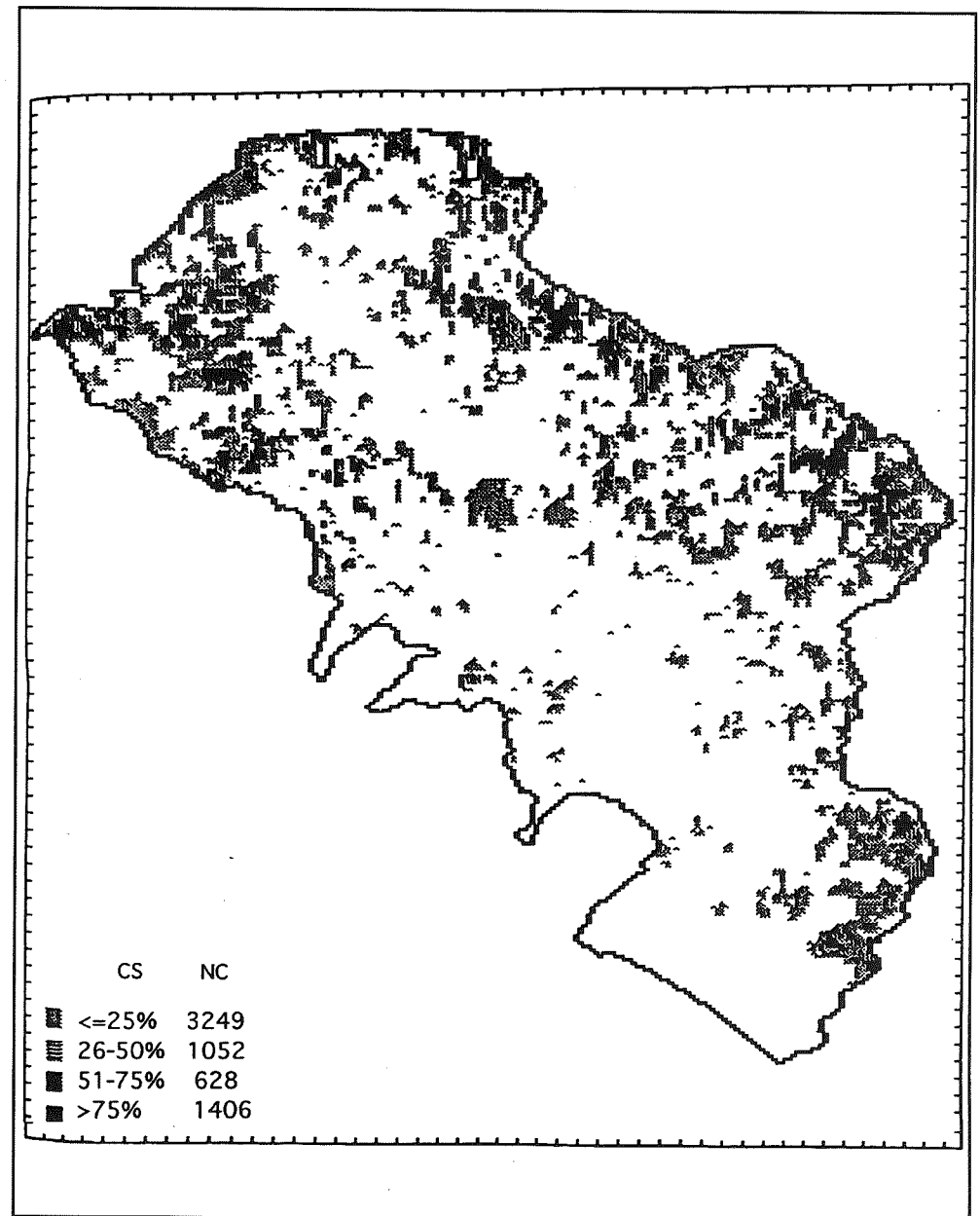


Figure 2 Expected distribution of *Capreolus capreolus* in Massa Carrara Province according to four categories of habitat suitability (CS). NC = number of cells of each category. This species appeared in the region during the 1960s and today is widespread and abundant especially in clearings and ecotones. (Source: Farina, unpublished technical report for the Massa Carrara Provincial Government).

the capacity of ecologists, decision makers and politicians to understand the urgency with which a new approach to the study and management of these complex and dynamic systems is needed. In this context, landscape ecology appears to offer real promise as a problem-solving discipline for the integrated study and management of the area (Naveh and Lieberman, 1984).

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# WALLS, WELLS AND WATER SUPPLY: ASPECTS OF THE CULTURAL LANDSCAPE OF GOZO, MALTESE ISLANDS

Anne Jones and Christopher Hunt

## Introduction

Global environmental change, aridification, salinisation and soil erosion threaten ever more of the world's agricultural resource-base (Allison, 1992; Bradley et al., 1987; Sagan et al., 1979). Development based on Western agriculture is often unstable or inequitable (Heathcote, 1987; Shiva, 1992). Analysis of stable landscape utilisation by other societies may offer models applicable, in whole or part, to regions where landscapes are no longer stable and current land use unsustainable (Gilbertson, 1986).

In semi arid lands world-wide, water harvesting and/or soil and water conservation systems were developed at various times by the indigenous populations (Bruins et al., 1986; Gilbertson, 1986; Spencer and Hale, 1961). Some appear to have been environmentally stable for considerable periods before collapsing for political or social reasons. Detailed analyses of the sustainability and environmental impact of these technologies are comparatively rare. Examples include work on the floodwater farming systems of the Tripolitanian pre-desert in Libya, built in a landscape degraded by early farmers and climate change. These had minimal environmental impact and probably collapsed for political and economic reasons (Gilbertson et al., 1984, 1993; Hunt et al., 1986, 1987). Similarly, the Sabeen floodwater farming system at Ma'rib, Yemen, was maintained for more than two thousand years before collapsing for political reasons (Brunner & Hafner, 1986). Vogel (1987, 1988) reported long-lived bench terracing with rainwater harvesting structures and underground conduits from

Jibal Haraz, Yemen. Also well-documented are the terrace and floodwater harvesting systems of the Judean Mountains and the Negev, Israel (Bruins, 1990; Evenari et al., 1982; Ron, 1966).

Most of these examples are now abandoned. Their social context, operation and environmental relationships can be reconstructed partially using geoarchaeological techniques or by rebuilding and operating systems, as has been done in the Negev (Evenari et al., 1982). Conversely, Netting (1981) and O'Neill (1982) have described the anthropological context of operating water-management systems in Portugal and Switzerland respectively, but have not examined the technology and its impact. There is thus a need for integrated studies of traditional soil and water management systems.

Here, we examine aspects of the human-resources and human environment relationships on Gozo, Maltese Republic. This semi-arid landscape has been intensively used and maintained using traditional technologies, apparently without significant degradation. We describe the use of water- and soil-management technology from a geomorphological perspective and then some of the supporting social and cultural control-mechanisms. Finally, we assess the age of the systems in an attempt to evaluate their sustainability, in the widest sense of the concept.

## Gozo

Gozo is the second island of the Maltese Archipelago. Geologically, it is a faulted sub-horizontal 'layer cake' of limestones and

clays (Bosence et al. 1990). The climate is warm semi-arid. Rainfall is very variable, averaging 583 mm, ranging from 225 mm to 1015 mm, falling mostly in winter. Summer mean monthly temperatures reach 20° C, with July and August maxima of 30.6° C (Blouet, 1987; Malta National Tourist Office, undated). Rivers on Gozo are ephemeral.

The population of Gozo is about 25000 (Malta National Tourist Office, undated). Apart from the chief town, Victoria, settlement is organised into a number of small agricultural townships. Crops include tomatoes, bananas, melons, aubergines, broad beans, cucumbers, cabbages, peaches, oranges and barley. Until recently, cotton was an important crop (Blouet, 1987). Irrigation during the dry summer months is a necessity for many crops but the near ubiquitous drystone field and terrace walls are the most striking visual aspect of the Gozitan landscape. These are widely reputed to date from the Early Medieval Moorish occupation (D. Trump, pers. comm. 1989). Water gathering, control and distribution and soil conservation are the key factors in the landscape architecture of Gozo though their effect is modulated through cultural factors, such as landholding patterns and inheritance.

## Geomorphological Relationships of Wall Technology

Walls occupy characteristic geomorphological locations, which are described typologically in Table 1 (categories partly following Gilbertson et al. 1984). The locality details are 1:2500 map sheet number and grid reference.

## Functional Analysis of Wall Technology

The walls were built for a variety of purposes and may have been reused for other purposes. Unless stated, walls are of drystone construction. The following functions were observed: bench terrace retaining walls, checkdams, boundary walls, route side walls, conduit double walls (dura), river erosion control walls, river diversion walls, dams for water and sediment retention (concreted or cemented

masonry), field clearance and water harvesting walls (rare and abandoned).

## Other Traditional Soil and Water Management Technology

The landscape would not be manageable without a variety of other soil and water management technology. Most drinking water now comes from government boreholes, but all houses more than a few years old were designed so that rain falling on the roof or courtyard drains into a cistern, whence it was drawn for consumption. Communal laundry facilities and drinking water were available at some springs, (where irrigation water was often) taken from the outflow from the public facilities. Wells are an increasingly important agricultural source and today can be drilled with the help of a Government grant. Formerly, wells were hand dug by communal effort.

The most important sources of agricultural water where springs are not available were 'runoff wells'. They are still an important source of water, particularly for fruit and vegetable cultivation. Runoff wells are subterranean rock-cut cisterns, lined with clay, plaster or concrete and supplied with runoff water trapped by small and usually ephemeral catchment walls and ditches. Sometimes the catchment is the public road. We were informed that cisterns rapidly fill with sediment and require clearing every two to ten years. Where spring water is available, stone and concrete conduit systems are built and operated by groups of farmers, with water diverted into particular parts of the system by clay plugs, usually on a day 'turn'. Each farmer maintains a cistern, which he will fill during his 'turn' and then draw on during the rest of the week. Concrete seems to have replaced masonry as the preferred construction medium. Some very large cisterns are owned by groups of farmers. One of these is catchment fed and discharges through pipes to farms some distance away. This cistern is probably of early twentieth century age; most of the other active cisterns are probably post-war and some are very recently constructed.

## 1. Plateau Walls

- 1a. Plateau wall networks (Ta'Mula: 2888:283885, Il Wilga: 2692:269992, Gordan: 2892:298924)
- 1b. Plateau depression walls parallel to the slope (Ta'Mula: 2888:282886, Il Mejda: 2888:288887 and 290886 Il-Hotba Tal-Qasam: 2692:296924)
- 1c. Plateau contour walls (L-Awejna: 2888-28788880, Ta'Mula: 2888:28108854)
- 1d. Plateau downslope walls (Ta'Mula: 2888:28128852)
- 1e. Plateau walls oblique to slope (It-Tafal: 2888:28648850)

## 2. Hillside/Valley side walls.

- 2a. Contour walls (Ta'Wied Sansun: 2888:286883)
- 2b. Discontinuous contour walls (Weid Sufar: 2960:27509021)
- 2c. Downslope walls (Tax-xatt: 2888:28748820)
- 2d. Hillside walls oblique to slope (Weid Safar: 2960:27559023)
- 2e. Hillside dense networks (Dahlet Quorrot: 3889:382897, Gordan: 2892:299923, San Blas: 3690:372906)

## 3. Valley floor walls.

- 3a. Crosswalls (Wied Sufur: 2690:276906, Ir-Rumien: 3887:388876)
- 3b. Watercourse marginal walls (Weid Merell: 2690:27589053)
- 3c. Valley floor marginal walls (Weid Sansun: 2888:28738830)
- 3d. Valley floor oblique walls (Weid Sansun: 2888:28798839)

Table 1: Geomorphological Relationships of Wall Technology

### Land- and Water-Holding Patterns

Landholding is intricate, with many small plots, partly as the result of partible inheritances. Any given farmer's landholding is likely to be a fragmented mixture of long-term inheritance leases and ownership – one informant farmed six holdings, totalling 12 acres, mostly held by his father-in-law on long leases dating back to the informant's grandfather, at least. Many holdings are uneconomic, but the land is not let for fear of non-return and is left uncultivated. Many farmers are part-timers, with other jobs.

As important as landholding, is ownership of water sources, particularly springs, which are often owned by groups of families. Water is sold by the hour, day or week to farmers via the conduit systems. Smaller springs may be owned by individual farmers or groups of

farmers. Ownership of wind or diesel pumps for groundwater abstraction may also be owned by groups of farmers. Some older wells were in common ownership having been dug by the whole village. Runoff wells are owned by the owner of the land in which they are cut.

Water is a problem as well as a resource in this landscape. The terrace walls were built to conserve the very limited soil cover. Excess water was redistributed in dura, owned and operated jointly by groups of landholders. Dams were built partly as sediment traps, partly for water supply.

### Antiquity of the Systems

The antiquity of the systems is uncertain, though tradition suggests a Moorish (early medieval) age (D. Trump, pers. comm. 1990).

Stratigraphical evidence was therefore sought to clarify this point.

Plateau contour walls clearly overlie Roman remains and contour walls overlie prehistoric sites at a number of places. Sixteenth to (mostly) nineteenth century potsherds were found in these bases of fills of eroding wall networks in a number of places. In the buried soil underlying a partially demolished dura sherds of late nineteenth century age were found. The walled landscape is clearly cut by most modern roads, and some runoff wells are without catchments because of roadside wall construction and some conduit systems are similarly disrupted.

In some areas different generations of walls are apparent, with early subcircular enclosures on plateaux subsequently incorporated into plateau wall networks. Some checkdams are cut by later terrace walls. Large scale rainwater harvesting structure is non-functional partly because of the construction of later walls on the plateau, but clearly was contemporary with terrace on the valley side. It is similar in construction and function to Tripolitanian systems of Roman age (Gilbertson et al., 1984; Hunt et al., 1986 1987).

It would seem, therefore, that the landscape is polyphase, with demonstrably early elements, but most in its present form is of post medieval age and much possibly as late as the nineteenth century. Similarly polyphase landscapes have been described from Crete (Moody & Grove, 1990), Israel (Evenari et al., 1982; Bruins, 1990), Greece (Zangger, 1992) and Cyprus (Wagstaffe, 1992) and may be more widespread in the Mediterranean lands than is currently accepted.

### Sustainability

The soil and water conservation systems on Gozo are still essentially intact, though considerable areas, mostly those difficult to machine cultivate and far from water on the steeper slopes, have gone out of cultivation in the last ten years. Systems do not appear to be degraded where cultivation continues, in

fact most farmers make strenuous and successful efforts to maintain their landscape using a mixture of old and modern technology.

Major changes have recently occurred in this landscape. A major crop, cotton, has become uneconomic (Blouet, 1987). Government grants for boreholes and piped domestic water have become available. Modern irrigation technology is appearing or being considered. Concern is sometimes expressed over these developments – some of the older farmers are scornful of those who did not maintain their runoff wells and thought the Government's piped water would not last forever.

Nevertheless, the sustainability of the systems on Gozo is an important issue and in this context the age of the systems becomes important. There are indications from the stratigraphical evidence described above that at most, parts of the present agricultural system may be no more than two centuries old. It may, therefore, be too soon to judge the long term sustainability of the present agricultural landscape, particularly given the recent demise of cotton as the major cash crop. Given the present adaptability of the farming population, the concept of a sustainable and unchanging landscape is of questionable validity, and a concept of dynamic sustainability may be more appropriate for most of the Mediterranean Landscapes.

### Conclusion

In this study we have illustrated the complexity and micro-regional variation in Gozitan landscape architecture, agricultural practice and continuance, with multiple strategies used to address common problems of aridity and soil erosion. Inheritance traditions are a major contributor to the complex landholding and water management patterns. Relationships of landscape architecture and agricultural practice with variables such as slope angle, geology, availability of springs and aquifers are also apparent. This is an evolving and dynamic landscape, with major development in the eighteenth and nineteenth centuries and considerable changes through-

out the present century. In such a context the concept of sustainability, which tends to imply a situation in stasis, is not applicable and should be replaced by a concept of dynamic sustainability. Other supposedly ancient landscapes should be reevaluated in this light. The main guarantor of the dynamic sustainability of the Gozitan agricultural landscape is the adaptability of the farming population.

#### ACKNOWLEDGEMENT

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# AN INTEGRATED STUDY OF LANDSCAPE IN NORTHERN IRELAND

Alan Cooper and Andrew Stott

## Introduction

Managing the rural landscape depends on understanding past and present interactions between land users and landscape elements, knowing how landscape elements are distributed and how they are likely to change. This information is needed for identifying environmental issues and developing landscape management strategies.

The objectives of this paper are to: 1) summarise the origin and character of the Northern Ireland (NI) landscape, and 2) show how a sampling approach to landscape ecological survey based on multivariate land classification (Bunce et al, 1983), can contribute to this activity.

## Landscape origins

Northern Ireland is located on the Atlantic edge of Northwest Europe (Fig. 1). It has a cool oceanic climate with the main climatic gradients from lowland to upland and from an oceanic northwest to a slightly more continental southeast. The geology is varied; from Pre-Cambrian to Tertiary and from limestone to granite. Rocks primarily influence the upland landscape, for example, the limestone scarps of Fermanagh. In the lowland farmed landscape, glacial drift moulded into a drumlin topography predominates, covering the underlying strata (Cruickshank 1987). At the time when the first Mesolithic settlers arrived in NI, the landscape would have been thickly wooded with *Quercus*, *Ulmus*, *Fraxinus*, *Betula* and *Corylus*. There must also have been extensive wetlands and fens. Probably the most significant cultural impact on the landscape was the gradual and eventually the almost total removal of

native forest and drainage of the wetlands (Bardon, 1992).

The settlement history of Ireland, as of most of Europe, is characterised by strands of continuity and elements of change. These characteristics are reflected in the local archaeology and the landscape. Evidence of surviving Early Christian sites indicates that NI was densely settled and extensively farmed well before the Norsemen and the Normans arrived. The Early Christian period represents one of the greatest continuities in Irish history, with some monastic sites in occupation for a thousand years.

The occupation and subsequent colonisation of Ulster by the English in the 16th and 17th Century Plantations, brought a new order to the countryside. Market towns and roads were constructed and land was organised into large estates. As landlords sought to make an economic return from their estates, they introduced improvements which still determine current farm structures and landscapes in many areas. In particular, much of the landscape was enclosed by hedged field boundaries and large scale land drainage was begun.

By these processes, the Ulster countryside was transformed during the 18th and early 19th centuries. The farming community expanded and benefited in many areas from additional income generated by employment in a rurally-based linen industry. During this period, woods were felled, cultivation was extended into the mountains and bogs were cut for fuel. This expansion was brought to a catastrophic end by the Potato Famines of 1845-1849. In more recent years probably the most significant change in the land-

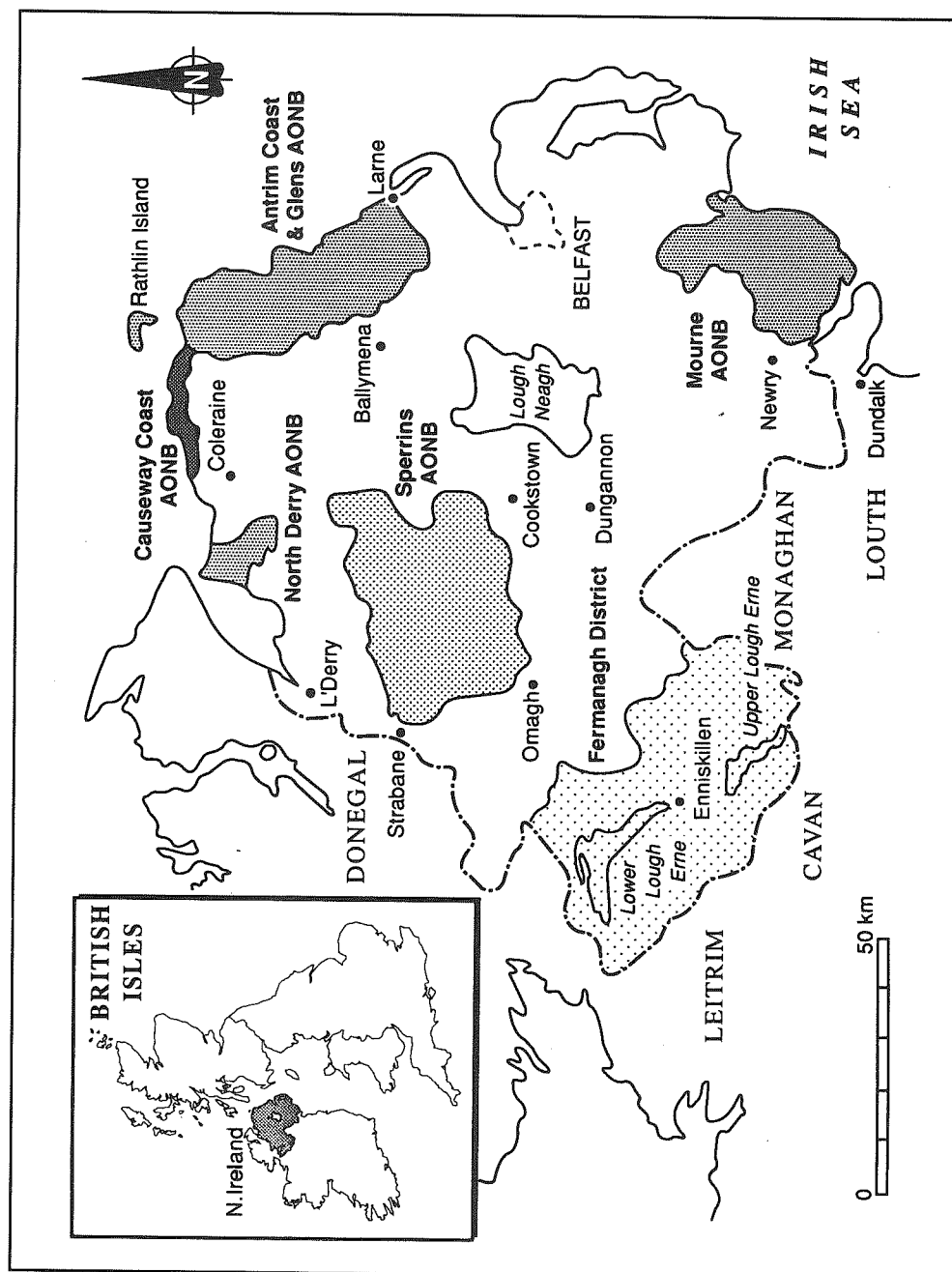


Figure 1. Landscape ecology study areas in NI: 1. Mourne Area of Outstanding Natural Beauty (AONB) 2. Antrim Coast and Glens and Causeway Coast AONBs 3. North Derry and Sperrins AONBs 4. Fermanagh District 5. Wider Countryside.



scape has been the introduction of commercial softwood forestry and major river catchment drainage schemes for agriculture.

### Landscape character and conservation

Historical change has produced a landscape which is locally distinctive and which contains a diverse mosaic of wildlife habitats and archaeological interest. Current land use is constrained by environmental conditions (such as poor soil drainage, heavy soil texture, topography and climate) and patterns of ownership (such as the small size and fragmented nature of farms). There are also radical changes affecting the landscape as new farming methods are introduced and as the rural economy responds to external pressures.

Conservation can be defined as the process of managing these changes within the inherited landscape framework, so that what is valued is retained and enhanced. In making decisions about what is important (Fig. 2), it

is crucial that information about the countryside and its wildlife is available. The land classification and landscape ecological sampling approach described in this paper allows data to be collected in a cost-effective and systematic manner. In NI, landscape ecological surveys and the associated database have contributed to the selection and development of policy objectives and management prescriptions for Areas of Outstanding Natural Beauty (DoENI, 1988) and Environmentally Sensitive Areas (DANI, 1993).

### Field survey and sampling programme

The landscape ecology database (Murray et al, 1992) was assembled from a field sampling programme based on multivariate land classification (Cooper, 1986). Field survey was used to describe the landscape elements quantitatively and land classification to define their distribution. Initially, sampling strata were created by a computer classification of kilometre squares of the

Irish Grid using map attributes related to climate, geology, soils, topography, hydrology, land use and settlement patterns. The classification produced groups of similar squares called land classes. These break up the landscape into rational units that represent regional land types.

Land cover in a sample set of 25ha grid squares stratified by land class, was mapped in the field. The cover of woodland, other seminatural vegetation types, field boundaries, agriculture and landscape attributes was recorded onto field data sheets containing a 1:10,000 map, a checklist of land cover descriptors and a database recording matrix. To aid mapping, standard descriptors of the land cover types were defined using their dominant and indicator species composition, vegetation structure and the management of land parcels.

Field sampling was carried out as five separate studies (Murray et al 1992) between 1986-1992. Field data were digitised into a database and then analysed to produce land cover estimates for NI as a whole, the separate study areas and groups of land classes. Land cover estimates and statistical error terms were calculated by database programming.

The sampling intensity was 2.1% of the land area and the total number of samples was 628. A high sampling intensity was needed so that land cover and management data could be generated for each study area with an acceptably low standard error. A statistical approach is helpful in presenting the case for landscape management to other land users.

### Land classification

All 14,377 kilometre squares of the Irish Grid covering NI were classified using indicator attributes generated from a two-way indicator species analysis classification (Hill, 1979) of 700 sample squares. Twenty-three land classes were produced initially (Cooper, 1986). A more generalised classification with eight land class groups was sub-

sequently developed (Murray et al, 1992).

Group 1. Low elevation drumlin terrain with a south-eastern distribution.

Group 2. Flat to undulating low elevation land associated with western lakeland.

Group 3. Intermediate elevation land with an undulating topography, associated with mountain blocks.

Group 4. Flatter terrain at low elevation around Lough Neagh and towards the north coast.

Group 5. Widely dispersed drumlin terrain and land at the lowland-upland margin.

Group 6. Intermediate elevation land notably in hill and mountain areas.

Group 7. Low mountains.

Group 8. Higher mountain and plateau terrain and steeper summits.

The land classes can be combined in other ways, for example, regional landscapes can be delimited by superimposing geographical or political boundaries onto the land classification, or identifying specified combinations of land classes that characterise particular landscapes (Murray et al, 1992). In a landscape ecological study of Fermanagh (Murray et al, 1991) this approach generated countryside management information that was appropriate to different parts of the study area.

### Land cover estimates, distribution and change

The structured land classification and database constitute a practical basis for landscape description and analysis (Cooper and Murray, 1992). The main value of the database has been in providing a perspective within which management decisions can be made. It provides an integrated, scientific framework within which landscape management decisions can be debated; can be used

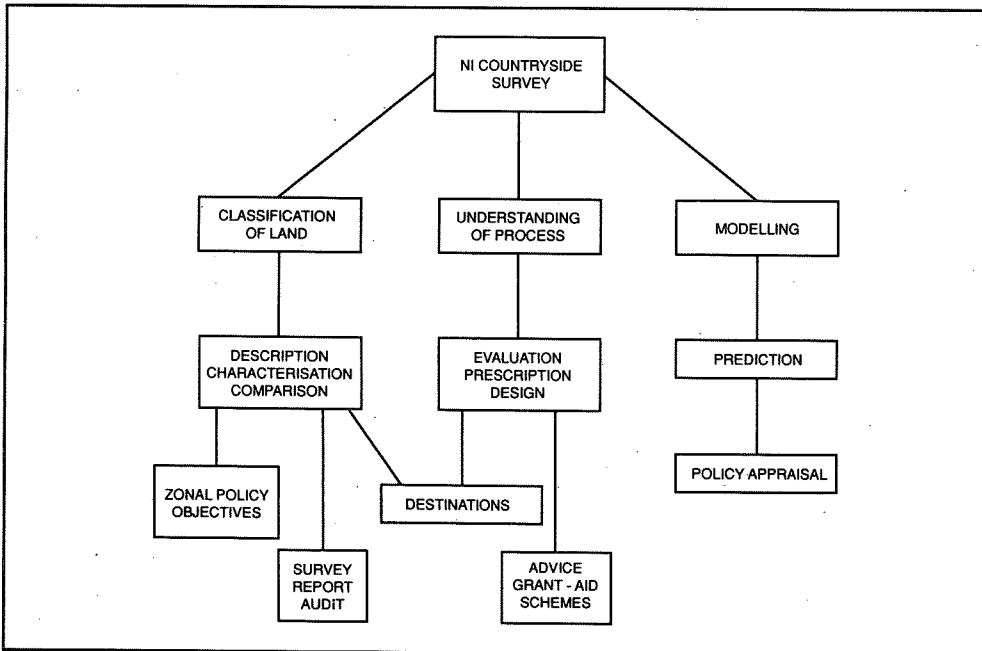


Figure 2. Decision processes in countryside assessment and management.

to generate landscape management objectives that relate to the major elements of landscape and its ecological diversity; and can be used to monitor landscape change and the effects of landscape management in relation to other land uses. Examples of these uses are given below.

Species-rich wet grasslands cover 5.3% of the western lakeland land class group 2. The standard error (SE) of this estimate is 1.2. In contrast, only 0.7% (SE 0.2) of group 4 is covered with species-rich wet grassland. Species-rich wet grassland in group 2 is an

integral landscape element, its distribution linked to less intensive agricultural practices. In contrast, in group 4, it occurs more as fragmented parcels in a landscape where grassland intensification is a major factor. Species-rich grassland management priorities in the two landscape types are clearly different.

Wet bog covers an estimated 4.7% (SE 0.7) of NI, largely in the upland land class groups 7 and 8. A significant amount (20%), largely as derelict hand peat cuttings, is in the lowland groups 1-5. There is much scope for

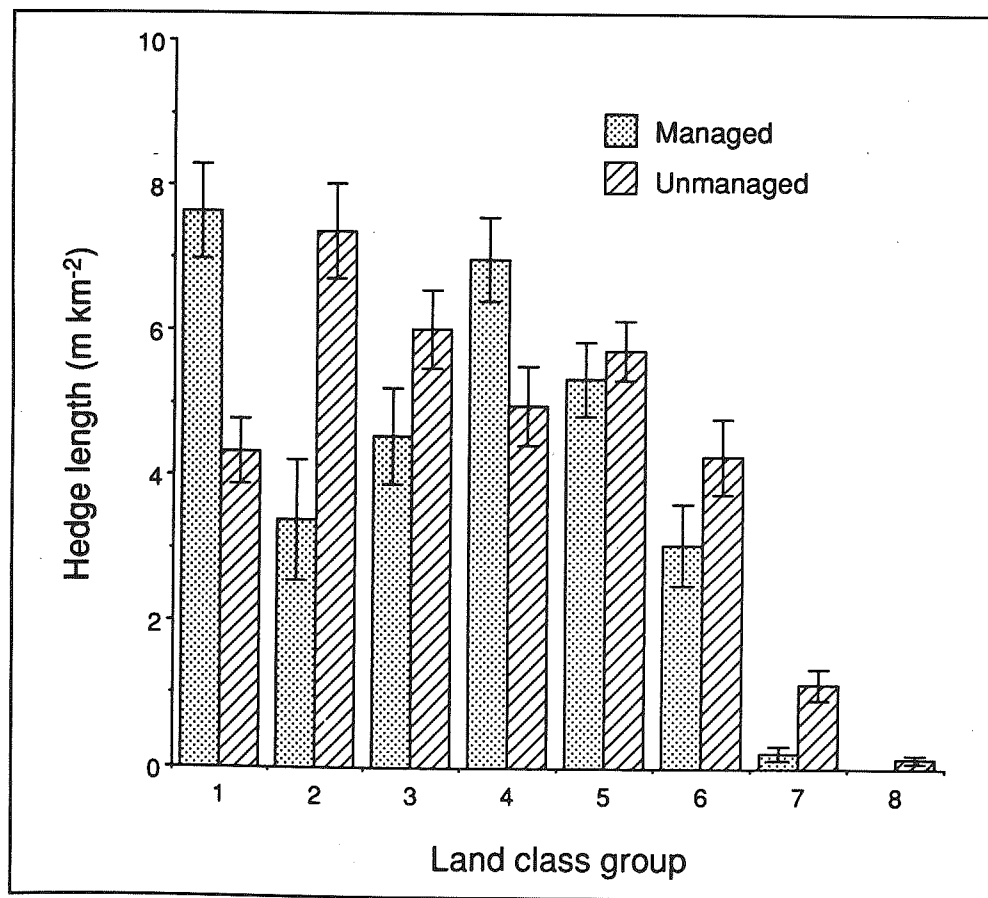


Figure 3. Estimated length(m) of field boundaries per kilometre square in the NI land class groups 1-8. Bar length represents twice the standard error.

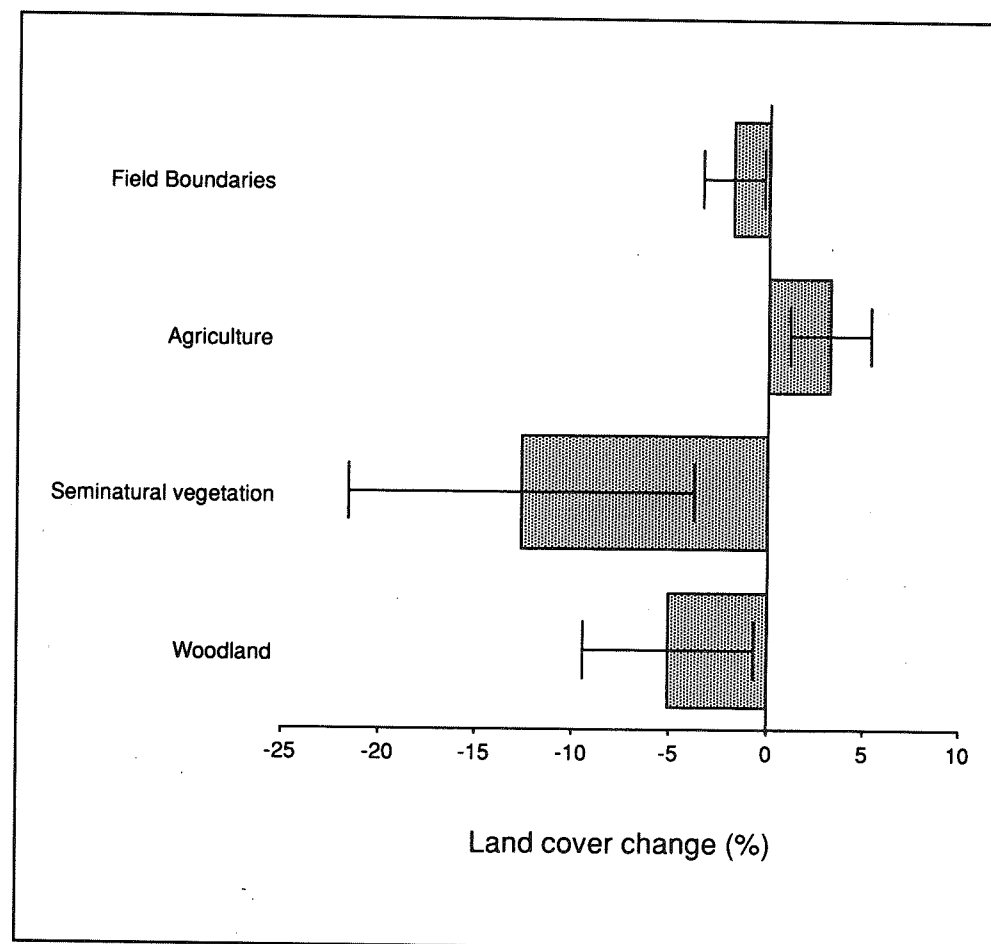


Figure 4. Estimated percentage change of land cover in the Mourne Environmentally Sensitive Area between 1986-1992. Bar length represents twice the standard error. All changes are significant ( $p = 0.05$ ).

developing the landscape and ecological potential of this landscape element so as to maintain its distribution in farmed landscapes and to enhance its ecological value.

Hedgebanks account for 50% of field boundaries in NI. Complete hedgebanks and those with a small proportion of gaps represent agriculturally functional structures (managed), whereas hedgebanks with a large proportion of scattered or overgrown shrubs, are neglected and generally unmanaged (Fig. 3).

A large proportion of hedges fall into the unmanaged category, with certain land class groups containing more than others. The large proportion of unmanaged hedges prompts questions such as: will hedges that do not have an agricultural function be removed by land users; should unmanaged hedges be retained and managed for their landscape and ecological characteristics; who will carry out this task; and who will pay for it?

A monitoring survey of mechanical peat cutting in the upland groups 6-8 (Cooper et al, 1991) established how much peat cutting was being carried out in the NI uplands. It showed that the area of land affected was much less than other management practices such as peatland drainage. The survey also demonstrated that the rate of peat cutting was increasing much more rapidly on certain peatland vegetation types and in particular landscape types, thus emphasising the need for control.

Monitoring to investigate the effects of designating the Mourne Environmentally Sensitive Area (Cooper et al, 1993) involved a full cover resurvey of 43 sample squares. This approach to monitoring is much more time-consuming than single resource resurvey but gives insight into the whole landscape. There was significant loss of woodland and other seminatural vegetation types, and field boundaries over the six year period between surveys (Fig. 4). More detailed analysis showed that there was particular loss of species-rich grassland and that this was significantly more associated with non-participants in the ESA scheme.

The examples above emphasise that both the uplands and the enclosed lowlands are largely cultural landscapes and that the dynamic nature of land use change necessitates the prioritisation of management tasks.

In the uplands, control of grazing regimes, peatland exploitation for fuel and afforestation by conifers, are the main landscape management priorities. Maintaining ecological and landscape diversity in the marginal uplands is particularly problematical since the pattern of variation is predominantly small scale, mostly resulting from enclosure by field boundaries about 200 years ago. The main agricultural trends in the marginal uplands are extensive grazing, field boundary dereliction and land abandonment.

In the eastern lowlands, management of fragmented seminatural grassland and derelict field boundaries are the main priorities, within the context of grassland intensifi-

cation. Further west, where the wetter climate and heavy waterlogged clay soils constrain agriculture, afforestation over lowland species-rich wet grassland is a potential land use change for which landscape management prescription must be made.

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# SCANDINAVIA - CULTURAL LANDSCAPES AND METHODS OF RECONSTRUCTION

Ingvild Austad

## Background

Cultural landscapes in most countries undoubtedly have a great deal in common. Practically all cultures began as hunting communities in the early history of mankind. In a global perspective, the Nordic is quite young. Most cultures included livestock husbandry in one way or another as an important way of life, for meat and milk production and as draught animals. Especially in strongly seasonal climates with a non-productive winter season as we for instance have in the Nordic countries, populations had to store provisions for the lean periods (Austad, 1988). Large quantities of fodder were required for the winter (grass, twigs, bark and leaves). As the population was growing, also the mountain areas were taken into production (Norway, Sweden and Finland).

The traditional agrarian landscape in Scandinavia and Finland was characterized by its small-scale pattern of variation, resulting in a great diversity of plant communities and ecological processes. In these biotopes, the natural vegetation had been modified and exploited for many generations. The vegetation types reached a certain stability, a result of interplay and mutual dependence of natural conditions and farming methods adapted to these, of which lopping (pollarding/coppicing), hay-making and grazing were the most important (Austad, Hauge & Helle, 1993). The **old** cultural landscape thus contained an ecological diversity which is **not** present in the natural landscape, and which is **diminish-**ing in the modern agrarian landscape.

During the present century, we have witnessed far-reaching changes in the cultural landscape in the Nordic countries. Production is now mainly restricted to areas where mech-

anized agricultural techniques can be used efficiently, and large areas of the outfields are no longer in traditional use. They are being colonized by woodland, planted with spruce forest, cultivated or developed in other ways. As a result, valuable landscape elements, cultural monuments and many habitats and species are threatened with extinction.

The importance of preserving ancient monuments and historical buildings as part of our cultural heritage has long been recognized. However, it is also important to realize that the vegetation itself may be a valuable cultural-historical document. The actual composition of the vegetation, e.g. in a pollarded woodland, pasture or hay-meadow, may reflect several centuries of exploitation and should be regarded as **biological cultural monuments**.

Anthropogenic plant communities, or human-influenced vegetation types, have until now received little attention in Norway. In other countries like Finland and Sweden especially the history, ecology and management of wooded hay-meadows have been the subject of comprehensive research (Hægström, 1983, 1990; Aronsson & Matzon, 1987; Ekstam, Aronsson & Forshed, 1988). Scientists in Denmark and Sweden have done a lot of experiments as to the grazing effect on the vegetation by sheep and cattle (Buttenschön & Buttenschön, 1978, 1982a-c, 1985; Steen, 1954, 1956a,b, 1958; Johansson & Hedin, 1991).

In Norway restoration and management of fens (wet hay-fields) have been studied for many years by Asbjørn Moen (Moen, 1990). At the University in Bergen, the Botanical Institute has done much to explain the establishment, dynamics and ecology of the heath-

lands along the western coast of Norway (Fremstad, Aarrestad & Skogen, 1991).

## Restoration and Establishment Experiments

This paper concentrates on two restoration experiments: one in a deciduous woodland, and one concerning the cultural landscape connected to a small cotter's farm; and one establishment experience of traditional meadows.

*Restoration Experiment: a high pollarded woodland; Loi in Luster, Sogn, Western Norway*

Rich deciduous forests were formerly widespread in Norway as in Scandinavia and southern Finland. Through centuries large areas have been completely destroyed through conversion to crop-land and other utilization. The remaining stands, mostly fragments on non-arable soils and impediments are generally strongly modified by man.

The exploitation of the forests for fodder (high pollarding, coppicing, grazing and hay-making) resulted in an open woodland influenced and determined by anthropogenic factors with transitions from full sunlight to deep shade accompanied with temperature gradients and soil variations.

Light conditions were much better than in a natural wood and the good insolation and high soil temperature also led to a faster turnover and mineralization of organic material, and also resulted in an upward movement of seepage water due to the increased evaporation which brought nutrient minerals to the topsoil. The harvesting (of twigs) prevented formation of a thick (raw) humus layer. All these factors favoured particularly thermophilous light-demanding and edaphically exigent forest margin species which tend to be crowded out in a fully forested landscape. This elm forest presented here, represents an old, high-pollarded forest type of great cultural-historical and ecological interest (Photo 1).

After the ending of traditional management, the woodland has become increasingly dense, partly by invasion of *Alnus incana* as a first step in a forest regenerative succession, and partly by the development of a luxuriant field layer. The high-pollarded trees have also developed crowns which are top-heavy in relation to the root system. This is because of the earlier cutting which strongly stimulated the growth of new shoots enlarging the twig harvest (Austad, Lea & Skogen, 1985; Austad & Skogen, 1990).

*Picea abies* was planted in the forest in 1969. Heavy shading led to poor growth of the spruce plants, and barking and felling of the old pollarded trees was recommended. However, the forest was rescued through a cooperation between authorities, scientists and the landowner, and an experiment to protect, restore and manage parts of this old forest started in 1985. The whole forest, about 35 ha, was surveyed, mapped and described. A representative area of about 0.3 ha. was chosen for field-experiments and research work. Here the tree, shrub and field layer were mapped in detail and measured. Seven permanent transects were marked out for detailed analyses of the vegetation before and after restoration and reintroduction of traditional management.

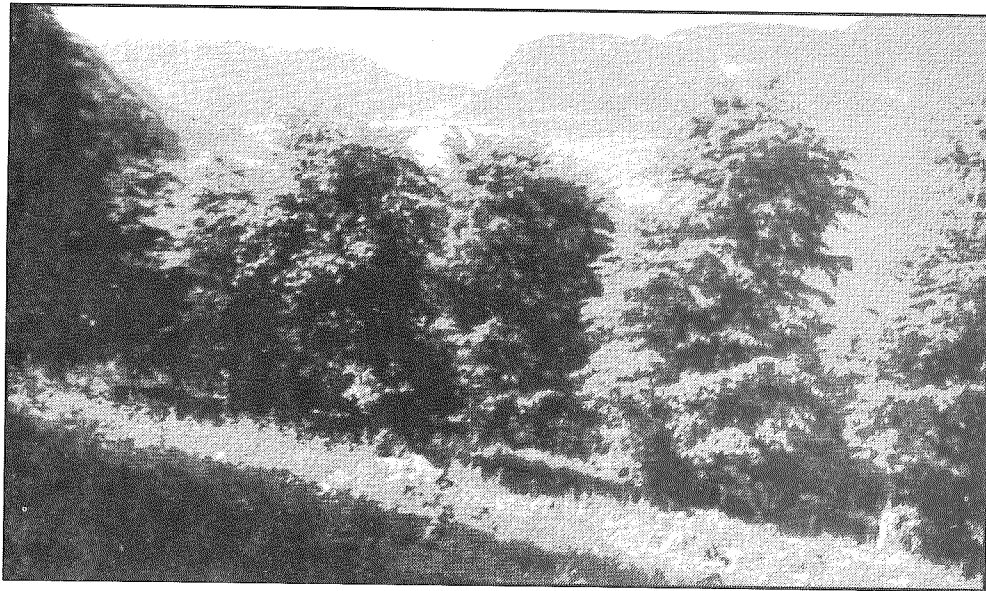
The restoration work included:

- 1). Removal of the understorey tree layer of *Alnus incana*.
- 2). Pruning old *Ulmus glabra* pollards back to traditional shape. The pollards were very large and had previously been harvested 8-10 m above the ground. In addition many of the trees were extremely old and the wood partly rotten in the centre of the trunk. The trees were cut back using chain saws.
- 3). The field layer was mown once to twice yearly using short-handled scythes, sickles and leaf-cutting knives.

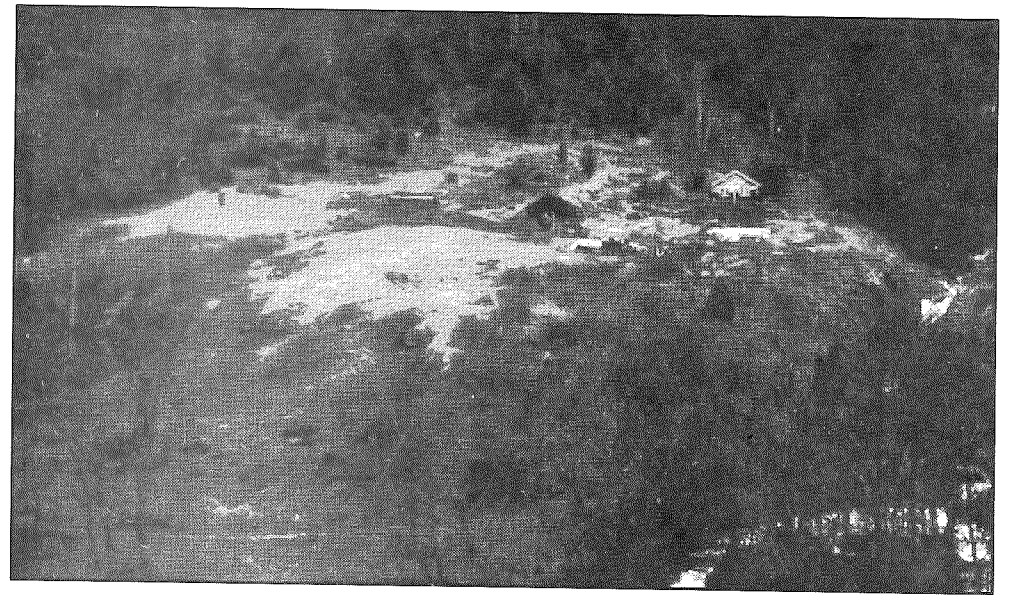
All cut-off material was removed from the experimental area.



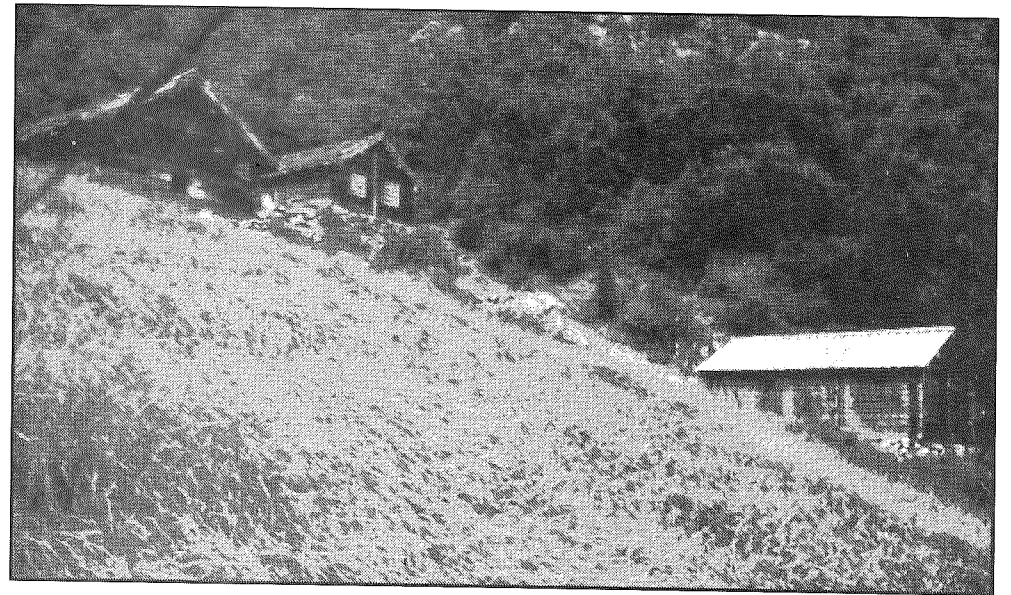
*Photo 1. The old, high-pollarded abandoned forest at Loi. There are cutting marks as high as 15 m above the ground. The productivity of this woodland was very high. [Photo: I. Austad, 1984].*



*Photo 2. The experimental area in the deciduous forest in July 1989. [Photo: L. Hauge].*



*Photo 3. The cotter's farm at Galdane in Laerdal in inner Sogn. The cultural landscape is under succession while the buildings are under restoration. [Photo: L. Hauge 1986].*



*Photo 4. After three years of restoration and comprehensive management the raspberry scrub did convert into grassland. [Photo: L. Hauge 1989]*



Photo 5. The experimental plots at Sogn folk museum. Thorough working of the soil was necessary. [Photo: I. Austad 1987].



Photo 6. Meadow hay was collected at six different times during the growing season. It was important to obtain ripe seeds from as many species as possible. [Photo: I. Austad 1987].

The main results are:

- 1). The pollarded elms have developed bundles of new twigs at the pruning points and are in good condition.
- 2). After an expansion of tall, nitrophilic herbs, e.g. *Urtica dioica*, *Impatiens noli-tangere* and *Rubus idaeus*, low and medium sized herbs and grasses have increased both in numbers, frequency and abundance. Helio- and thermophilic forest margin species are also more prominent. The moss layer has also become more dense and varied.
- 3). The average number of species in permanent plots has nearly doubled, but the status of the vegetation is still far from that of the traditional "agricultural woodland".

So far the experiment shows that it is possible to restore the tree layer completely, and the development of the field layer points toward a herb rich meadow resembling the vegetation found under traditional management. This was possible even under such difficult conditions as we find in this forest. Continued management is essential, both to maintain the results reached today, and for a further development towards an open forest meadow (Photo 2).

*A Restoration Experiment: a cotter's farm; Galdane in Laerdal, Sogn, Western Norway*

The cotter's farm Galdane was abandoned in 1947 and the cultural landscape strongly threatened by disuse. On the former tilled fields and in the meadows, the field layer had converted to a luxuriant and unstable layer of nitrophilic and moisture-demanding tall perennials, mainly nettle (*Urtica dioica*) and raspberry (*Rubus idaeus*) (Photo 3.). Grey alder (*Alnus incana*) had become an aggressive colonizer along the field margins. Old irrigation canals had been damaged and blocked, and dry meadows had been colonized by pine (*Pinus sylvestris*) and juniper (*Juniperus communis*).

Pollards of elm had not been harvested for several years with the results of developing top-heavy and wide crowns. The outlying fields (hay-fields and pastures) had been com-

pletely swallowed up by dense woodland. The quality of the area in terms of cultural history, countryside experience and ecological diversity had been strongly affected, and the agricultural value of the area and its overall recreation potential strongly reduced. This was the situation when the restoration work started in 1986 (Austad & Hauge, 1987, 1989; Hauge, 1988).

The main aim of the management plan for the cultural landscape was to restore and maintain the landscape as it appeared around the turn of the century, and in particular to restore the grass and herb-rich meadows and the pollarded trees. To reduce the nutrient status of the meadows which had been enriched by accumulating litter, the biomass produced was removed one to three times during the growing season each year using a scythe and other manual tools. Neither fertilizer nor chemicals nor seeds were added; nor were grazing animals used during the first years.

Extensive work was required to remove raspberry scrub. The material was burned. After the scrub had been removed, nettles took over completely during the second year. The third year the same meadows were completely controlled by vigorous growth of thistles (*Carduus crispus* and *Cirsium vulgare*). After three years of restoration, and removal of the biomass produced, at last the luxuriant nitrophilic species did decline and the species diversity of grasses and low herbs now seemed to increase (Photo 4). Continued impoverishment and mowing of the damp meadows is absolutely necessary for several years in order to achieve a grass and herb-dominated field layer. The old pollarded elm trees which were restored, have developed long and vigorous shoots. The production of biomass is very high.

Together with the restoration of the buildings, the management work at Galdane has led to a marked interest from the local population, authorities, the press and tourists. Revival of historical farming methods such as lopping and scything leads to increased understanding of the dynamic processes of such farms. It is of great importance that the relationship

between the buildings and types of land use, and the structure of the cultural landscape are preserved as a whole (Austad & Hauge, 1987).

Restoration and management plans for cultural forests, hay-meadows, wooded pastures or integrated cultural landscapes should be carried out on a cultural-historical basis. It should include, as a natural framework, farming methods such as lopping, high pollarding, scything and grazing, ensuring that the correct ecological processes also are continued. Such plans should generally maintain a diversity of vegetation types and biotopes so that there is a representative selection of human-influenced vegetation types ensuring the growth and development of particular anthropogenic plant communities and individual species. Aesthetic features, and high carrying capacity are also important.

#### *An Establishment Experiment: hay-meadows at Sogn Folk Museum, Western Norway*

In addition to surveying and analyzing remaining valuable fragments of traditional cultural landscapes, and restoring ruined types, it is also important to consider whether it is possible or not to create "traditional" human-influenced vegetation types as replacements for some of those which are disappearing, for instance, establishment of herb-rich hay meadows. In other countries in Europe, (e.g. England, the Netherlands, Switzerland and Sweden, cultivation of hay-meadow seeds for commercial sale is already widespread (Schreiber & Schiefer, 1985; Nature Conservancy Council, 1986; Hammer, 1988).

The experiment described here is from Sogn Folk Museum. The goal was to provide surroundings which could illustrate a historical cultural landscape in harmony with the ancient farm buildings. The museum was established in a "virgin" pine forest (Austad & Aaraas, 1990).

The landscape-and-management plan designed was based on the natural and eco-

logical characteristics of the area, the cultural history and also the normal means of subsistence (animal and plant husbandry) and farming practices on small farms in inner Sogn at the end of the last century. The plan also included an experiment establishing herb-rich hay-meadows.

Fifteen experimental plots were marked out, each with 20 permanent quadrats (Photo 5). The acid soil was treated in different ways. Most of the plots were limed and fertilized and in some plots the soil was replaced. Also a transplantation plot was established. Seeds of meadow plants (hay) were collected 6 times during the growing season (in 1987) from a traditional hay meadow nearby (Photo 6). The experimental plots were analysed the following years using standard vegetation analyses and frequency analyses.

Although we were not expecting to have immediate success, the preliminary results show that it is possible to establish a species-rich meadow including many traditional and conspicuous species, even from such a difficult starting point as an acid forest floor. The best result obtained was when we slightly limed and fertilized the soil, collected meadow hay in late summer including rakings from the bottom layer (an alternative to collecting hay many times during the season or waste from barns), and spreading the hay directly on the site in the autumn in using the ratio 2:1 by area (Austad, in preparation).

To ensure the stability of such meadows, moderate liming and fertilization have to be continued, the hay fields must be cut in late summer (after the plants have seeded), hay must be dried on the ground or on hay racks in the field, then removed. Moderate, light grazing pressure is required to ensure scattered patches of open soil for germination. Forest species like *Calluna vulgaris* have to be controlled. However, it seems unlikely that this management regime will lead to as large a variety of species as the traditional hay meadows unless managed carefully through many years.

## Conclusion

Traditional cultural landscapes with a variety of human-influenced vegetation types will not continue to be a part of our surroundings.

One primary goal therefore should be to establish and maintain a viable, active agricultural sector which complies with environmental standards, and which shows an understanding of the ecological processes that ensure a rich flora and fauna without becoming museum like. Managing some fragments of the cultural landscape in the traditional way will undoubtedly protect vital cultural-historical heritage and ensure valuable recreation areas and aesthetic experiments for future generations.

It is vital to study restoration and management practices of different valuable human-influenced vegetation types. Many field experiments will be needed to provide adequate, reliable information on the management of these vegetation types, and thus enable us to preserve their cultural-historical, recreational and aesthetic qualities and maintain their biological diversity. Research of this type must have a long-term perspective, and should primarily be carried out in areas where land use is controlled to some extent. This generally means areas protected pursuant to the Nature Conservation Act or governed by the Building and Planning Act, or where there are long-term agreements with the landowners.

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## LANDSCAPES AND CONTEMPORARY CULTURE

### David Crouch

The remarkable exhibition of work by Peter Lanyon has recently toured Britain (South Bank Centre 1992). It was a retrospective of his three dimensional landscape work, accompanied by paintings developed from those 'sculptures', three dimensional objects of often discarded materials, that he always used to develop his work, rather than see them as proper sculptures.

Lanyon has been identified as an important British figure in the Modern Movement. However, his experience of art emerges from the social – an interest of the artist not only in interpreting a local landscape in an emerging international style, but in the lives and culture of people who felt held and placed by this landscape. He was concerned about the life and changing, often downward, economy of the places he painted. This is an important example of what is called the 'global' and the 'local'. Sheila Fell's work, exhibited around the UK in 1991, tells a similar story – 'All the landscape is lived in, modulated, worked on and used by people... nearby community is always implicit in my landscapes' (South Bank Centre 1990). Sheila Fell painted the 'wrong' (sic) side of the Lake District National Park boundary, in western Cumbria. In both these cases, the artists' writing is an important document of their experience of landscape as something cultural and social, not only in the sense of being 'related up' to a national Culture to which landscape had to conform, a perspective that has become very dominant in recent writing, just as we seem to be used to yesterday's landscape and yesterday's representations – in great painting (Daniels, 1993; Cosgrove and Daniels, 1988).

Raymond Williams, in *A Fight for Manod* (Chatto and Windus 1979), and John Berger in *Pig Earth* and *Once in Europa*, stories in

his *Into Their Labours* trilogy from his life since he moved to live in the French Jura, had both tried to unpack this relation. With intimate attention to landscape as dynamic contact rather than simply static content, the 1991 films *The Field* and *December Bride* adeptly explored the position of landscape and land in Ireland in the way lives are led, as a cultural phenomenon. Culture is important to landscape; landscape is important to people's lives.

These references, to be explored in another paper, point to the central theme of *this* paper, and to the area of cultural studies that promises to place landscape in a very new way. At the International-European meeting of the IALE last year in Zdar I gave a paper on Landscape in the identity of local culture (Crouch 1992). This paper introduced the dynamic position of landscape in everyday life, and compared the position of landscape in High Culture and commercial promotion of places with the 'lived culture' as experienced, as a social and cultural phenomenon. The latter is at odds with two familiar and dominant ways of regarding landscape – as a search for 'good', *worthy* landscape that is often found to be embedded in a particular ideology of large landowners, sometimes with a measure of misanthropy (Crouch and Ward 1988, Cosgrove D and Daniels 1988); almost moral landscape, nature; or a professional and bureaucratic categorising of landscape in order to *do something* about landscape – preserve, conserve, enable forms of change in particular directions; protect some, rather than others. That paper examined one particular *vernacular*, which the Countryside Commission has recently labelled heretic landscape (cf. the allotment, *kleingarten*, *petit jardin*, *community* or *Victory garden*).



The wider culture in which landscape happens is different from earlier periods. In England at least the climate-soil-agriculture-landscape relation is all but broken, through the operation of a particular political economy of production, driven by marketing, retailing, chemicals and processing companies, as well as policy (there was nothing *inevitable* in that, but a cultural product); and landscapes convenient to tourism promotion (Zukin, 1991). In the late twentieth century the crucial relation is instead politics, power, landscape, more pervasive than in previous periods of major power (Bellamy and Williamson 1987).

This paper poses the question *where is landscape in our daily lives, and in different levels of our experience*, especially through leisure, an increasingly significant way in which people at large come to know landscape, although not ignoring people whose lives are lived and worked there. Furthermore, it poses and develops the theoretical perspective to help us understand the culture-landscape phenomenon, and builds on cultural geography and cultural studies, but also the sociology of space. These are seen as crucial areas for what has been described as the next major step in understanding contemporary culture – and in understanding landscape in contemporary culture; through the way culture relates to environment. Therefore this paper is both philosophical and very practical, seeking to locate our understanding of landscape in very real experiences, oriented as it is towards handling changes in very ordinary, real, sometimes distant places in everybody's lives.

*Identity* is often noted as an important component of *landscape*. But how is landscape positioned in *our identity*; and how does that influence the way we value, want to conserve, want to create, types of landscape? Leisure practices that have particular landscapes in which they happen are worth investigating to understand both how those landscapes are used to give meaning and identity to leisure, why this is so; and what cultural dynamic is at work. How do people remake that landscape in the course of their leisure. This remaking may be permanent, or temporary. In either case, it gives important insights. Landscape is

important in the way we make sense of our lives, in identity, security, and in developing our culture; it is part of the *habitus* of material objects we associate with in our ordinary lives (Bourdieu, 1984).

Landscape is an increasingly important component of the way we consume our environment today; leisure is an increasingly important component of consumption; landscape is an increasingly significant part of the way that leisure (especially tourism) is promoted, of how we may value places for enjoyment in leisure (Urry, 1992a). In part this landscape is provided by the market, often adapting icons of High Culture. However, this is only part of the story. We make, adapt, convert landscapes ourselves; we *recontextualise* landscapes devised for our consumption elsewhere (Crouch, 1992; Crouch & Tomlinson, 1993).

Using landscape in leisure produces an alternative *aesthetic*, not grounded in aesthetic principles but in everyday culture, what is meaningful to us, how we adopt and adapt material from around us in making our identity, connecting the physicality of the world with other aspects of our own identity (Willis, 1990). The same applies to many people working land. The French sociologist Pierre Bourdieu has explored the way that we use a diversity of materials and events in our lives and how these are taken to contribute to our identity and the way we constitute meaning in our lives (Bourdieu, 1984). This world of events and artefacts he terms *habitus*. This is *not* to be confused with *habitat*, as a purely physical phenomenon of space. However, the physical surroundings of our lives are an important component in the way *habitus* is constructed. *Habitus* is a cultural phenomenon, whereby we give value to artefacts, including clothes, furniture and physical surroundings, through the diverse events, experience, values and attitudes; forms of relationship with other people. *Landscape* is not a separate component in our lives, and the way we value it resonates with these other components of our lived culture. This means that social divisions of class, ethnicity, gender and age are influential. Westmacott has recently investigated the way black families in

Georgia construct their back gardens in a way that brings together a unique mixture of African religious and secular ritual with Western ideas, practices and materials, engaged through the practicalities and family relationships and experiences of individuals.

Thus, the idea of *fragments of countryside*, or city, seemingly mundane, becomes useful. This provides a huge spectrum of landscapes, amongst them these being part of the author's own ongoing research – back gardens, allotments, caravan sites (temporary and permanent); smallholding, orchards and nurseries; angling spaces; bits of landscape in the experience of rambling (Crouch, 1990) and running. Each of these spaces is a different landscape.

These spaces are positioned in our identity. The way we use these spaces, and the way they become positioned in our culture, is influenced by numerous facets of lived culture; whether the space is used alone, or collectively; the degree of penetration of market identities; the use of the space in presentation as a *front* or as seclusion, either of which may be accompanied by distinct forms of social relationship; the use of landscape to assert position or relationship; contest or harmony, differently found meaningful in different ideologies (Urry, 1992). How we *read* these into our own identities will be influenced – though not in some crude way 'determined' by distinctive social characteristics. The way we are likely to use landscape and position it in our identity is diverse; backed up by wider, more abstracted narratives of national identities, these everyday lives will be distinguished by class, age, gender and ethnicity, factors which make different contexts through which experience happens.

Many of these facets are evident in just one example, the allotment. This is a culture and landscape where the space is experienced collectively, where there is much sharing of experience and materials, but alongside a distinctive individuality and idiosyncrasy; materials are recycled from other uses and are essentially not purpose designed. This is an *everyday aesthetic*, but none the less of value

and source of pride, *cultural capital* to the plotholder; and *allotment aesthetic* (Crouch and Ward, 1988). It is difficult to envisage grounds on which such landscapes might be deemed less valid than any other? An American painter living in Scotland visited Tuscany on a working tour, and included the Bobboli Gardens in Florence. She ended up painting the allotment site just over the wall from the Gardens instead (Crouch and Ward, 1988). Allotment plots have long been important in terms of biodiversity, too, whether because of the limits of finance in the way the land is used, or an ideology committed to ecology. This sustains old hedgerows, even in inner city locations such as Walthamstow in north-east London; habitat reservoirs in 'rural' areas where flora and fauna have been removed; linear habitats and strong populations of insectivores, birds and invertebrates as well as wild flora (Crouch and Ward, 1988).

These landscapes are not experienced simply by an abstract *looking at*, or *looking on*. People may look across these places, but the plotholders, their families and frequently their friends walk amongst the fragments that comprise this landscape. For the holders themselves, they use, reshape, clear and plant; wander across passages and dig into the landscape; build up earth and masses of vegetation, and cope with not only the hard labour often involved, but the vicissitudes of weather; chaos, catastrophe, accident and the joy of sustaining the landscape and taking from it as well as recycling it. This is the texture that Williams, Berger, as writers, and Fell, Lanyon and the directors of the Irish films achieved in their work. In many cases, the narrow view of landscape that suited painters in a particular historic period has been held onto, working within a particular landscape school. This is extraordinary three hundred years later, and Jackson alluded to this dilemma (Jackson, 1984).

Places like these offer one of the cheapest means of landscape management. A new language of reading landscapes like this is required, where the familiar bureaucratic and aesthetic ways of seeing are opened up to per-

mit a sensitivity to these other connections between culture and landscape to be articulated, and to recognise the centrality of power in diversity. People have distinctive ideologies through which they use, and make sense of the landscape.

The kind of landscapes in the projects noted have been dubbed *heretic* by the Countryside Commission. I understand this, but it provides a useful focus of debate (Crouch, 1993a). In what relation is it heretic? This asserts some *orthodoxy*, and that deserves investigation in relation to the position of landscape(s) in people's lives. The Changing Countryside Project offers photograph album landscape preference surveys instead. Is this really the way people experience landscape; and why is the abstract visual sense prioritised? It may simply suit a corporate community where visual imagery has potent uses. Indeed, we seem to be a very visual society, but at a very superficial level. Alexander Wilson sees this project as 'to return landscape to the centre of cultural debate'. Thus it is as much about the social as geographical history (Raymond Williams referred to the curious position where human artefacts become valued only when they are old enough (Williams, 1979)). It comes back to land over and over again, but it is a land understood as both subject and object, an agent of historical processes as well as the field of human action' (Wilson, 1992). When we speak of diversity we are referring in part to the question of *power*, as monolithic ownership and control is likely to reduce diversity. The reduction of biodiversity and cultural diversity has accompanied the out-competition of smaller farmers by the wider political economy of food, at the same time as people living in large scale arable areas have lost their own local diversity and distinctiveness; public subsidy to set-aside is trivial compared not only with the subsidy in particular forms of food production, but the investment by companies across the food industry, to retailing, and the constraints it imposes upon what farmers can do.

A crucial part of investigations like these is the method we use, and landscape work has been hidebound too long by following a par-

ticular aesthetic, and more recently, by consumer studies market research that tells of quantities but has no depth. Numbers using, or not using, a place tells nothing of the sense of its popularity, why it is so, and the texture and significance of the experience. In-depth interview, qualitative and ethnographic, and visual ethnographic, work has more chance of answering questions whose context is, after all, in cultural and social experience.

In terms of practical, professional, application, this may sometimes mean leaving people to do what they can very do on their own; enabling people to do so by adjusting constraints and perhaps imposing them elsewhere; adjusting criteria and procedures to the changing circumstances of the late twentieth century, especially with regard to the changing realisations of countryside of widespread cultural and landscape value, and places that are simply not built upon; using boundaries more sparingly and pursuing aspects of policy that do not have tight boundaries. Before all of this, there is a needed recognition that this more popular diversity in the way people experience and value landscape may only challenge familiar practice, power, ideologies, rather than good landscapes.

A transnational project would enable us to explore critically these relations across Europe; between national identities and landscape, and the way landscape is positioned in the making of identities in everyday lived cultures. Such a programme would take a selection of outdoor leisure uses and people working the land, and begin to unpack the several dimensions of the landscape-culture and identity question in everyday experience.

Numerous possibilities of relevance to professional application emerge from this approach. For the first time in a synoptic way, in types of landscapes and with a time dimension, it will provide theoretically grounded evidence concerning the relationship between different types of leisure and their different landscapes; between commercially produced landscapes and their reworking by 'consumers', and the landscapes people make themselves; their

position in cultural identity, value and preference. This would further provide a multifaceted grounding for establishing criteria, from which to build actual techniques of evaluation.

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# OF LAND, WOODS AND MEN: Farmers talk about the Land, the Evolution of Woodland Areas and the Landscape

Nicole Sauget

## Introduction

This study forms part of the Environmental Research programme (a Regional Program, the Forêt Paysanne), which is organised by Region Midi-Pyrenees (France), and deals with farm woodland evolution. The particular subject of our research concerns the aesthetic and cultural implications of this evolution.

## Aesthetics: form and culture

### The Context

The Midi-Pyrenees Region Council has sought the development of methods and tools to analyse expected changes in farming systems, including those which envisage an increase in the area under forestry. It has recognised the potential need for landscape planning. The INRA SAD approach to landscape planning is rooted in landscape ecology. In relation to this, our particular approach to landscape evaluation and design has led us to propose and experiment with two simultaneous lines of work.

1). An application of "state of the art" methods of formal analysis and design of partially wooded landscapes (Fischesser, 1990; Lucas, 1991). This part is based on the few general principles of landscape aesthetics, which incorporate certain characteristics common to different people in different landscapes, and which are particularly relevant to the assessment of panoramic views. These include forms and shapes, dynamic organisation, scale and proportions, diversity and unity, and the overall character of a given landscape. Taking the character of the landscape into account leads to a deeper and closer study of

heterogeneity and of the elements, structure and functioning of a particular area. It can also lead on to studying the cultural aspects of aesthetics.

2). A local study system. Aesthetics of landscape relate to the manifestation of past and present functioning: evolving landscape structures, relict and continuing ecological and social processes, partially controlled by human plans. In the case of farmland, culturally and socially induced agro-ecological processes play the key part in the landscape organisation. Only a local study can elucidate the landscape's character and identity, linked to human activity, and to people's diverse culture-influenced representations of nature, land and landscape. The control of aesthetic evolution can only be obtained if local actors take an active part in it. Thus, in our method the local study includes a broad dialogue about the landscape and the links between activities, practices and the feeling of beauty; surveys concerning the way the landscape is perceived by different actors; a historical study based on aerial photographs; and guidance towards the production of a local landscape planning project. From these various strands, this paper focuses on the results of the farmers' survey, which is a central part of our work.

One basis of interest in landscape as heritage is to try and preserve it for visitors and for the benefit of town dwellers and tourists. Another is uncertainty about how many farmers will continue to use the land for food production. Both viewpoints are legitimate. However, in many agricultural areas of the Midi-Pyrenees, landscape character is a product of agricultural function and the evolution of farm systems, and will remain so. In the present social and

planning challenge, the "insiders" (Cosgrove, 1984) – especially those who, even if not always very sympathetic managers, are in the final analysis the only present and potential future stewards of the landscape – are deemed more important than transient "outsiders". Thus, we prepared two surveys, one among the farmers and one among non-farmers, including the visitors. The possibilities, constraints, limits and representations of "the farmers as artists" is of prime importance for regions such as the one under study. However, the second survey will have regard to other viewpoints, including those of the significant number of foreign buyers and rehabilitators of abandoned farms.

## A Localised Study

The pilot local study takes place in a hill region south of Toulouse, in the Aurignac district, which has been inhabited since prehistoric times (Aurignacian period, 55,000-25,000 BC). The landscape of the area has historically been characterised by a dispersed settlement pattern, the farm houses being situated on hill crests, and surrounded by a fine-grained admixture of crops, pastures and small woods connected by some trees and hedgerows (Dion, 1981). The study area extends over six "communes" (parishes) along both sides of the River Nere. A working party based on local involvement in landscape change has been formed, where the parishes are represented to a greater or lesser degree by mayors, parish councillors and farmers (on a voluntary basis), together with different advisers (especially forestry advisers), researchers and other consultants. Inside this group collective thinking can be directed towards different landscape issues, starting from the aesthetic point of view, but linking it to farming and ecological issues.

It is an agricultural region, devoted to cattle-rearing and crops. It is characterised by a steady decline in the number of farmers and uncertainty about the future, with nevertheless a solid core of young farmers in some of the communes. Most farmers were born and educated locally, but a few have migrated from more northern districts in France. These

formed the core of the local group – informally referred to as "progressive" in recent years (Nassauer and Westmacott, 1987) – who have adopted more intensive methods and diversification of land use. Some of them have returned to their grandparents' land after one generation, their parents having previously migrated to towns. A few experiments have been attempted during the 1980s by young people whose families were neither agricultural nor local, based on traditional methods of farming, but generally without success. Nevertheless, many cases of "pluriactivity" associated with traditional small farms can be observed among local families. Although these differences produce a great diversity of farming styles with varied implications for landscape functioning (Sauget, in press), the results of the survey about farmers' representations of the land and landscape express generally convergent results.

## The Survey Among Farmers: Present Woodland and Projects

Unstructured interviews accompanied by a questionnaire were conducted with 45 farmers in the area. Some had been surveyed previously about their farming styles, which enabled cross-referencing between surveys. For those farmers not included in the original survey, the first part of the interview included basic questions about families and farms. Subsequent questions, and the checklist of the unstructured part, covered different themes: their appraisal of the local changes; their relation to trees, woods and forestry management, and the place of this in the farming system; their plans, their vision of the local land and landscape; and finally, their idea of beautiful places. In the final section, they were asked to respond to different pictures of their area, talking freely about them, and to indicate on a local map the places they liked, considered beautiful, and liked to visit.

## Woodland, Farms and Farmers

Most farms include between three and seven hectares of woods, mainly used now for fuel

for winter-heating, a generalised practice in the area. However, a more complex system of use existed in the relatively recent past, especially for farmers located in the northern part of the study area. This combined general care and use of the farm woodland with the system of "affouage", which permitted every household to cut and use, every year, a portion of the communal forest, where it existed. This combination used to encourage widespread use of wood in the farms: frames of self-constructed buildings, items of furniture, and fencing for pastures. The farm woodland also used to provide pasture space for the cattle. This was all integrated into the local variant of the peasant mixed-cropping and livestock system.

Farming and forestry have become more separate activities nowadays. Modern farming has sought to increase labour productivity on cropping and stock-rearing practices, so that there is little slack labour. Woodland maintenance, meanwhile, being linked exclusively to self-consumption and domestic needs, has declined. In this area, the presence of retired farmers continuing to live on the farm has helped temporarily to maintain the kitchen-garden, the poultry yard, perhaps a vineyard, and possibly the woodlot. But woodland management has become problematic on most farms because of the labour requirement of agricultural production and the lack of farm hands.

A farm which includes woods is still, for everybody, more valued than one which does not. The quality of the farm woodland is perceived differently in the six different parishes. It sometimes corresponds to variations in soil quality: in one relatively wooded parish, south of the study area, the trees are said to grow "on rocks" and the woods to be of poor quality.

With noticeable and notorious exceptions, broadleaved woodland is the forest type which most farmers refer to, and is also the cultural form of local traditional woodland. The oak is undoubtedly the preferred tree and the symbol of woodland beauty. The species most represented here are *Quercus peduncu-*

*lata* and *Q. pubescens*, which display good natural regeneration in the local woods or remnant hedgerows. Other trees regularly cited are the ash, wild cherry and also, on suitable soils, the chestnut.

Beautiful woods are, generally, the coppice or coppice-with-standards type, which are most frequent in farmland and some community forests. Most farmers contrast them with plantation coniferous forest which has appeared in some locations but is not part of their own culture.

Many farmers today state that the woodland is "where they let Nature act freely"; but others indicate a preference for beautiful tidy woods, corresponding to their perceived beauty of a well-tended field, and would like to manage them more. If labour availability were to increase, it is likely that a moderate but slightly more intensive stewardship of existing woods would ensue.

#### Uncertainty, Stewardship and Planting

In view of the present difficulties facing farmers, and the uncertainties surrounding their future, attitudes towards woodland evolution are cautious. Very few individual proposals for new management regimes or new plantations were mentioned. Too many unanswered questions remain about agricultural policy and the condition and level of financial support to be adopted for farm woodland. Present woodland grant-aid in France is targeted only at large-scale timber production, thus favouring schemes on "bare ground" but not the maintenance of farm woodland or landscape diversity. Where mentioned, future proposals were vague and related to areas of land unsuited to agriculture. One farmer only stated that he was ready to plant his entire farm "if it became the most profitable thing to do".

The survey also dealt with hedgerows, other strips of trees and isolated trees. Two parishes had recently undergone a process of "Land Consolidation". In one, this had taken place in 1987, in the Nere valley only, in order to organise larger arable fields where cropping

and flood meadows had been intermixed. In the other, the reallocation of plots has recently affected the whole commune, both hill and valley land. It has represented the realisation of a long-standing aspiration for a few farmers who had been unable to achieve it hitherto, because of parental opposition. They now face their sons' scepticism, the financial wisdom of larger cereal fields having become questionable in some regions. Many farmers have mentioned the need to replant hedgerows after these disturbances. The reasons evoked for this appear mainly to relate to husbandry considerations: "hedgerows are a shelter for the cattle". Farmers also mention that "hedges stop the violent winds", which can be significant both for animals and fields. Nevertheless, wind and rain erosion are never cited as such, though they are present. Indeed, other parts of the survey suggest that farmers are uncomfortable about referring to erosion, as many are aware of their hard treatment of the land in order to eke out a living, or have lost their initial knowledge of agriculture's place in natural processes. Many also mentioned the scarcity of trees along the river.

Very few individual projects of hedgerow rehabilitation appeared in the questionnaire responses, though many farmers were interested in participating in a more collective restoration plan. They again cite the lack of time and shortage of available labour. Individual farmers, if isolated, will not in general plant trees along the river. One even regretted having done so, on a parcel of land which has subsequently been re-grouped into another holding. However, they agree that this should be undertaken at an inter-communal level. The death of elms in the region is often referred to, particularly when speaking of trees surrounding the farm house, where they used to be abundant and valued. In such cases, individual re-planting is sometimes being undertaken.

Solitary trees or very small groups of trees in fields are not valued. They are generally considered a nuisance, and felled without regret. Some individual trees survive in the study area, generally old and venerable, and rare fruit trees may also be present.

#### The Survey Amongst Farmers: Life, Death and the Land

Generally, farmers do not employ the term "landscape" spontaneously. Landscape has its origin in the portion of landscape that can be seen from one point or that can be painted and put into the frame: a vision of the land from outside. It is not surprising to find that, unless they have previously taken an interest in media coverage of heritage and tourism, farmers do not live "in a landscape" but "on the land". This does not mean that their perception of the space which surrounds them is of poor quality or intensity. But their image of it is one characterised by impressions gained as a land-worker and member of a community.

First, they work on the land. It is a place of many different activities and agricultural practices, where one farmer at work can see others at work on the neighbouring hillsides. Although the farmers have different systems of practices, although some are obviously keener lovers of husbandry than others, they all claim to enjoy the whole of their work, as chosen, even though some tasks are physically more arduous. All refer to seeing other farmers at work. If somebody leaves or if someone dies, their absence is definitely noticed: somebody is missing from the land.

The most widely observed local change, which is always cited first and spontaneously, is the decline in population. It is followed by the modernisation of agricultural practices.

#### Life and death

Among our data, impressions and perceptions mainly relate to the dynamics of life, partly in contrast to the stillness of death and the threat of a dying land.

*Life in reference to the land is characterised by the presence of people and the diversity of land use: an organised pattern of meadows, fields and grouped trees.*

*Death in reference to the land is charac-*

terised first by invading shrubs, meaning human emptiness, and second by uniformity: a completely open landscape is a desert, so is a very large forest. Beyond a strong reference to these underlying contrasts, farmers connect beauty to life: known farmers at work in a field, farms on the ridges and cattle on the pastures, "clean" and orderly land.

They relate ugliness to death: fewer people seen at work, pastures half-abandoned and invaded by juniper, "dirty" pastures, or deserted large fields.

Further, the mixed farming landscape where one does "a little of everything" is related to life and beauty, while a specialised land only composed of naked fields (or of woods only) is a desert related to death and ugliness. The hillsides, with their mosaic of pastures, meadows, woods and crops, are often contrasted, for instance, with the valley land, where crops predominate and where hedges and trees have in certain areas disappeared.

Thus, features linked to life include a peopled, productive, orderly, maintained, cared for, respected land. Features linked to death comprise a dirty, neglected, abandoned, empty, desert, disrupted waste land.

Beyond these polarities, the survey has allowed farmers to indicate particular places which they considered as having pleasant views, or places they liked to be in or go to. They identified these locations on a map of the communes, thus defining what could be considered as their own landscape.

*Pleasant views: ridges and hills are always mentioned*

A pleasant or beautiful view allows one to see far away. It is also to see life, for the most often chosen picture is one seen from high, showing "a bit of everything", on rounded slopes, including farms and cattle.

*Pleasant places: home and the place one works (on the farmland)*

The farm-house is very often cited as the pre-

ferred place. More often, it is linked to the sense of home, as can also be a stated preference for the farm inhabited during childhood. Sometimes it refers more to the place which one owns. The choice of farms, being usually situated on crests, also corresponds to the oft-cited tendency to value places where one can both see far (prospect) and stay protected (refuge).

*Pleasant places to go*

Here, the woods, river and lake are cited. Is the emphasis here being put on the "refuge" aspect of places? In fact, these places are mainly the location of activities: fishing, mushroom picking, shooting, which are the permitted (or avowed) pleasures of the farmer when he is not at work. Only two of the men, but several women on the farms, accepted the idea that they "liked to take a walk". The lake is also a place where one can meet other people.

On this last point, the appreciation of the lake deserves special mention, first because it has been almost unanimously cited; second, because it is relatively recent and was not intended for its present use; third, because it is liked despite being partially lined by part of a poorly appreciated coniferous forest. The lake was constructed in the 1980s on agricultural land to provide more irrigation water. Then a succession of dry years prevented quick implementation, by which time farmers on the hill had partially lost interest in irrigating crops, so that it has so far not been used for its original purpose. However people, both farmers and visitors, took to frequenting it. It certainly provides a feeling of freshness in summer, the pleasure of meeting other people – and may offer a contrast or place of rest from the less sheltered slopes.

### **Towards a Sustainable Landscape**

Our purpose here is not to enter the debate between natural and cultural aspects of aesthetics. In fact, most of the results could be related either to habitat/refuge theory (Appleton, 1975), or to theories stressing the

cultural aspects of aesthetics. In our view, the two aspects are not contradictory, nor are the "objective" and "subjective" points of aesthetic preferences. Each theory refers to a different level of organisation (Bourassa, 1991). In Bourassa's model differences are stressed between laws, rules and strategies, though he does not really consider the formal laws of design which are related to our human and civilisation-influenced perception systems. It confirms the importance of a common "familiarity" or "insiderness".

It is also of interest that the formal aesthetic study, the results of the farmers' survey and the evolving discussions within the local working group coincide to a great extent over their comprehension of the landscape's character. A difference though is that the farmers have emphasised, far more than does the formal study, the importance of enough people and enough hands for the landscape and its sustainability.

The formal study identifies possible future outcomes, in particular the potential polarisation between an entirely open and an entirely closed landscape: for instance, all corn (maize) along the river and all forest on the slopes, and stresses that it would destroy the landscape character. However, a formal study cannot by itself go into the reasons for such risks, and only the surveys and the group can link them to social evolution. Besides, the formal study cannot develop if detached from other research projects underway locally, in particular those concerning ecological processes, like biodiversity evolution (Balent and Courtiade, 1992), forestry fragmentation (Lemouzy, 1993) and risks of erosion (Cassagnes, 1993).

The working group is where potential designs can be coupled to social and ecological processes, since it is the focus from which a project can emerge and, if accepted, be sustained.

Rejecting the evolution towards one big stripe of crops and one big stripe of woods, the idea is now to try and organise a more subtle restoration along the Nere. This would com-

prise replanting of trees along the river, and of hedges between the flat valley fields and these trees, in order to absorb excess nitrates. It would also involve planning for the nearby slopes, which could combine some tree plantations with maintenance of pastures through help given to young farmers willing to practise cattle breeding. To realise these ideas, the group will have to discuss the delicate erosion problems, and to go deeper into the relationship between landscape pattern and biodiversity. It will also have to undertake a micro-economic evaluation, and to investigate the kinds of financial assistance which might support such styles of farm-woodland evolution.

A local exhibition (spring 1994) will display more information to more people concerned by these issues, and stress the visual, as well as some other aspects of the project. The results of the second survey will be related to those described here, in order to investigate the compatibility of the projects with occasional users' needs.

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## CULTURAL LANDSCAPES IN FLUX: an approach to understanding the processes of change

Clive Potter

### Introduction

The cultural landscapes of Western Europe have always borne the marks of past swings in farming fortunes and look set to do so again. If, as many expect, recent farm policy reforms merely mark the beginning of a long and difficult period of agricultural adjustment and retrenchment, farmed landscapes across the community will change in both appearance and structure. Less clear is precisely how they will change given the complex range of reactions farmers and land managers are expected to make in response. This is because, while the physical nature and extent of the post war transformation of agricultural landscapes in a country like Britain is increasingly well understood, not least because of initiatives like the government-sponsored Countryside Survey 1990, knowledge of the socioeconomic causes and consequences of change is at best impressionistic and often merely anecdotal. Admittedly researchers have managed to identify some of the technological, policy and farm family influences which drive countryside change in its widest sense and can put together a persuasive set of arguments to explain the overall intensification and specialisation of farming practices which has been such a distinguishing feature of recent landscape change – though even at this general level there is disagreement about how these forces interact over long periods (Buckwell, 1986). At the same time, our understanding of how and why individual land managers take the decisions and pursue the strategies they do, is greatly improved (see Marsden, et al, 1986). Less clear are the environmental consequences of these actions – or rather, how far commonly observed strategies and adjustments produce systematically different landscape and other environmental results. Until researchers have estab-

lished this, any assessments about future landscape change must remain largely speculative, however good our understanding of the behaviour of farmers.

This paper reports on the background to a new research project being conducted by researchers at Wye College, London, which aims to explore the processes of landscape change at this important intermediate level of relating decisions made by farmers over long periods in a wide range of locations to time series data describing land use, landscape and ecological change obtained from the Countryside Survey 1990. Unique to this project is a linked analysis of socioeconomic and 'physical' datasets which should allow objectively recorded patterns of change to be explained in terms of the decisions made by farmers and the processes and influences which lie behind them.

### Conceptualising the process of landscape change

Most researchers would accept that land use, landscape and ecological change can be "explained" at many different levels and that there is a difference between simply describing how a particular land use decision leads to a land use change and understanding why that particular decision was made, when it was and how it fits into a larger picture of farm business development and agricultural restructuring (see Table 1). Few would accept that we have explained very much when we describe a decision by a farmer to apply more fertiliser to grassland or his failure to regularly manage a stretch of hedgerow and say that this is the cause of the observed change in, say, species composition or landscape appearance. Going further, we could explain land use change in terms of the motives and atti-

tudes of individual farmers, but this would ignore the background forces which condition and shape attitudes in the first place and would imply a rather naive, "conservative" view of land use and landscape change. As the writer once explained in a paper on the conflicts between agriculture and the environment, it is a research approach associated with a (now outdated) policy stance which sees the problem as only one person deep, to be tackled through voluntary codes, controls over "black sheep" and the gentle art of persuasion (Potter, 1986). At the other extreme, however, we could concentrate exclusively on the general forces driving land use change – the secular trends in the discovery and adoption of new technologies, long term changes in the relative costs of land, labour and capital and the pressure of demand. But this does not tell us how differently placed farmers have responded to these pressures and opportunities, nor whether they do so in any systematic or locationally specific manner. It thus cannot explain the pattern of change, only its overall direction. To the extent that it emphasises the role of the CAP as a driving force, this goes with a more "reformist" policy agenda which

aims to slow down, arrest or deflect landscape change by changing the policy signals which farmers receive. It too is flawed as an explanation of the facts, this time because it gives too much weight to external factors, seeing farmers and land managers simply as policy dopes, responding mechanically to different policy signals.

In truth, the most interesting and useful way to understand land use change is probably in terms of the adjustments and strategies made and being pursued by farm families over periods of time – adjustments which are partly a response to the external pressures bearing down on businesses but also pragmatic accommodation to pressures which arise from within farm families and have a dynamic of their own. If we can identify the tendencies, processes and family situations which trigger or accompany environmental change, ie, take a realist, descriptive approach, it may be possible to assess whether a particular type of change is more likely to occur in some farming situations than others and thus generate results which can be useful to policymakers. Here is a list of some of the more important

<i>Level of explanation</i>	<i>Nature of explanation</i>	<i>Scope of explanation</i>
<i>Macro</i>	<i>Explains landscape change in terms of 'driving forces' – policy pressure, the discovery and adoption of new technologies and changes in the relative cost of capital, land and labour</i>	<i>Can identify ultimate causes and explain direction of change over long periods – but not the form it will take in particular localities</i>
<i>Intermediate</i>	<i>Explains landscape change in terms of the tendencies, processes and family situations which typically accompany or trigger environmental change</i>	<i>Can identify farming situations in which landscape change is most likely to occur and may be able to predict the form it will take in future</i>
<i>Micro</i>	<i>Explains landscape change in terms of the decisions and actions which lead to physical landscape change</i>	<i>Can explain how physical change comes about but not why it occurs</i>

Table 1

questions which could be addressed through this more descriptive approach:

1. Is land use change more likely to be taking place in some farming situations than others?
2. Can we identify points or thresholds in the family life cycle and/or in the building up and running down of farm businesses when land use change is most likely to be taking place?
3. Are there any significant relationships between different farming situations and the type of land use change observed?
4. Specifically, under which family and farm business conditions is an intensification of land use most likely? Where is extensification, decline and neglect a greater possibility?
5. What sort of physical changes can we expect to observe when a farm business is being built up compared to one which is being run down or disengaged?
6. Under what circumstances is further land use change most likely?
7. To what extent is this the result of reactions to external pressures bearing down on the business compared to internally driven adjustments to pressures building up inside the farm family?
8. What does this say about policymakers' ability to anticipate and then slow down, speed up, deflect or arrest future land use change?

#### Developing an analytical framework

Answers to questions like these are not easy to find given the current fragmentary state of knowledge and the absence of socioeconomic studies which have access to objective baseline data describing the rate and extent of physical change on individual holdings. Researchers typically have to rely on farmers' own estimates of change, unreliable at the best of times, or on incomplete aerial photographic coverage of study areas. At the same time, the usual focus on discrete study areas limits the ability of researchers to observe and explain change in a wide enough range of representative locations – an essential requirement if, as previous work suggests, the pattern and process of land use change is often highly location specific.

Identifying (and predicting) where land use change is most likely to occur (question one) has often interested researchers in the past. It is often assumed that landscape change takes place more slowly on smaller, part time farms and that this justifies policies (such as the original MacSharry package of measures) which target and support small farms. A comparison of rates of landscape change on farms of different sizes undertaken by a team at University College, London (Munton and Marsden, 1991) suggests that while most change was indeed recorded on larger, full time farms it was by no means clear whether there was a size effect in operation. Comparing the rate and extent of change on farms of different size, type and tenurial status is still a worthwhile exercise from a targeting point of view but comparisons between business on the basis of their economic status and social trajectories will reveal more about the processes and causes of change and thus help with prediction.

As to the issues raised by the second question on the list above, researchers have known for some time that landscape change is very likely where land changes hands or where management control is being handed over to a younger successor. Work again carried out by the UCL team suggests that certain occupancy events are strongly correlated with landscape change. Meanwhile, research conducted at Wye College into the environmental implications of ageing and succession on family farms suggests that the building up or running down of businesses during a farmer's career may have profound conservation effects and that the transfer of control during succession or following the farmer's death may trigger a more drastic restructuring of the business, again with important land use results (Potter and Lobley, 1992).

Arkleton Trust research points to a more fundamental association between the restructuring of farm businesses, the movement of resources in and out of agriculture and resulting environmental change (Bryden, et al, 1993). Their categorisation of farmers into "professionalisers" (farmers still firmly on the agricultural treadmill, still able and willing to

continue expanding, modernising and accumulating and most likely to be intensifying land use) and "disengagers" (farmers who were extensifying, running down or in some way reducing their dependence on agricultural income sources, either because they were old or had chosen or were forced into becoming more "pluriactive") suggests the beginnings of a more refined categorisation which could help to explain (and predict) land use change. The interesting feature of this categorisation – and it echoes a more subtle typology devised by the UCL researchers, who point to an increasingly dualistic farm economy divided between an intensive, integrated sector and an extensive sector associated with part time production and hobby farming – is that it implies a relationship between the pattern or adjustment being followed on farms and the nature of the land use and landscape change likely to be found there (ie answers to research questions three, four and five above). Professionalisers are most likely to be intensifying and carrying out "active" landscape change by increasing field size, reseeding grassland and removing hedges; disengaging farms to be experiencing "passive" change because of extensification, destocking and/or declining standards of countryside management. Meanwhile, the identification by the Arkleton team of a third category of many apparently static, "stably reproducing" farm businesses on which there may be little evident land use change taking place but who may actually be resting or in transition between periods of restructuring, warns against relying too much on snapshot pictures. Situations where there has been little or no land use change during the past 15 years may be more instructive than those experiencing most change – particularly if policy and other changes means that "stable reproducers" embark on new rounds of restructuring and land use change in future.

The challenge is to go beyond describing adjustment patterns which, as the Arkleton work suggests, may only hold true for limited periods to analyse longer term trajectories and the more enduring propensities which influence how farmers in different "structural situations" may behave and react to future policy

changes. This is particularly important if we are to predict future land use change or at least be in a position to identify locations and situations with greatest potential for further land use change (questions seven and eight). A methodological problem arises if, as many expect, the processes of the past are no longer reliable guides to the future. In one sense the landscape change of the 1970s and 1980s was *sui generis*, the product of unprecedentedly high levels of price support and rapid technological change. With greater exposure to market forces and the complex process of agricultural restructuring it will set in train, countryside change itself will become more diverse, varying from place to place according to local conditions and the survival strategies pursued by farmers. Structural change – the turnover of farm businesses as some leave and others enter the industry – is likely to increase for instance and become a much more important factor in landscape change than it has in the past. The previous research quoted above will provide some clues here, though this largely related to the sale or reletting of land parcels rather than entire land holdings. Profound landscape changes in upland areas are foreseeable as marginal producers disappear and the land is taken on by large scale ranchers or planted to commercial forestry, for example.

### The Wye College project

The Wye College project aims to explore these and other questions through a survey of up to 900 owners and occupiers of land in the 256 sample 1km squares that have been surveyed by the Institute of Terrestrial Ecology in 1978, 1984 and 1990 and which form the database for the Countryside Survey 1990. A socioeconomic survey of the squares to generate information about farmer decision making and the farm family strategies being pursued or planned is probably long overdue and the present study will be building on previous pilot surveys which have used the ITE land classification system as a sampling frame. Unique to this study though is the scope for linking land use and landscape change data to socioeconomic data. A first cut analysis will classify squares to reflect different types and rates of land use and landscape change and

then test for significant differences between these in terms of their land ownership, farming and socioeconomic profiles and the probability of encountering socioeconomic change there. Further analysis will then look more deeply at the strength of association between the socioeconomic attributes and economic status of owners and managers of digitised land parcels within squares and the type and extent of change recorded in those parcels. This analysis will lead into a period of case study work, when up to 50 farm businesses will be selected for follow up interviews which will probe on an individual farm basis the way in which particular decisions, strategies or events in the family life cycle have led to episodes of environmental change. A final stage in the research will then explore some of the policy implications. By improving our knowledge of the sort of farming situations in which land use and landscape change is most likely to occur, the results from the project could be used, among other things, to inform the future design and targeting of agri-environmental measures.

### Conclusions

There is general agreement that the restructuring and even contraction of European Union agriculture will be reflected in farmed landscapes at the very moment these are coming to be regarded as important environmental assets. But predicting where and how future landscape change will occur requires a better understanding of the underlying processes of change, particularly at a farm level. Recent research at Wye College involving a socioeconomic survey of land for which landscape and ecological change data are available should enable a linked analysis of physical and socioeconomic data to be carried out for the first time. Focusing chiefly on family farmers, the objective will be to explain past

change by identifying the tendencies, processes and family situations which typically accompany or trigger environmental and landscape change in a very wide cross-section of locations. It is hoped that the results will be useful both in diagnosing recent large-scale change and in guiding policy decisions which will shape the landscapes of the future.

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# LANDSCAPES FROM THE PAST – ONLY HUMAN NATURE

## English Heritage's Approach to Historic Landscapes

Graham Fairclough

"The landscape was more than a landscape. It was also a private ordnance map of questions and messages to me. The countryside and the villages I passed through seemed to make an innocent statement about the co-existence of people and nature."

from "Strange Loyalties"  
by William McIlvanney

The reasons for English Heritage's fairly recent entry into the field of historic landscapes are several. English Heritage's main concern has traditionally been the conservation of individual archaeological sites, ancient monuments and historic buildings and settlements, but we are increasingly aware that site-based conservation is more likely to be unsuccessful without a wider context (eg Darvill, 1982). We also recognise that such individual features do not in any case represent the full material remains of our past, our archaeology. We must also take into account the semi-natural, but still strongly humanly-modified, features of our environment.

These reasons of course, are also those why historic landscape conservation cannot be carried out in isolation from other types of conservation. Natural, archaeological, geological, ecological, architectural, historic, social and all the other values of conservation come together in the forum of landscapes and their conservation as they do nowhere else (Cosgrove, 1990). Attempts to protect one set of values in isolation from the others are almost inevitably flawed, if not compromised or unsuccessful. Just as successful countryside management, as in the UK's National Parks, must be based on the concept of multi-

use countryside, so too must landscape conservation itself be multi-value.

This paper has two main aims, one of which is practical, the other slightly more theoretical, but they are inter-related. First, attention is given to some of the reasons why historic (or cultural) landscapes are important, and why and how their archaeology and other material remains deserve to be studied, protected and conserved. Second, is a brief explanation of the general shape and underlying principles of English Heritage's work in this area.

This paper takes more or less as read a particular use of the term "cultural landscape" and, for that matter of the word "landscape" alone. A few simple definitions frame this usage, in that the historic landscape is taken to represent the following:

- people's interaction and intersection with nature;
- people and nature's interaction with time;
- the forum within which people have constructed and defined nature;
- the end-product (so far) of environmental change and successive land use through time;
- ecology with time-depth;
- combined works of nature and of man (UNESCO).

In brief, then, landscape is used as a term for human habitat, the forum in which our

species has created its own ecological niche and within which other species tend to exist either heavily managed or through a wide range of symbiotic relationships; but rarely in splendid or 'natural'(!) isolation. It is also the vehicle which carries the evidence for environmental history and for the history of ecological changes. Through all this, the element of time (of continuity as well as change) is critical, and the major contribution of archaeology to landscape studies.

Landscape, obviously, has a spatial dimension – it exists, and it has a geography. It also has a temporal dimension which cannot be ignored, whether we use terms like "history", "palimpsest", "time-depth" or "diachronic". Finally, there is a third dimension, the social or the human, which exists within and cross-cuts, time and space. These three dimensions can be illustrated schematically (Table 1).

Historic (or cultural) landscape can be regarded as occupying a position somewhere between culture and nature. This distinction must be treated with caution however, and the two concepts ought not be considered as polar opposites. As many commentators have said, in origin the words themselves share common concepts; more to the point the distinction is uncomfortably close to the false (or at least sterile) dichotomy between Art and Science (Worster 1993). This is particularly unhelpful at a time of change. Archaeology, for example, is simultaneously leaning further towards the environmental sciences whilst paradoxi-

cally (but fruitfully) seeing value in subjective and contextual theories (eg Hodder 1986).

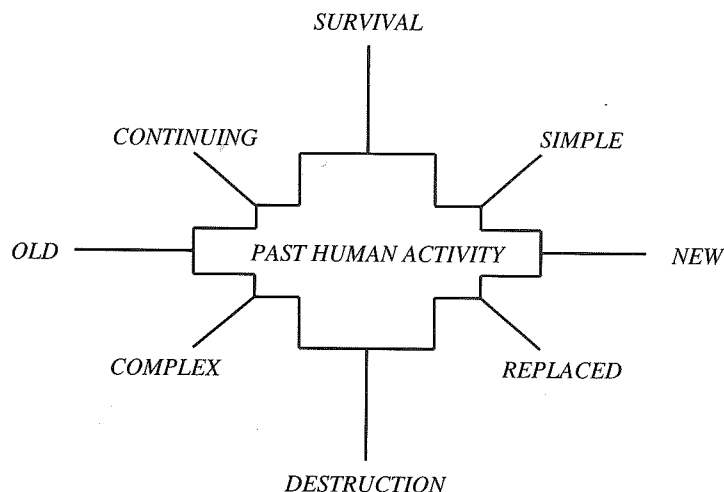
Before moving on to what EH is currently doing, there are one or two other concepts, dichotomies mostly, commonly in (mis)use in landscape studies to consider.

One is the distinction, often met in historic landscape work, between "relict" or "fossilised" landscapes on one hand and "continuing" landscapes on the other. This is used in the new World Heritage criteria for example. It only has meaning within a perspective which is restricted to a particular period and even then only as a description of elements within the landscape, not of landscapes as a whole. At a site-based level this might be appropriate, but for landscape conservation it ignores all later, and present-day layers of the palimpsest; and this is not acceptable for historic landscape or for landscape ecology. Dartmoor (for example) displays internationally important systems of well-preserved bronze-age territorial and field divisions, whose individual features may be "relict" (although even here care is needed, because some are still in use, and often with past medieval re-use too) but whose whole assemblage is merely part of a continuing landscape. Human use of the land has not stopped. It is simply that later stages of land-use are both transparent to earlier features and benevolent to their survival. Dartmoor is therefore a continuing landscape within which

<i>SPATIAL FACTORS eg</i>	<i>TEMPORAL FACTORS eg</i>	<i>SOCIAL FACTORS eg</i>
<i>"Nature"</i>	<i>climatic change</i>	<i>people</i>
<i>geology</i>	<i>land-use</i>	<i>farming systems</i>
<i>landform</i>	<i>traditions</i>	<i>inheritance</i>
<i>soils</i>	<i>antecedent features</i>	<i>tenurial</i>
<i>climate</i>	<i>historical process</i>	<i>ideology</i>
<i>altitude</i>	<i>time-depth</i>	
<i>etc</i>	<i>diachronic pattern</i>	

Table 1 Spatial, temporal and social dimensions of landscape.

Figure 1 Axes of dimensions of historic landscapes.



relict features exist, but as any landscape can be so described this definition is not particularly helpful.

The complexity of any piece of land, with reference particularly to questions of survival, replacement and change, can be illustrated graphically, measured against four axes, each of which is based on an opposition (such as old/new; survival/replacement; simple/complex) (Figure 1).

Any particular area of historic landscape can be located around the rim of the diagram in Figure 2, sometimes occupying one extreme (eg simple/new/replacement), but usually occupying a more complex set of inter-related zones. One area, for example, might contain one, but more likely several, of the attributes shown – for instance, an area of Midlands parliamentary enclosure may demonstrate good “survival” of a “simple” single-phase relatively new landscape feature, but it is also in itself a “replacement” of earlier pre-enclosure landscape features. Few landscapes are merely replacements of what went before, or are only survivals of earlier stages; most exhibit complexity of a high order.

Another unhelpful distinction is between “planned” and “organic” landscapes. These are sometimes expressed as landscapes of “beauty” and of “utility” respectively and sometimes ‘ancient’ seems to be used as a synonym for organic. The ability of bronze-age farmers to plan landscapes extensively is demonstrated throughout Britain, perhaps notably on Dartmoor. (eg Fleming 1988). Their planning was for utilitarian reasons of politics, land ownership, economy and demography. Equally, 18th century English aristocrats used their control over land, people and capital to create artificial landscapes designed to copy nature (through a particular set of tinted glasses – see Olwig 1992). They did so for aesthetic reasons, certainly – but what, in addition, was more utilitarian to them and their peers than the reinforcement of political power which the gardens so clearly symbolise as much as they reveal the spirit of Art? All landscapes which have been modelled by human socially-led activity are planned, whether ancient or modern (ancient and planned is another misnomer); they are also all organic in two senses – none enjoyed a clean slate, a tabula rasa, for their creation; all have changed with time.

Lucas (1992), for example, has identified four principal qualities which a protected landscape ought to possess. These are:

- nature conservation values from ecological processes and from human activity;
- landscape values, including historic farming and settlement patterns and vernacular building traditions;
- cultural values (social traditions, etc); and
- relationships between people and nature in harmonious interaction.

The extent to which all four are historically determined is clear, as is too the extent to which many aspects of these qualities will be measurable in physical, material traces and remains in the landscape – ie as the archaeology of the countryside. As others have said, nature is the mirror of culture, and this is especially so in Britain: note how only two of IUCN’s eight categories of protected landscape (V and VIII) can easily be applied to most of the UK, because the remainder exclude human influence.

As a second related point, few large areas of Britain will fail to demonstrate all four values, and the question of selectivity is thus very important. For Britain, as much of Europe, indeed, designation by selection may well come to be seen as too exclusive. An assessment-based approach aiming to identify priorities within the whole countryside may be appropriate, particularly if assessment is carried out both as an iterative process and as a procedure targeted on specific end-purposes (land-use planning, farm management etc).

The claim that in England no landscapes are natural and all are human can be accused of being anthropocentric or arrogant. But we can learn from Danish approaches to landscape conservation for example, which tend to assume that human beings are no longer merely part of nature (we are still that), but that we have become managers of nature (Wagenbaur 1993; Larsen 1992). This role cannot now be avoided – the question is not

whether to intervene but when and how to do so. On the other hand, we remain part of nature whether we exploit or preserve it, and recent re-awakening to the consequences of exploitation (we share the ill-effects!) may push us towards preservation eventually.

As a consequence of this ‘Nature’ itself has changed, at least in England. Leaving aside the fact that nature is itself a social construct, and one which has changed through time, it is the case that Nature, under whatever guise, is now culturally-dependent (Larsen 1992). Landscapes that we think of as natural in the UK now require continued human intervention. Perhaps in some ways it was even more so, 50 or 100 years ago, at a time when complex and labour-intensive land-management systems such as hay-meadows or water-meadows, dominated many parts of the landscape more than they do today. It is, broadly, to this period that many public pre-conceptions about England’s natural history relate – to a golden age before agricultural intensification, before suburbanisation. Golden ages are dangerous, however – they rarely existed, they are generally mis-coloured, and their political connotations, their innate conservatism, are for us not opportunities but problems. The word ‘Nature’ itself has strong normative overtones (we think, for example, that it is “natural” to live in rural areas not in towns; we speak of “natural heirs”, and it is not coincidence that native, nation and nature share common origins). When used within a framework of historic landscape, other powerful normative (and exclusive) terms are brought to bear – heritage and thus ownership, culture and thus birth, inheritance and belonging. It is important to safeguard “our” cultural landscapes, but care is needed when we define the owners’ club.

Knowledge of how and why rural environment looks as it does today, and of how it functions in sociological, economic and ecological terms ought to be a prerequisite for anyone presuming to guide its future change. That knowledge exists within the landscape itself, to be read by archaeologists, historians, geographers, ecologists of course etc. etc. It is already being collected in part – English

Nature's Natural Areas will offer a framework, as did Dudley Stamp before; and the Countryside Commission's New Map of England and other applications of landscape assessment will allow historic character to be identified alongside ecological, scenic and other values.

It is well-known that at least the last 6000 or 7000 years have witnessed large-scale, almost comprehensive, landscape change by human activity. Examples of each activity include for instance (but there are many others) –

- initial very comprehensive woodland clearance in the neolithic;

- successive swings of land-use at macro-level in response to climatic and demographic pressure;

- the expansion and contraction of settlement in waves on and from the upland margins;

- the evolution (and revolution) of settlement patterns;

- regionally – and historically – specific ways of demarcating and using territory;

- the acting out of politics on the land;

- the living conversing with the dead; and dead using the landscape to pass messages (about land-ownership, tribal identity, land management) to their descendants;

- the provision from the land, of food, shelter and power, (the three essential human needs throughout history).

All of this has left its testimony in the present landscape. Humans are 'compulsive organisers', to borrow a term from information science. We organised the land in order to simplify decision-making, to give messages to outsiders and to our descendants, and to pass on ancestral values. This organisation is the basis of most landscape archaeology, and it is reflected in present-day landscape character.

The archaeology of today's landscape, its his-

toric character or dimension, is important for a variety of reasons:

- to inform future land management, conservation and agriculture;

- to contribute towards community sense of place, to local identity

- to retain familiar and cherished places

- to understand the land's past, not only from present knowledge but by retaining the potential to learn more in future from the landscapes we preserve today.

All these are important; but in the present context the most relevant is probably the first, to allow us to know how a landscape has reached its present form, and which aspects of that form and which of its components are most important to its character and ecology and therefore most deserving of preservation. It is as important to know the history of an area's ecology as to know its current biological dynamics. Both historic and biological processes are likely to have been crucial to its development, and the conservation of both is necessary.

English Heritage's uses for historic landscape assessment with respect to conservation are threefold. They fall within three areas:

- the planning system (development plans, EA, countryside strategies etc)

- estate and farm management plans

- strategies, often at national level (eg ESA, the agri-environment package, Countryside Stewardship), for prioritising and targeting conservation resources for the whole countryside.

These are the means not the end, however. In English Heritage terms, the overall goals must include using a knowledge of the landscape's historical development and the identification of the material evidence (the archaeology) of the landscape's structure in order to inform landscape change so as to preserve an area's

distinctive and valued character. The sort of criteria we might use to define this character will include to some extent those used for the scheduling of ancient monuments (rarity, period, condition, survival, potential, documentation etc.) (DOE, 1990), but also and more importantly

- regional diversity as it derives from the past and from archaeology (eg vernacular buildings)

- local character (arising eg, from farming types, field pattern, building type, age)

- historically-specific features

- time-depth.

The intention to influence future landscape management and change is of course a socio-economic aim as well as conservation in practice. English Heritage is not seeking to fossilise the historic landscape, because we recognise that the landscape must continue to evolve as it always has. We are not, either, seeking to turn back the clock to re-create lost historic landscapes. So much of the historic character of the land depends on process and tradition as much as on form, structure and appearance, and the ways of living and working needed to maintain landscapes, not to mention the deeper social structures which underpinned past landscapes, have in many cases gone beyond recall. The notion of reconstruction is in any case of dubious philosophical value, often destroying as much as it preserves, especially of those more recent periods which we have not yet learnt to value as much as our descendants doubtless will.

Fossilisation and reconstruction is, then, not today's way. Instead, English Heritage is intent on helping those who will shape tomorrow's landscape to do so in ways which will meet a number of criteria. They will

- build on past evolution

- conserve the local and regional diversity of a landscape's historic character

- maintain as much as possible of the fabric of earlier land-use, where necessary converted to other uses

- seek to identify *methods* of landscape change which will preserve the archaeology of the countryside whilst allowing modern objectives to be achieved.

- find appropriate sustainable land-use objectives which are in sympathy with past land-use.

This ambitious agenda may well become practical in the next decade or so because of the degree of change current in European agriculture and in rural demography. Widespread commitment to the concept of sustainability, if not yet consensus on its meaning or implementation, is also an important factor (English Heritage et al 1993). So too (and if anything even more fundamental) are recent and continuing changes in public opinion concerning the environment.

This is not an approach, however, which sits particularly easily with the concept of designated areas. Although EH was invited by "This Common Inheritance" to consider the scope for setting up a register of landscapes of historic importance, it is by no means clear that the registration of selective areas is an appropriate approach. It was possible to do this for designed historic parks and gardens, but these are a finite set of sites with definable boundaries: they can be named, mapped and counted. We cannot do this for the whole historic landscape. Where to draw boundaries, at what scale, how to compare like for like on criterion of importance, all became insuperable, and to an extent, redundant questions when the whole landscape is considered.

Our present work is focused therefore in the first instance on the practicality of assessment methods. There are precedents from other branches of landscape study, notably the concern with "character" rather than quality in the Countryside Commission's current assessment guidance (Countryside Commission 1993).

Assessment needs to be iterative, periodic if not continuous, in order to build on new understanding, and to reflect changed land-use and economic patterns. To be fully effective and most useful, it also needs to be carried out within an end-purpose framework: that is, the method and scale of assessment needs to be targeted on the uses to which its results will be put. These may vary from identifying a new road corridor or other infrastructure development site, to helping a land-managing estate formulate its next management strategy, or to setting a 10 or 20 year framework for land use planning in a county or region. The relative merits and importance, on local, regional and national scales, should be measured against the specific threat of development or the opportunity of enhanced conservation. Constraints need to be tailored to threat, and plans to specified management needs. A slim volume listing registered landscapes, kept on the county planners' shelf, is unlikely to be an alternative. The landscape is too complex to fit the black and white existentialism of a register.

Who, anyway, wants yet another designation? Leaving aside real concerns that designating special areas only devalues the rest (and context was English Heritage's starting point in looking to landscapes), there is the even more real problem of proliferation. Non-proliferation of designation ought to be the aim, coupled where possible with increased integration between the values we place on the many attributes, natural, historic or social, in the countryside. More than any other subject of conservation or of environmental science, the landscape (whether natural, historic, cultural, rural, or urban) is the one where most can be gained from integrated conservation and land-use. It has always been the arena within which people, nature and time have interacted. The difficulty which particular disciplines or interest groups find in agreeing on a common label (cultural? or rural? or historic?) surely indicates the importance of landscape conservation, and if the integration of conservation values is essential so too is the definition of geographical integration. The arena for conservation-led land use, or for trade-offs between natural or archaeological conserva-

tion and agriculture or development, has to be the whole of the landscape, prioritised as necessary but not rigidly graded or divided into selective and mutually-exclusive designations.

The rest of this paper briefly sets out English Heritage's work so far (to October 1993) and our current direction. We have so far prepared a general policy statement and a more detailed consultation paper.

The initial statement of policy (English Heritage 1991), to underline the importance of the historic dimension of the landscape in England and to set out a number of principles:

- inclusion of all historical elements of the countryside, not just sites
- ability to weight landscapes of greater or lesser historical importance to inform planning and resource allocation
- consistent methodology
- applicability to all levels from national to local.

The consultation paper, which, inter alia, sets out a basic classification of the broad components of the historic landscape

- sub-surface features
- earthworks and micro land-form
- structures and ruins
- roofed buildings and structures
- field boundaries
- historical semi-natural features.

This classification has been tested, briefly, in Kent by Paul Chadwick and with minor changes has been demonstrated to be a valid approach to categorizing the physical remains of past landscapes. This work has also demonstrated that it is possible to quantify the density and complexity of the historic dimen-

sion, although with greater difficulty for earlier phases and, especially, for sub-surface archaeological remains.

The Kent work suggested, however, that the method may be best suited to identifying characteristic and vulnerable components of landscapes, and not landscapes in the area sense. Certain categories of landscape features, notably field boundaries and woodland, partly due to the existence of detailed data, are over-emphasised by the method. Such a quantitative approach may not, either, take account of diversity, survival or patterning.

At the same time, we contributed to a preliminary assessment by Della Hooke of historic character within the Countryside Commission's New Map pilot in SW England, focusing on post-medieval enclosure patterns and archaeological site distribution. The first is a limited aspect of the full time-depth of the landscape, and the latter heavily reflects survival. The pilot provided a useful introduction to some of the difficulties however, and further approaches are being considered for the national New Map exercise.

Finally, a number of research studies are currently underway. The are being co-ordinated by Cobham Resource Consultants but they are being carried out by a range of archaeologists, landscape architects, planners and geographers. The preliminary results of this work will be available later this year. They involve two regional landscape assessments (Durham, Oxfordshire) and two projects studying methods of historic landscape assessment already carried out for farm surveys (ie land management purposes) and for Environmental Assessment.

The two regional assessments will test a variety of methods of assessing the historic character of their area. These will range from expert judgement for identifying geographical variation in historic character to more intensive "bottom-up" approaches based on intensive data-collection and analysis. We expect to make progress on questions of scale, survival and methodology. It is not clear at this stage whether there will be a need to invent a

new methodology or whether tried methods already exist which can be pressed into service. It is clear, however, that whatever methodology is established for historic landscapes it will need to be consistent with, and to be able to complement, existing parallel approaches in use in other disciplines. Indeed, there is parallel work underway with the Countryside Commission to identify methods of recognising and giving due weight to historic landscape factors in the New Map of England project. It is hoped that landscape ecology will also be able to make a major contribution.

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## PRINCIPLES FOR DEVELOPING A RED DATA BOOK FOR ENDANGERED LANDSCAPES: the work of the IUCN-CESP Working Group on Landscape Conservation

Bryn Green

### Introduction – what are landscapes?

It is increasingly realised that few, if any, environments are free of human intervention and, moreover, that in many environments such intervention is a key element in generating and maintaining biodiversity. In many parts of the world human intervention has created and maintained environments which are arguably richer and more diverse in species, scenic beauty, historical interest and recreational opportunity than the natural forest and other ecosystems they have replaced. These cultural environments, ranging from the mixed farm and forestlands of Europe and Eastern North America, through the pasture lands and savannahs of the Middle East and Africa to the paddylands of the Pacific Rim, are usually the product of relatively low-level, sustainable exploitation of the environment over long periods of time.

The concept of landscape gives expression to the products of this spatial and temporal interaction of people with the environment. A landscape may be conceived as a particular configuration of topography, vegetation cover, land use and settlement pattern which delimits some coherence of natural and cultural processes and activities.

This is a definition of a modern concept of landscape, concerned more with process than pattern. It is rather different from the origins of landscape as a word describing the visual impression of a tract of scenery. Landscape as defined in this modern sense has great utility, both as a framework for the study of eco-

logical processes operating at a larger scale than the species, population, community or ecosystem, and, particularly, as the appropriate scale for studying the impact or influence of human activities on the environment. This has been the impetus of the new and flourishing discipline of landscape ecology.

### Landscape Conservation

As arenas which frame the interaction of people and nature, landscapes can be an important analytical mechanism for development planning and management. Both Caring for the Earth and the UNCED Agenda 21 programme for sustainable development place considerable emphasis on an integrated approach to the planning and management of land resources, the latter clearly recognizing the role of landscape ecology in achieving this:

Governments should ... adopt planning and management systems that facilitate the integration of environmental components, such as air, water, land and other natural resources using landscape ecological planning (LAN-DEP)...(Agenda 21).

As natural units, landscapes are not only potentially a very useful means of approaching sustainable development and ecological and conservation enterprises, but are worthy of maintenance in their own right. More intensive agricultural and forestry practices are now replacing the traditional ones, many rural communities are in decline, and cultural landscapes are everywhere threatened. They

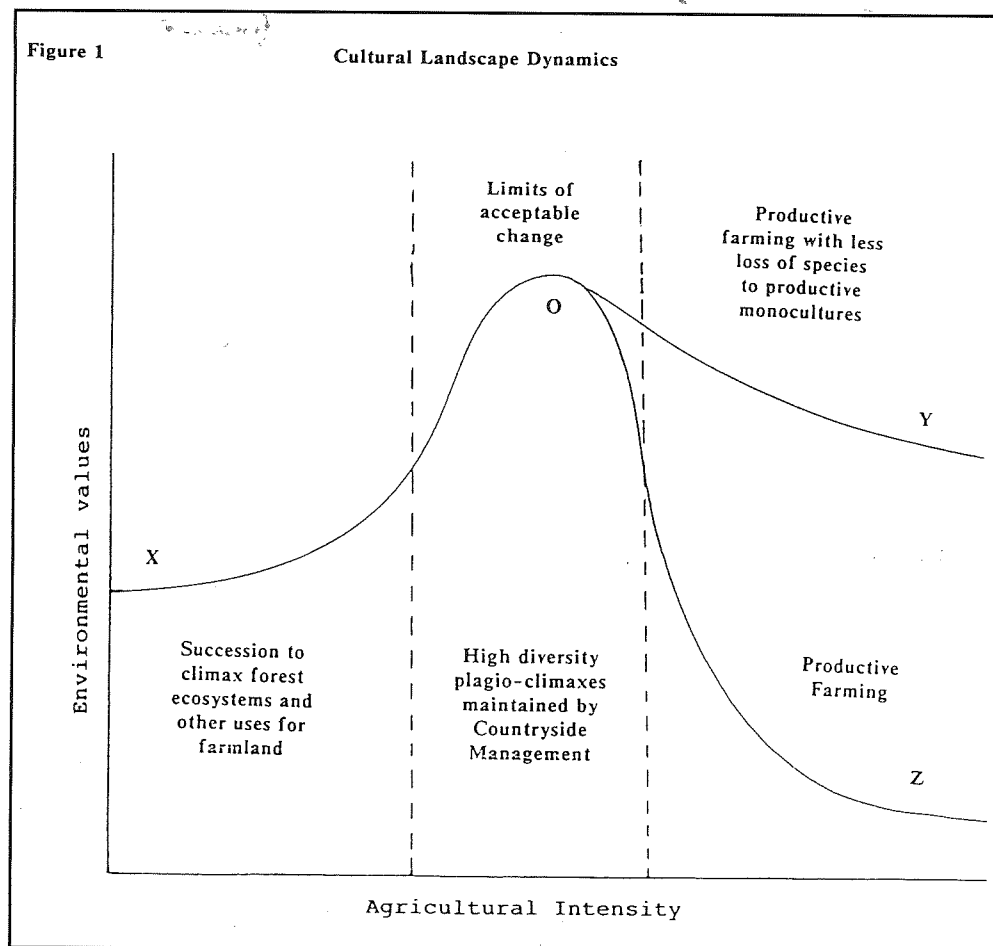


Figure 1 Cultural Landscape Dynamics

This model is based upon Grime's (1979) data relating species density in herbaceous communities to above ground standing crop and Connell's (1979) model relating species diversity in rainforests and tropical reefs to disturbance events. Agriculture may be considered a combination of these factors. It has diversified the environment by creating new biotopes such as grasslands and heathlands, often richer in species than the climax forest they replaced. Modern intensive agriculture however leads to loss of biotopes and species diversity.

Overcapacity in agriculture offers the opportunity to :

- take land out of production which could be used for forestry, recreation and other purposes (O - X)
- manage the countryside by traditional farming (Z - O)
- develop more environmentally-benign systems of productive agriculture (O-Y)

[Source: Green (1993)]

merit conservation, not only for their intrinsic values, but because they may be useful as models of harmonious human interaction with the environment which can be applied in both the developed and developing world. Such landscapes commonly form the matrix in which protected areas are set and their well-being is vital to the conservation of such protected areas. Some cultural landscapes are themselves designated as National Parks or as other categories of protected area. This has been acknowledged by the recognition of a Protected Landscapes Category (V) of designated areas by IUCN (Lucas, 1992).

### The Challenges of Landscape Conservation

As products of socio-economic systems now changing through rural depopulation, urban expansion and new technologies, landscape protection poses particular problems. It is usually highly undesirable, indeed often impossible, to constrain the evolution of socio-economic systems which have created and maintained cherished landscapes. Many of them involve impoverished and difficult ways of life which younger generations of people are no longer prepared to tolerate. Alternative livelihoods or other means may have to be found to maintain communities and desired landscape characteristics: Figure 1 summarises the areas of opportunity afforded by overproduction in agriculture.

There has also been some reluctance on technical grounds to accept the landscape as a natural unit. The use of landscape as a natural unit is seen as having three major difficulties: whether landscape units with a clear identity can be recognised; whether such units are unique, or repeatable; and at what scales landscapes should be defined.

These issues are linked. Few would be prepared to quarrel with the idea of natural areas defined largely by topography and geology. (Many countries have produced maps of such areas). But when it comes to grouping such areas into like kinds, into a classification of natural areas, strong reservations quickly begin to arise in most people's minds. Yet if

one adopts very generalised large scale natural area units, such as mountains, estuaries, valleys, scarplands or plateaux, then the very existence of these words testifies to their acceptance as genera of natural area types.

Some landscape classifications of practical utility have begun to be made which introduce land use into this topographical framework. European landscapes have been broadly classified into thirteen types (Meeus et al, 1990). In Britain a quantitative methodology has been used to classify landscapes into thirty-two classes (Benefield & Bunce, 1982). The protection of wildlife and natural areas would be difficult to envisage in the absence of accepted classifications of species and biotopes. The artificiality of such classifications does not detract greatly from their practical utility. Neither should it with landscapes (Blankson & Green, 1991).

Once recorded, described and classified landscape types should be amenable to evaluation in a similar way to species and biotopes using criteria such as threat, rarity, diversity, scenic beauty and historical and literary associations to decide priorities for protection. To protect them an understanding will be needed of the processes creating and maintaining them and of how such process can be continued or simulated. These are formidable challenges to scientists, policymakers and practitioners (Green, 1985).

### The Working Group's Programme

The IUCN-CESP Working Group on Landscape Conservation, in collaboration with the International Association of Landscape Ecologists (IALE), brings together scientists, policymakers and practitioners to respond to these challenges. Its broad purpose is to refine and promote landscape approaches in environmental planning as a tool for sustainable development. To do this it will develop work on threatened landscapes and serve overall as a basis for IUCN's landscape activities.

The Working Group has 30 members from many different countries, mainly European

and North American, and many more correspondents all over the world. It has held two workshop meetings; in Montecatini Italy in April 1992 and Wye, England in April 1993. Three major work areas have emerged from these meetings.

### 1. *The listing of endangered valued landscapes (EVLs)*

Since so many landscape-types are now subject to rapid change, particularly through agricultural and forestry activities and social factors leading to either intensification or abandonment, the first priority must be to identify what kinds of landscape are both most valuable and most threatened and give them some preliminary recognition.

It is proposed that this will be undertaken through the preparation of Red Lists of Threatened Landscapes.

The aims of this activity will be to:

i) gain some assessment of the nature and numbers of endangered valued landscapes in different countries and regions, in order to measure the magnitude of the conservation task overall and define priorities for promoting their designation as protected areas;

ii) record and register for posterity the nature and range of cultural landscapes. (There is the very real risk that some landscapes may be lost, or subject to irreversible change, before measures to conserve them can be brought into effect).

iii) by drawing attention to them as Endangered Landscapes (ELs), help to provide immediate initial protection for threatened landscapes and their biological, ecological, visual and cultural values until the appropriate level of protection is determined and given to the area;

iv) create a professional and organizational methodology and expertise that will help expedite the protection of threatened landscapes.

Ideally this process of listing should be preceded by a major exercise of survey, recording and analysis to describe, classify and evaluate landscapes which are potential candidates for inclusion in the list, using standard methodologies and criteria. It will be one of the functions of the Working Group to promote the development of such methodologies. However, in practice it is clear that if the listing is to be effective, and that means rapid, it cannot await the development of these methodologies. It must begin and be a dynamic process which is modified as it progresses to make use of new methodologies as they come to be available.

It is therefore proposed that the listing process will start with the preparation of a simple selection rationale and checklist questionnaire to characterise EVLs and report on any protection strategies for them. This initially will be drafted as the minimum necessary for participants to understand and undertake the recording. Local national and regional experts will then be sent the questionnaires and invited to submit preliminary lists of EVL candidates. Much of this may be done initially from existing information and expertise as a desk exercise. Finally those EVLs submitted to be registered on the Red List will be selected by an International Expert Panel using selection rationale criteria. In an iterative procedure local experts will be sent copies of the Red List to upgrade their entries and benefit from creative ideas for rescue and management strategies. This last activity will be closely linked with the second main work area to be promoted by the Working Group.

### 2. *The Conservation of Endangered Valued Landscapes*

The ultimate objective of the Red Listing process is to move a representative selection of EVLs from an endangered to rescued status. Some are already safeguarded in various categories of protected area; the World Heritage Convention has also recently been re-interpreted to embrace them. More EVLs need to be thus protected and additional means of safeguarding them through informa-

tion, incentives and regulation are required. The Working Group will promote the development and adoption of educational, legislative and other mechanisms of EVL protection.

The aims will be to :

i) increase awareness of endangered valued landscapes and ways to protect them through collaboration, co-operation, information exchange, publicity and training;

ii) assist, guide and encourage local, regional, national and international bodies in their efforts to protect threatened landscapes by providing professional support and creating an atmosphere that may attract political and financial support;

iii) facilitate and expedite the preparation of sustainable landscape conservation and development strategies and support systems;

iv) promote the development of legislation, conventions and other means of giving national and international recognition to EVLs.

Their large size, widespread distribution and their generation and maintenance by socio-economic systems commonly in flux makes EVLs unusually difficult to protect. To do so usually means finding ways of supporting the local communities and the traditional practices which maintain them.

Governments should...strengthen management systems for land or natural resources by including appropriate traditional and indigenous methods; examples of these practices include pastoralism, Hema reserves (traditional Islamic land reserves) and terraced agriculture (Agenda 21).

It has to be accepted that only very rarely will traditional systems be able to remain unchanged. New livelihoods and systems of management compatible with the maintenance of desired landscape characteristics will have to be identified with local people, developers, planners and politicians and means found to make them economically viable.

This will not be possible everywhere and alternative strategies for landscapes moving out of a cultural to either more natural or more technological phases will need to be developed. Acceptable limits of change may be able to be defined.

### 3. *The application of Landscape Ecology in Sustainable Development*

The wider application of the principles and practice of landscape ecology into land planning and management policy and decision-making will greatly facilitate sustainable development and landscape conservation. This and, more specifically, the EVL red listing process will necessitate the description, classification and evaluation of endangered landscapes, the identification of threats to them and the elaboration of planning and management strategies to help protect them. All this, particularly the latter, will require research to gain a better understanding of EVLs and the transmission of its results to policy-makers, planners and managers.

The Working Group will promote this through encouraging the collaboration of scientists and practitioners in research and through meetings and networking.

The aims will be to :

i) develop standardised methodologies for the survey, recording, description, monitoring and classification of landscapes;

ii) develop criteria for the assessment and analysis of both the value and threats to landscapes which can be used for Red List and Protected Area selection;

iii) promote the application of these methodologies in endangered landscape studies and research to characterise and understand natural and cultural systems and structures and their trends;

iv) transmit this information to policymakers and planners in an accessible format.

Descriptive studies to characterise EVLs are relatively straightforward compared with the more difficult task of preparing prescriptions for their planning and management. These require an understanding of natural and socio-economic processes which interact to maintain them. The study of endangered landscapes to provide this information is still a relatively new and developing discipline. We have little real understanding of the processes of interaction between people and the land which have created and maintained many endangered valued landscapes. These processes are often complex, subtle and dynamic. Their study requires the collaboration of natural and social scientists in order that landscapes can be addressed in an integrated, holistic manner. This requires the bringing together of two academic and institutional cultures and represents a major challenge.

The Working Group has already begun these activities through meetings and the preparation of **Green Book Case Studies of Endangered Valued Landscapes**. These are intended to serve as one of the key practical tools for bridging the gaps between researchers and practitioners. A number of pilot studies have been undertaken and they are being developed into a standard integrative methodology for holistic landscape conservation based on advances in landscape ecology. The elaboration of a standard format for the recording and description of landscapes is in progress.

#### Collaboration and Development

These three main work areas of the Working Group's programme are closely inter-related and the success of each is very much contingent on that of the others. They abut other activities elsewhere. The Working Group on Landscape Conservation is in contact with IUCN-CNPPA, WCMC and a number of other international and national programmes related to its work through some of its members also being associated with these other organisations. There are a number of such related initiatives with which links are being established. These include:

i) The incorporation of **Cultural Landscapes of Outstanding Universal Value** into the **UNESCO World Heritage Convention** and the development of criteria for their selection.

ii) A chapter on landscape classification and protection in the **EC State of the Environment Report**.

iii) A proposal for a **European Convention for the Protection of Europe's Rural Landscapes** as part of the emerging **IUCN Action Plan for Protected Areas in Europe**.

iv) A research proposal by the **Permanent European Conference for the Study of Rural Landscape for An Atlas of the European Cultural Landscape**.

v) The identification of **Natural Areas by English Nature** and of landscape-types by the **Countryside Commission** in their **New Map of England** project.

vi) A proposal from the **University of Zurich** to establish a **European Federation for the Protection and Management of the Landscape**.

It would seem to be desirable that co-ordinated, mutually compatible approaches are made. The Working Group would be pleased to hear of any other similar initiatives.

#### The Landscape Dimension in the Work of IUCN

These parallel initiatives serve to emphasize the relevance and urgency of the work of landscape conservation. This is not new to the work of IUCN. In its former manifestation CESP promoted a project to produce a **Green Book of Outstanding Landscapes**. The preliminary results were published in 1978 as **Some Outstanding Landscapes**, but the project did not proceed further. Current perceptions of the need to address conservation problems in a much wider context than species and site protection give this approach new impetus. We need to define how landscape relates to other approaches which cir-

cumscribe coherent tracts of territory and living systems, eg catchments, bioregions, laboratory regions, living heritage zones, biosphere reserves etc, and demonstrate the particular contribution that landscape ecology can make in both developed and developing countries. These are formidable challenges for the Working Group.

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# CULTURAL LANDSCAPES – WHAT SHOULD WE DO ABOUT THEM?

Michael Dower

## Introduction

Thank you for the chance to speak. I do so in a double capacity – as Director General of the Countryside Commission, and as Vice-President of ECOVAST (The European Council for the Village and Small Town).

These two organisations are both committed to promoting the well-being of rural, or cultural, landscapes in Europe; and, to this end, pressing for the creation of a Convention for the Protection of Europe's rural landscapes. Briefly, the purpose of this Convention, which we wish to persuade the Council of Europe to initiate, would be to raise the awareness of Member States of the importance of rural or cultural landscapes, and to encourage action at national and international level to protect and manage these landscapes.

## The Variety and Importance of Rural Landscapes

Let me remind you of the great variety of rural landscapes in Europe; and say why their protection and management is important.

First, what do I mean by rural landscapes? I am not talking about the two types of area which have received most active protection by many governments – namely, the wilderness lands, for example the Category 1 sites in the IUCN classification; and the great historic sites, which reflect the highpoints of human culture.

My focus is on the lands that lie between these two extremes...the areas which have been settled and used by people for their livelihoods, often over very long periods of

time, and which are still rural. These landscapes gain their character, and their interest, neither from unchanged nature nor from high culture, but rather from the long-established and evolving relationship between people and the land. This relationship is fascinating, and highly varied from one area to another, because of the two-way influences – the impact of the land on people, and that of people upon the land.

When people first strove to gain food, clothing and shelter from the land, they had to accept the resources and constraints which the land offered. Their buildings were made of local materials – stone, wood, thatch, clay, whatever was available. Their crops and livestock were those which could flourish in that place, with that climate. Their culture and customs grew out of the link to the land: and the land, in turn, was shaped by their choices, by their systems of tenure, their particular pattern of settlement and fields and woods. From each such society-land liaison, a landscape arose, unique to that place.

In some rare places, mainly on the geographic fringes of Europe, landscapes of such early types survive. But over much of the continent, the flux of human activity over long centuries has caused changes in the society-land liaison, with consequent changes in the landscape. Factors such as war, trade and the spread of new culture have brought new elements into the society-land liaison and thus into the landscape. Modern technology and imported building materials have reduced the constraints which the place earlier imposed upon the people. Building styles, land tenure systems, customs, crops, livestock and much else have come into areas where they previously were not.

The result of this great human saga, extending over centuries and even millennia, is an immense variety of types of landscape. Staffan Helmfrid, in his keynote paper to the International Colloquium on the Agricultural Landscapes of Europe (September 1992), outlined the broad zones of agrarian landscapes in Europe:

– “the Mediterranean zone...with its latifundia, its defensive hilltop settlements...olive trees, oranges, grapes, urban-like villages and mule transport to distant fields...

– “the Alpine zone, with its characteristic vertical organisation of farm production and farm life...

– “the vast region of transalpine Europe with a great variety of landscapes, characterised by the village system based on a symbiosis of cropping and animal husbandry.” (Helmfrid, 1992).

Staffan Helmfrid went on to describe the broad distinction within the transalpine zone, namely the Atlantic rim, with its Celtic landscapes and areas of bocage; the lands west of the Elbe; and the lands east of that line, affected by the immense wave of German colonisation between the 12th and 16th centuries. He emphasises that the land tenure and land use patterns have changed over centuries, according to shifts in the rural economy and in political systems; that the patterns of earlier culture sometimes have to be discerned beneath the modern outlines of fields or even of towns or cities; but that, in many areas, the landscape still reflects long-established farming or other cultures.

## Why are Rural Landscapes Important?

I would cite four main reasons for the importance of rural landscapes.

First, they enrich the quality of human life and culture, and the diversity of nature. Just as we value the rich variety of ecosystems and species in the natural world, so we gain from the rich variety of human culture as

expressed (among other ways) in rural landscapes.

Second, rural landscapes provide, for those who live within them, a sense of continuity, of human ‘roots’ in a place and in a tradition; and also of local distinctiveness. Continuity and distinctiveness are of growing value to people, in a world which suffers from rapid change, homogenised culture and standardised products. In such a world, people value what is local, special and familiar.

Third, rural landscapes embrace ways of life, and links with the land, which have proved viable in the past and may be viable in the future. Trial and error, over long generations, have shown what animals, what crops or trees, will flourish in a place, what seasonal practices are necessary in that climate, and the most practical shapes and materials for building. At a time when we are reacting against the adverse impact on the environment caused by (for example) some modern farming practices, we are placing fresh value on what we can learn from the past.

Fourth, rural landscapes are a rich source of evidence about past and present human interactions with the land. They are a palimpsest, a living library of information, which one can learn to read. They have high value to the geographer, the archaeologist, the historian, the anthropologist, the ethnographer, the ecologist and other scientists...and to those decision-makers who strive to protect such landscapes as a key part of their local, national or European heritage.

Moreover, some such landscapes have such outstanding and universal qualities that they have value at the European scale. Examples include: the puzsta of the Hungarian plains, the hills of Umbria and Tuscany in the northern Apennines, the valleys of the Lot, Tarn and Dordogne of south-west France, the waterway vistas of the Netherlands and the Lake District of northern England. Such areas have inspired writers and artists, drawn travellers and achieved fame far beyond the immediate locality. If the conservation of Venice, Granada or Prague is in a sense a

European concern, so too should be that of such important rural landscapes.

It is for these reasons that ECOVAST, in its 'Strategy for Rural Europe', has expressed concern that this great cultural heritage is being rapidly eroded and even destroyed by social and technological changes, modern agriculture, urban growth, neglect and other forces. I quote from the 'Strategy':

"This heritage of landscape and of popular culture represents a large part of our collective memory. It provides 'roots' for modern people, a sense of place, a link to the past, a storehouse of ideas on how we can use the land, a vital source of culture and of spiritual creation. It represents a massive inherited 'capital' of human effort, which we may (to our cost) ignore or waste or we may choose to use and adapt.

ECOVAST takes no static view of this heritage. We do not wish to 'stop the clock' in the countryside. The heritage is so rich precisely because it has been added to, changed and adapted. But we call for a greater awareness of the heritage; a willingness to build on it and adapt it, rather than ignore or destroy it; and the humility to learn from, and value, our ancestors' experience and to hand on a heritage to our children... We must evolve a modern way of life which respects the heritage and which enriches rather than diminishes it." (Ecovast, 1992).

### The Challenge of Protection and Management

The survival of the diversity of Europe's rural landscapes generally, and of those special areas in particular, is now at risk. Threats include the intensification of agriculture; urban expansion; the abandonment of some rural areas; standardisation of materials and designs; infrastructure development, especially roads; tourism; and wide-ranging environmental degradation, for example from air pollution. The pace of change has been particularly rapid within the EU countries, especially as a result of the Common Agricultural

Policy; and in the Mediterranean and Alpine regions from tourism. The recent changes in Eastern and Central Europe may lead to rapid developments in agriculture and tourism which could destroy those rural landscapes which have survived the impacts of collectivisation.

This vital heritage of rural landscapes poses a three-fold challenge to scientists, policy-makers and practitioners.

First, we need to identify, to record and to understand the landscapes that we inherit. This is a field for scientists, supported by the worlds of learning, of publishing and of government. We may welcome the growing interest among scientists and researchers, including IALE, in the rural or cultural landscapes of Europe (Unwin, 1992). The research work at local, national and European levels, will need the combined efforts of many disciplines.

Second, we need to protect rural landscape from inappropriate or damaging change. Such action lies largely with national and local governments. In many parts of Europe, these authorities have adopted planning policies which protect large areas of countryside from urban development; have given special measures of protection to areas with a high quality of landscape, such as the many parks which are members of this Federation; or have helped to bring such areas under the protective ownership of public or non-profit-making bodies such as the National Trust or the Italian Fondo per l'Ambiente. But, even in these areas, unnecessary damage to rural landscapes is still occurring; and elsewhere in Europe, for example on significant stretches of the Mediterranean coastline, catastrophic damage is still being caused through the absence of effective governmental protection of rural landscapes.

Third, we need to promote the survival of those cultures which have created our rural landscapes. Vineyards quickly fall derelict if they are no longer tended. Terraces collapse if they are not maintained; the same happens to dry-stone walls, windpumps, water-power

systems, buildings. Of course, one can sustain a sample of such features in a museum manner. But the landscapes that we treasure are far too extensive to be sustained as museums. Moreover, their vitality is in the way of life that created them; and they embrace the homes and the livelihoods of those who live there.

The challenge is to enable the way of life to continue, not with pain or hardship but at a viable standard of living. Rural people should be able to share in a nation's prosperity. But often change is so rapid that the quality of the environment is put at risk, and the benefits of short-sighted development cannot be sustained.

Governments need to guide the process of change as it affects rural landscapes. To do this, they require an understanding of the diversity of their rural landscapes. They should use this knowledge in their planning policies. They must be able to control development schemes which would damage the landscape. They should encourage forms of rural development and rural land management which are in harmony with the landscape. This is precisely what we in the Countryside Commission are seeking to achieve through the Countryside Stewardship programme. These requirements relate to rural landscapes generally, but they have special force in landscapes of European significance.

### The Proposed Convention

These issues were in the mind of the National Trust when, in 1990, it organised at York a seminal international conference 'Europe Preserved for Europe', which brought together people throughout Europe concerned with protection of rural landscape.

Immediately after that conference, a group of us came together to discuss a pan-European initiative; and Adrian Phillips, then Director-General of the Countryside Commission, took the lead in shaping the idea of a Council of Europe Convention for the Protection of Europe's Rural Landscapes. Several bodies -

the Countryside Commission, the European Federation, ECOVAST, the Landscape Research Group - committed themselves to pursuit of the idea.

Proposals for the Convention were first presented to a professional audience at the conference **Landscapes in a new Europe: unity in diversity** (*De l'Europe des pays à l'Europe des paysages*) organised by the Landscape Research Group (UK) and Paysage et Aménagement (France) in Blois in October 1992 (Phillips, 1992). I draw on Adrian Phillips' speech at that Conference. He sought to answer two main questions - why a Convention? and what would a Convention cover?

#### "Why a Convention?"

A Convention is a treaty between sovereign countries. Conventions in the environmental and cultural fields are useful instruments of national and international policy because:

- they raise awareness of the issues covered by the convention;
- they set standards for action at the national level;
- they prescribe how States should manage resources of international importance, and
- they encourage States to cooperate.

"Several European and global conventions exist which deal with related issues, the most important being the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention, 1979) and the Convention on the Protection of the Architectural Heritage of Europe (the Granada Convention, 1985). However, there are no conventions which deal with the protection of the landscape. Nor is this issue covered effectively by any of the Directives of the European Union, including the recently concluded Habitats Directive which is restricted to the protection of nature.

"In practice, therefore, there are no inter-governmental arrangements for the protection of the rural landscapes of Europe – despite their great cultural and natural values, the importance of certain areas to the people of Europe as a whole, the many threats to their survival and the need for international cooperation to deal with a number of these threats.

"What would the convention cover?"

The overall purpose of the proposed Convention would be to strengthen the conservation of the rural landscapes of Europe. More particularly it would have three aims:

- to encourage all the signatories to record the rural landscapes in their countries and to take some steps to ensure the protection or enhancement of such areas within policies for rural development;

- to develop a network of European Rural Landscapes, incorporating those landscapes which are considered to be of European significance;

- to put in place supporting measures, such as training, information exchange and perhaps a centre of European expertise.

"These three aims would be expanded into a set of clauses which would commit the parties. Though negotiating the details of the text would inevitably be a long and difficult process, there are ample precedents in other conventions, such as those of Bern and Granada. For illustrative purposes only, the three sections of the convention might contain clauses which could be summarised thus:

"– Rural Landscapes Generally

Governments will:

- survey the characteristics of their rural landscapes to prescribed guidelines;

- record this information in standard format and make it widely available;

- ensure that this information is used in development planning at various scales;

- make, or strengthen, laws for the control of projects which could damage rural landscapes;

- support local people to sustain or adopt land management practices and rural development schemes which are compatible with the protection and enhancement of the distinctive qualities of the landscape.

"– European Rural Landscapes Network

Governments will:

- identify landscapes in their territory which are of European significance;

- submit these candidate areas for peer review;

- if landscapes are included in the network, guarantee their effective protection;

- link landscapes in the network with others for research, training, information and public awareness;

- contribute information exchange, training programmes and public awareness materials, including a register of landscapes of European significance."

### The Campaign to Secure a Convention

The conference at Blois concluded that:

"...further work should be undertaken on a possible convention on the protection of rural landscapes in Europe...Through greater international cooperation, the convention could reinforce the effective protection of valued landscapes that are as much a part of the European heritage as great historic monuments. While it should recognise that landscapes must evolve, it should encourage this to be done with respect for local identity. Implementation, therefore, should be at national and local levels."

During the past 12 months, the Convention has been discussed in a number of fora, generating interest and support. The Council for the Federation of Nature and National Parks of Europe has welcomed the initiative and offered officials in the Council of Europe, who have expressed interest in its potential to bring together, in the long term, the work currently being done on recommendations to ministers in the areas of historic sites and landscapes, which is due to be published early in 1994, and nature conservation, which will follow.

The Convention features also in the draft "Action plan for protected areas in Europe" of IUCN (World Conservation Union). This notes the close relationship between biodiversity and the natural and cultural diversity of landscapes in Europe, and the threats posed by rapid and unsustainable changes in rural environments. The plan recommends that the Council of Europe fund a feasibility study for a convention. The draft plan will be presented to the IUCN General Assembly in Buenos Aires in January 1994, with the aim of final approval and publication in summer 1994.

These reactions are encouraging, as is the broader scope of the IUCN Action Plan. But those of us who have been promoting the idea of a Convention feel strongly that the tempo must be stepped up if we are to succeed in the broad purpose of raising the awareness of European status of the importance of rural landscapes, and encouraging action throughout Europe to protect and manage these landscapes.

We have therefore set up a Working Group, serviced by the Countryside Commission, and consisting in the first place of representatives of the Commission, the Countryside Council for Wales, The European Federation, the Landscape Research Group, Paysage et Aménagement and ECOVAST. Our immediate aim is

- to develop the proposal in more detail;

- to enlist the support of other national and European organisations;

- in particular, to seek at least one Member State government which may be willing to become a champion for the idea within the Council of Europe;

- to lay the groundwork for a full-blown feasibility study to be commissioned, we hope, by the Council of Europe following the discussion at Buenos Aires on the IUCN Action Plan, during which we hope to secure endorsement of the Convention proposal.

We would be very glad to welcome others into the Working Group, and to have introductions to any Member States of the Council of Europe which might act as champions for the Convention.

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