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Expert Systems, Local Knowledge and Power in Argyll, Scotland

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ABSTRACT *This article is based on research carried out as part of a larger project into land use and landscape in Argyll 1945–2005. The aim of the article is to point out the ways in which strategies employed by agencies responsible for monitoring rural landscapes interact with the ideas and knowledge of local people. It will provide evidence from field work in the region to demonstrate that, firstly, the programmes employed and enforced by national agencies are shaped by a particular understanding of environmental history, and secondly, that the interaction with rural labourers and farmers is weak, leading to a neglect of information and support which might otherwise make these programmes far more effective.*

KEY WORDS: Landscape, environment, biodiversity, rural, power

Introduction

Existing research on land use conflicts shows that attempts to integrate local knowledge and involvement of all stakeholders can often drive some groups away from participation. Some stakeholders experience a strong sense of alienation from environmentalism and expert knowledge (Dunk, 1994; Kaltenborn *et al.*, 1999; Skogen, 1999, 2003; Syse, 2000; Willis, 1977). The sociologist Thomas Dunk argues that environmentalism and environmentalists have become symbols and foci of class and regional conflicts (1994). In this paper I wish to explore the issue of this resistance to environmentalism and expert knowledge in relation to farmers, foresters and land labourers as exemplified by a case study from Argyll. Questions of tourism or leisure industry, although relevant, were not part of this investigation. Consequently, the argument is polarized even if the debate is complex. Although farmers and foresters have the most direct daily tacit knowledge of the countryside, this does not imply that their knowledge is more legitimate than that of environmentalists and these other stakeholders.

Method

The article is based on a larger ethnographic investigation of land use and changing perceptions of landscape among farmers, foresters and land labourers in Argyll.

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The fieldwork area is shown in Figure 1. Informants from these groups, representing a cross-section of social classes from labourers to gentry, were interviewed. Ten were farmers, of whom two were crofters and two were tenant farmers. The farm sizes varied between 500 and 5000 acres.¹ Other informants included agricultural labourers, foresters, and gamekeepers. To understand the conflict which evolved through these interviews better, the methodology was revised, and employees of Scottish Natural Heritage (hereafter SNH), agricultural advisers, researchers, curators and museum board members were also interviewed (Table 1). To maintain the informants' anonymity, they have been given fictive names.

Concepts

The concept 'expert systems' is central to this article, and a brief explanation is necessary. Anthony Giddens presents three basic terms which are typical of late modern society: reflexivity, time-space separation and disembedding mechanisms. These disembedding mechanisms can be explained through a fourth central concept: expert systems. Science expands its territory, and abstract systems of knowledge are distributed to an increasing number of arenas. Expert systems involve everything from global finances and the technologies of industry, to scientific knowledge about the environment. Increasingly, expert systems construct the surroundings in which people live their lives (Giddens, 1990; Krange, 2004). Consequently, the trust these experts are given cannot be isolated from the power they have to act on their expertise.



Figure 1. Map showing fieldwork area in Argyll.

Table 1. Distribution of age and occupation of informants

	RURAL INFORMANTS				OTHER INFORMANTS		Total
	Farmers	Foresters	Gamekeepers/ Rangers	Agricultural labourers	SNH employees	Curators, researchers, advisors	
Age at the time of interview							
AG3: 25–40	2	1	2	1	2	3	11
AG2: 40–65	5	5	2	1	2	4	19
AG1: Over 65	3	2	0	3	0	0	8
TOTAL	10	8	4	5	4	7	38

Most studies of power focus on how institutions have expanded their influence. Analyses that only show interest for rulers or elites overlook everyday experiences of disempowerment (Foucault & Schaanning, 1995). They neglect to consider whether exerting power is an established right, or a right earned, given by consent (Hindess, 1996). Environmental agencies funded by and acting on behalf of the British Government have been given power by democratic—if not always local—consent. However, in the field of landscape planning the dichotomy between central and local power can be problematic, since experts in landscape planning often conceptualize landscape in scenic terms. Although not all landscape planners conceptualize landscape this way, this approach to landscape fits well with the definition given by Cosgrove in 1984 in which he focuses on the meaning of landscape as scenery:

A landscape is a cultural image, a pictorial way of representing, structuring or symbolising surroundings (...) Landscape is a social and cultural product, a way of seeing projected onto the land and having its own techniques and compositional forms; a restrictive way of seeing that diminishes alternative modes of experiencing our relations with nature. (Cosgrove, 1984, p. 1, p. 269)

Cosgrove's definition restricts landscape to encompass a pictorial image, which although culturally and socially defined, is projected onto the land. Raymond Williams takes a similar approach to Cosgrove largely in scenic terms, but he focuses on what landscape is not, and argues that the landscape demands the observer to be separate from what is observed:

A working country is hardly ever a landscape. The very idea of landscape implies separation and observation. (Williams, 1973, p. 120)

These two approaches illustrate two different ways of perceiving the land and the landscape. They both define the observed as a trait of landscape, and in Williams's case, a working country is thus defined as not being a landscape (an approach which Daniels, 1989, develops further). It would be misleading, however, to give the impression that all scholars define landscape solely, or even primarily, in scenic visual terms, and even Cosgrove subsequently modified his views (Cosgrove, 2003,

2004; Ingold, 1993; Jones, 1991; Rodaway, 1994). For the purpose of this article, I will use the terms land, scenery and landscape as follows. 'Land' conveys the tactile, material land of rural labour; 'Scenery' describes a two-dimensional, ocular-centric aesthetic view; and the word 'landscape' will be used when I am referring to both. The term landscape encapsulates form, function, context, process and various aesthetic dimensions. Thus the landscape also includes individual's understandings of a place's varied meaning, which in turn informs identity.

Post-war Power Shifts

The creation of aesthetically pleasing landscapes was considered a legitimate way of displaying wealth and power in historical times. In the eighteenth and nineteenth centuries the designed landscape park became the epitome of good taste among wealthy and powerful landlords in Britain. Capability Brown was an important figure in this tradition. One of the estates studied in this project once covered more than 100 000 acres and had an extensive landscape park surrounding its country mansion. Today the estate has shrunk to about 5000 acres, the grand mansion is in ruins, the gardens are grazed by cattle and sheep and the ha-ha is used for storing silage bales. The estate is today defined by its owners as a farm rather than an estate, and the owner's power to make decisions concerning the landscape has decreased. The power of British NGOs seems to have risen accordingly. These NGOs can be seen as delivering more widely accepted benefits to society and the environment, enacting legislation that has been democratically established.

In the landscapes of Argyll, there has been a shift in the distribution of power as well as a shift in landscape values. In pre-war Britain, elite landowners still had the power to make decisions regarding the landscapes they lived in (and partly ruled over). In post-war Britain, much of this power has been transferred to environmental NGOs or QUANGOs like the RSPB, SNH and the Forestry Commission. However, there has also been a shift regarding who has the power to define and categorize nature. In many ways these organizations have seemingly adopted a Brownesque predisposition to sculpt the landscape according to a particular aesthetic, as will be shown in this paper. However, first I will explain the role of SNH in Scotland.

Expert Knowledge about the Environment

The development of environmental conservation in Britain started with the protection of bird species and was followed by the development of ecology as a field of study and ecological systems as targets for conservation (Anker, 2003). The Royal Society for the Protection of Birds founded in 1889, had within only a century become the most powerful conservation organization in Europe (Smout, 2000). The British Ecological Society (1913) and the Society for the Promotion of Nature Reserves (1912) gave scientists and amateur naturalists a voice with which to protect the environment in general (Anker, 2001, 2003; Smout, 2000). In 1949 they were succeeded by the governmental Nature Conservancy Council. This was responsible for establishing a network of National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs), using specific legislation and democratically agreed criteria to do so.

In Scotland, the Nature Conservancy Council was replaced in 1992 by SNH. SNH is a Scottish public body funded by the Scottish government, and acts as an advisory non-departmental public body (QUANGO). Nationally SNH employ around 800 staff and have offices in most parts of Scotland. In terms of environmental management, they are considered the experts. Looking at the qualifications of many of the SNH staff, this is undoubtedly true; they include biologists, botanists, geologist and zoologists. Many have studied their particular field for many years at university before undertaking research or working on management schemes with SNH. However, not all SNH staff have science-based university degrees, as practical fieldwork and administration are also important parts of their operations.

Areas protected by SNH amount to 23% of the total Scottish landmass, and SSSIs alone cover as much as 13%. Yet their 1994 brochure *Sites of Special Scientific Interest* claims that “Quality is very important—only very special sites are chosen” (SNH, <http://www.snh.org.uk/about/ab-pa00.asp> 14.03.2007). Although this might seem like a large percentage, only democratically agreed criteria are employed when defining SSSIs.

Local Stories about Biodiversity

In order to maintain and promote biodiversity, SNH encourages farmers to use particular farming methods. Land owners are encouraged to apply for funding to carry out different prescribed agri-environmental schemes on their land. However, a certain degree of cynicism has developed regarding participation in these schemes. The farmer cited below explains how he regarded the initiation, development and finalization of a conservation project related to the management for the benefit of butterflies.

This is where all the money's gone. Channelled through this ... paths and butterflies and anything like that. They're very hot on dragonflies. Butterflies are another good one. (...) They approached me last year, in the beginning of July, and asked me if I could feed the cattle for two weeks on this special bit of ground. And it was only for two weeks in the middle of July. And I thought ... 'well I don't know, I suppose I could, I mean but what's the point of this?' 'Oh this was good butterfly ground. And it needed to be churned up with cows' feet' (...) I was to feed them in this bit of ground for two weeks ... And then after that I was to be finished. And I thought: 'This is ridiculous'. I mean unless you're feeding them hand mixed, the cows are gonna wonder why they're getting fed in the middle of summer, and why I've stopped! (Laughs).

... and this guy left about two months after they set up this, and to my knowledge there has been nobody up there looking at these butterflies whether there's any feeding ground or not! And we just took the sheep off and everything ... and I thought: 'well if it's as good land for butterfly feeding ground, why change it? Why take the whole stock off it?' But you can't tell these folk that. They know it all. No point in even trying to reason with them. There's no reason in it. They know it all. But you live beside this for years ... you just shrug your shoulders. (Jamie, AG2 farmer).

Butterfly management was not the only expert practice which was questioned by Jamie; he believed bird management also went wrong sometimes:

I said to the Nature Conservancy after I sold it [the land] to them and they took all the stock off it and I had sheep on the other side of the river and I was walking down the river and it dawned on me: It's quiet! You know? And I start thinking: Why is it so quiet? You know there are no birds! They took the stock off, they stopped grazing it, because there used to be a lot of oyster catchers, they used to go and nest in the sand ... and they don't make a nest, they actually nest in the sand, I was thinking there's none of them! Where have they gone? It's because the grass is long! Sheep haven't eaten it. They don't like it. They've moved out. (Jamie, AG2 farmer).

According to Jamie, rather than look at other reasons for the birds' decline (like pollution, change in climate, increased number of raptors due to their protection, etc.) the conservationists' initiative involved piecing the land off, measuring and counting indicators of biodiversity to establish it as a 'site', protecting it by making it into a SSSI, and then taking the livestock off. A SSSI is, as its name implies, a scientific entity, where experts assess soil structures, geology, etc., count and study different species of plants and 'birds, bugs and beastsies' at any given time and establish whether it meets current designation criteria.²

Jamie was full of narratives about SNH and SSSIs. He told how he had offered some land to SNH but they had declined the offer because they considered it not scientifically interesting enough. Then 10 years later views regarding its status had changed, and it was classified as a SSSI after all. He claimed he was never given a proper explanation of how his land had changed and now become scientifically important. We can also see in this example how Jamie's own knowledge about the environment based on everyday life, on a consistence in presence, was disregarded. He would walk past this place every day to check on his livestock, and take notice of his surroundings.

Riley, another AG2 farmer, resented the new emphasis on environmentalism and recreation. However, he had joined the 'Countryside Premium Scheme'³ which paid farmers to keep sheep off a hill in order to improve habitats. He saw his job as just making the countryside beautiful for townfolk, and doing as SNH told him. He was particularly distressed by the amount of power that organizations like SNH and RSPB have in Argyll, stating that they spent more money and time 'Feeding [swears] geese than farmers spend feeding cattle!' (Riley, AG2 farmer). Although he was angered by this kind of public spending, he chose to take the money that came with joining the scheme.

With around 13% of the Scottish landmass covered by SSSIs, it is not surprising that similar narratives can be found elsewhere. Frank Rennie's research shows how crofters on the Isle of Lewis were annoyed to discover that agricultural activity on a SSSI was classified by the SNH as a PDO (Potentially Damaging Operation). Further, he found that SNH and its predecessor the Nature Conservancy Council (NCC) and various voluntary sector agencies were regarded with apprehension by the crofting community (Rennie, 1991). Fraser Macdonald documents a similar resentment towards SNH among crofters in Caithness and Wester Ross through his

study there in 1997 (MacDonald, 1998). The part of Argyll where I conducted research has few crofters, but a similar resentment towards SNH and voluntary sector agencies could be found among other rural groups consulted.

The Aesthetics of Biodiversity

Biodiversity is something quantifiable while aesthetics is in the eyes of the beholder. The rural informants claimed that green QUANGOs and NGOs in some cases rather than using terms like 'scenic beauty' biodiversity protection was presented as a proxy for landscape conservation. Yet scenic beauty has been an influential force in landscape management in Britain for centuries. History shows us that aesthetics can become a significant force for or against environmental change (Buell, 1995).

It is justifiable to question the outcome of substituting biodiversity for aesthetics: Fraser Macdonald claims that conservation as a visual consumption undermines primary production by assessing the Highland landscape along stringent aesthetic lines. It operates "according to pre-given conceptions of beauty and the sublime" (Urry, 1995, p. 186, quoted by Macdonald, 1998). It is well documented how influential another aesthetic category—the picturesque—is in environmental conservation, a fact which is also apparent when considering all the voluntary groups maintaining or attempting to re-create a Highland 'wilderness', such as Reforesting Scotland, Trees for Life, The Scottish Wild Land Group and the John Muir Trust (Green, 1990; MacDonald, 1998; Pepper *et al.*, 1984; Read, 2005).

This aesthetic admires the idea of 'pure nature' unaffected by humans. People's influence through farming and settlement is only tolerated if the changes happened before the industrial or modern era; if the houses are picturesque and stone-built, and if the farming practice can somehow enhance an idea of retrospective biodiversity or perhaps sustain an image of the past. This is the aesthetic taught at schools and universities, shown on pamphlets from SNH and the Forestry Commission, and regarded as the 'correct' policy of natural management.

Stories about a Big Bog

The Mòine Mhór, or the Great Bog in Argyll, provides a good example of how values change and aesthetic appreciation varies through time and between observers. In the introduction to the Royal Commission of The Ancient and Historical Monuments of Scotland's inventory of the ancient monuments of Argyll, the area is described in the following way:

Much of the upland is acidic, and peat has developed steadily over the last two millennia. The formation of peat has not, however, been restricted to the higher ground, for one of the largest expanses of peat grew on the estuarine flats of Mòine Mhór or Crinan Moss. Here, draining and peat-cutting over the last two centuries have revealed several of the major Neolithic and Bronze Age monuments belonging to the Kilmartin group; and it is clear that areas such as the Mosses of Crinan and Achnacree were heavily settled before the development of peat. (Royal Commission on the Ancient and Historical Monuments of Scotland, 1988).

This archaeological account describes how the Mòine Mhór has been an arena of human interaction for millennia. The formation of peat is largely due to climatic changes, and took place over the last 2000 years.

Historically, the peat was a natural resource cut for fuel. Farmers tried to drain the bog and burnt the moss's heather to improve the grazing, the latter an agricultural practice carried out in Atlantic coastal zones for millennia (Haaland & Kaland, 2002; Kvamme *et al.*, 2004). Heather was also used to thatch cottages (Grant, 1961) and Highlanders even used it for mattresses (Boswell *et al.*, 1936). Burning heather also improved the habitat for grouse. Mòine Mhór was a bountiful grouse-pantry, and Victorian accounts of sporting life in Victorian times speak of shooting days in

(...) dear Argyleshire, where forty brace over dogs is, and always have been, a great day; but which, in spite of all drawbacks of climate, is, in my judgement, the most delightful place in Scotland. (Gathorne-Hardy, 1900, p. 190).

Historical accounts and research into material culture have established that the Mòine Mhór is an area strongly affected by cultural practice, including agriculture, back to prehistoric times. However, when SNH tells the story of the great bog in their visitor leaflets, Mòine Mhór is described in a different manner. It reads:

Throughout Kilmartin Glen you can find evidence in standing stones, burial chambers and rock carvings of prehistoric people. They couldn't live and farm on the marshy Moine Mhòr but it's likely they would have used the Moss in other ways. Boglands traditionally provided peat for fuel, dyes for clothing, berries for food, potions for medicine and heather for honey and ales. It's only in the last 200 years that people started farming on the bog. (...) Parts of the Moine Mhòr were cut to fuel the tileworks and for making charcoal. Much of the land was also drained for grazing sheep. Heather was burned off to encourage new growth, which in turn attracted shooting parties. All that's now past and the remaining bog is being returned to its natural state. (Scottish Natural Heritage and Micheal Glen, 2002).

The leaflets convey ambiguous, ambivalent and arguable messages. It suggests that the bog existed in earlier prehistoric times when according to the archaeologists, it did not. Archaeological research indicates that the area was farmed and used by people both before and after the peat was formed. When describing the last 200 years of agricultural practice, the SNH leaflet changes tone and employs a different rhetoric. Questionable human actions are conveyed using verbs such as cutting, burning and draining: peat cut to fuel tile-works, heather burnt to attract shooting parties. The burning of heather to encourage new nourishing shoots for grazing animals for at least 5000 years all along the Atlantic fringe is not mentioned, nor is the pre-modern cutting and use of peat for fuel. In a single passage the monstrosities of the agricultural revolution and Victorian class structures are exposed, while the quotation's last sentence claims that bringing the bog back to its 'natural state' cures for 200 years of mismanagement. During fieldwork, I noticed construction works on the moss and asked what it was.

That's SNH guys over at the Moine Mhor right now, they are blocking all those drains up again so they're hammering in plastic tiling it's about 3–4 metres high, they're hammering that right down and damming it all right up so they're wetting up the bog again. They've been doing that for years. (Rupert, AG2 SNH).

Re-establishing the bog's natural state was apparently time consuming.

Landscapes are, of course, always in flux, and can be made more or less picturesque, shaped to fit into modern versions of the landscape park. But who judges what aspects are to be valued as picturesque? If fauna and flora contribute to landscape beauty, why are some wild species overlooked when others are privileged and given both thought and consideration? Using birds as an example, the SNH leaflet *Moine Mhòr* (SNH, 2002) projects certain birds as worthy of attention and conservation:

Most graceful are the hen harriers (...), curlews with their haunting calls (...) whinchats and stonechats, meadow and tree pipits.

However, a young forest ranger working with wildlife conservation explained that he considered SNH's and the RSPB's approach to conservation to be problematic:

There are many keen here on the birds of prey, ospreys, being the major conservation target here ... and we do a lot of work with the small birds as well, but I personally, I don't know if I would get any agreement to it ... I would love to see some work done with the old game bird species. Not to shoot them again, but just to see them back again. Red grouse in this part of Scotland have almost disappeared, black grouse are going the same way ... and wild pheasants even are a thing of the past. Nobody seems to be interested in looking into why they're disappearing. I'd love to see a conservation project on these ... The general public think that pheasants and grouse are sport for the rich and famous. So 95% of the general public couldn't care about them anyway. Which is why I don't think there will be much chance of getting a project going. (Baird, AG3 ranger).

According to old game-books, Argyll had grouse in abundance in the days when the heather was managed. However, the changes in habitat and an increase in the numbers of birds of prey have changed the conditions for many animal species. Since traditional game birds like grouse and wild pheasant are associated with sporting and the upper classes, they might not receive the same attention as other endangered species. Although Baird himself does not belong to the leisure seeking upper classes, but represents a rural middle class working in forestry, he feels strongly about this form of prejudice. Paradoxically, upland heather moor in Scotland has been best conserved where grouse are managed for shooting. Upland wading birds breed in much higher numbers on grouse moors than on other upland moors. Songbirds are more abundant on farms managed for game than elsewhere. Additionally, field margins managed for game birds provide a refuge for butterflies in the countryside

(Dover *et al.*, 1990; Robertson *et al.*, 2001; Stoate & Leake, 2002; Tharme *et al.*, 2001).

Keith Thomas notes that dogs would reflect their owners' status in early eighteenth-century Britain, and in Tudor times there were even laws confining ownership of hunting hounds to people of a certain social standing (Thomas, 1984). Even though wild animals by law have no ownership attached to them, they can be ascribed social standing in a similar way. Prioritizing protection and management of wild feathered species can reflect modern, urban attitudes to this social standing.

Mòine Mhóhr is an example of how land management is the result of cultural and aesthetic values in society rather than purely objective questions of sustainability. The aesthetic of agricultural improvers in the 1800s deemed cultivated and utilized land beautiful. If the Mòine Mhóhr could be used for peat fuel, grouse, or even trees, they believed they had aesthetically and morally improved the bog. However, today the prevailing values and aesthetics have been redefined by recreational groups and environmental conservationists (Mather, 1990).

Power of Definition: Speciesism or Holism?

The intimate and critical knowledge that farmers, shepherds, rangers and foresters develop through working with and observing all aspects of ecosystems, in all seasons, is in many cases difficult to isolate and formalize in an ecological, scientific way. Environmental management aims at being a precise science. A farmer with a strong interest in environmental issues described how he goes to meetings to learn more about his surroundings:

I go to all these meetings, and I think to myself: these people are professionals when it comes to the environmental side of the land, you know? I would say when it comes to trees, wild plants, wild animals, nature, ecology, involving environmental ... that they should be ... the experts. Right? So I go along there and I listen and I think to myself "Well sooner or later I'll come across a real genius here". And you never find one. There isn't any. They're not one bit better than a farmer who's been here for say—if somebody's been here for 30 years and he's been maybe brought up there, he's actually far more knowledgeable. Than any of them. They've all got a bit—which they can never tie up, which is no surprise! They've only been educated in one department. They haven't seen ... they can't tide the weather ... the environment and the animals and the birds and the plants ... they can't tie all that together! (Sam, AG2 farmer).

Although the farmer quoted above was very interested in everything related to his natural surroundings, he regarded the lack of holistic understanding many environmentalist had as unfortunate. He believed most environmental schemes were important, but did not consider the experts' expertise to be of very high quality, because it was not sufficiently encompassing or holistic enough to be credible.

In his book *Seeing like a State* the anthropologist and political scientist James Scott makes a case against an imperial or hegemonic planning mentality that excludes the role of local knowledge and know-how. He notes that practical knowledge is obtainable through practical experience of all factors influencing a

situation, and that informal processes that draw in that knowledge should therefore play an indispensable role in decision-making (Scott, 1998). So why do the experts disregard such practical knowledge? According to Scott, there are at least three reasons. First, doing so reinforces the importance of the experts and their institutions. Second, it is a trait of late modernity to have contempt for history and past knowledge. The scientist or expert is associated with the modern while the farmer or rural labourer is associated with the past, something which modernity will banish. Scientists therefore think they have little to learn from local people. Finally, practical knowledge is represented and codified in a way uncongenial to science. In science, nothing is known until it is proven in a closely controlled experiment (Scott, 1998).

There are two discourses that Argyll farmers are part of: one in which they communicate with the environmental 'experts' and one in which they talk among themselves. In discourse with the experts, the farmers usually tone down their resistance towards management or agricultural practices that are financially encouraged. When talking among themselves, they retrieve their role as the true experts of the countryside. External environmental experts move on, get employment elsewhere, and start new projects in other rural areas, while the farmers generally stay put. Countless projects that have long been forgotten by conservationists or SNH are still very much alive in the local rural population's conservationist narratives.

As most citizens in the British democracy live in urban areas, it is these citizens who indirectly decide countryside policy. Power has shifted from the countryside and into the urban areas and involves both the right to define what is important in a given landscape and also how the land is to be used. In *Scottish Power Centres* Allen Macinnes shows how old power centres in Scotland were non-democratic and often paternalistic (Macinnes, 1998). It might seem strange to even question this shift in power, however it might be fruitful to do so, because it is evident that the local rural population in this area, the majority of whom are unconnected to this paternalistic past, are unhappy about the ways in which their particular values are ignored, or are over-ruled. The interviews show clearly that the power to make decisions about the land is perceived as having moved to external agents (like governmental and non-governmental agencies, experts on an institutional level).

However, according to Foucault power comes from below and is executed in society's smallest units. In the Argyll landscape, society's smallest units consist of the individual rural informants and representatives from various agencies such as Scottish Natural Heritage. As Foucault states, power structures can only exist if they are supported by power structures on a micro-level (Foucault & Schaanning, 1995).

The way power was executed on a micro level in Argyll by people representing governmental and non-governmental environmental agencies explained both the conflict between Scottish Natural Heritage and the rural informants' feeling of disempowerment. Power had been shifted from place to space, and individual local knowledge had been exchanged for institutionalized expert knowledge.

Cultural Resistance and Expert Systems

The Argyll case-study supports Thomas Dunk's suggestion that environmentalism and environmentalists have become symbols of class and regional conflicts (1994).

However, there did not seem to be a traditional economical or social class conflict between the various rural informants in Argyll, although they represented traditional landowners, farmers, crofters and agricultural or forestry labourers. Opposition to environmentalism was shared by the majority of the rural informants, tying their allegiance together. Perhaps this can be explained by what Ketil Skogen and Thomas Dunk term cultural resistance (Dunk, 1994; Skogen, 2001, 2003).

First, resistance was directed towards SNH and other environmental agencies who had the right to define what was valuable in the landscape. The farmers in particular felt that SNH limited their independence and ability to make decisions relating to their own farms. Second, rural informants mistrusted SNH's expert knowledge—particularly when it overrode the informant's local knowledge. Some of the projects that had been executed in the area showed a certain lack of knowledge about farming or forestry, even if this probably was not the rule. For instance, the fact that cows are not used to being fed in the middle of summer was general knowledge in the past. Today this element of local knowledge is not gained by simply living in a rural area, but is achieved through actually working with animals.

Also, being able to 'tie it all together' as one farmer said, is a way of understanding the environment as an entity. Tying the ebb and flow of weather, temperature, plants and animals together requires more than a university degree. It is a skill gained through continuity of presence. Detailed knowledge about a certain species is undoubtedly important, but so is the ability to see a fragment as part of something whole. People's and farm animal's part in this whole was sometimes underestimated according to Sam, the AG2 farmer.

According to Anthony Giddens (1990), expert systems are disembedding: they remove social relations from their immediate context and separate time from space. In matters of land use in Argyll, the experts represented both institutional and individual levels. National experts represent distant, powerful governmental and non-governmental agencies with various policy and management guidelines, providing leaflets and brochures extolling the virtues of biodiversity and ironically, local participation. Local experts work in the local branches of these agencies. Expert systems are based on trust. However in Argyll, only two out of 27 of the rural informants said they had trust in this expertise. Expert systems alienated the rural informants from environmentalism rather than included them.

SNH national experts would focus on certain species, like butterflies, lichens or mosses. Because of their detailed knowledge about certain species, they would assess and provide management plans for this species in one area after the other. However, day-to-day management was often carried out by employees who were not necessarily experts, but acted like experts. Some species like traditional game birds, were left out of the management plans altogether, because they were not deemed culturally significant, indicating how important historical context is in environmental management. Red grouse have upper-class connotations, and according to Baird the AG3 ranger, their conservation was not prioritized in Argyll despite being close to extinction in the area.

Equally interesting was the divergence in how the story about the *Mòine Móhr*, or the great moss, was told: which history, how it was told, and by whom. The farmers

preferred the archaeologists' version of this environmental history, and associated their own interaction with this area as a continuous utilization of the land throughout the millennia. This use had been adjusted by the formation of peat by different technologies available to each new generation of farmers, and by changing economies. Scottish Natural Heritage emphasized the negative story of exploitative modern industrial agriculture and upper-class shooting parties in their version of the story, and wanted to restore the moss to its pre-200 year 'natural' state using plastic tubing.

Although ecology as science envelops whole ecosystems, people's continuous role in them is sometimes underestimated and occasionally even ignored. According to T. C. Smout, leaving people out of the equation is problematic:

Not to appreciate that people are truly part of nature has helped to drive conservation and developers into confrontation—we must stop *them* doing this to nature: *they* must not stop *us* doing that for people. (...) Yet, to judge from the conflicts that still periodically engulf the countryside, it is doubtful whether confrontation has really receded far. The instincts of conservationists are still deeply distrustful, and in some cases knee-jerk aggressive, though few of them would now regard rural economic development as an undesirable aim in itself, or deny the democratic need for local communities to be involved in reaching a consensus about the use of natural resources. (Smout, 2000, p. 3).

The Mòine Mhór story is an example of how landscapes can be understood and conveyed in different ways, involving or excluding people's role at will. Although the management of the Mòine Mhór was based on expert knowledge, other experts had other or additional stories to tell. No singular objective story could be conveyed as such—there were many stories, and many truths.

The rural informants have an understanding about their own working landscape because they spend a lot of task-time in it throughout the yearly cycle. Accordingly, they have a particular local knowledge learnt from this time and presence. It is important to acknowledge this local competence, because it can enrich and improve the established expert knowledge. James Scott's main argument is that local people have practical knowledge about their own area and situation (Berkes, 2004), and that that decision-making ought to stay among these local people. Further he claims that all well functioning systems must allow locals room to use local, practical knowledge. The full title of his book is *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. He explores various cases across the world to support his argument, and concludes:

If I were asked to condense the reasons behind these failures into a single sentence, I would say that the progenitors of such plans regarded themselves as far smarter and farseeing than they really were and, at the same time, regarded their subjects as far more stupid and incompetent than *they* really were. (Scott, 1998, p. 343).

Although Scott's condemnation of institutional expert systems is pretty harsh if transferred to various British environmental organizations, I think it is worth

bearing his statement in mind. The rural informants did not feel they or their knowledge were considered, and when they were invited to participate it was in a 'shallow' manner. They would be invited to meetings at busy times of the year and asked to participate or communicate their views in the 'expert' way administrators and scientists do, by filling out forms, writing letters or replying to consultation papers. It might have been a goal to incorporate grassroots dialogue with expert knowledge in a 'community based conservation' approach, but the practical execution of these theories failed.

Conclusion

To conclude, the ways in which certain environmental values are prioritized in a given historical context is culturally and aesthetically constructed. The story of the Mòine Mhór explores how certain landscape values in Argyll were projected as more valid than others, and the management practices reflected the expert knowledge this management was based on. The experts had by power of democracy been given both the right to define values and to direct management practice. From a political point of view, the experts' power is unarguably legitimate. Nevertheless, the disempowerment the farmers, foresters and agricultural workers felt led to alienation and cultural resistance, supporting Skogen and Dunk's findings (Dunk, 1994; Skogen, 2003). Rather than engage positively in various agri-environmental schemes, the informants did so without commitment.

Although it can be argued that farming and forestry practices have always been driven by market forces and more recently, EU subsidies, incorporating different forms of knowledge it is important to improve landscape management for all stakeholders in the Argyll landscape. Yet the practical, holistic knowledge that the rural informants have about their surroundings does not hold the same value as the expert knowledge gained at colleges and universities. It is codified in a way which is uncongenial to science, and is therefore not taken seriously. Holders of expert knowledge, which quite often is applied to subjectively chosen culturally perceived species of plants, animals or types of scenery, have the power of defining what is important in Argyll.

My findings supports Skogen's 'Adapting Adaptive Management approach' to resolve and rethink community based conservation issues (Skogen, 2003). Adaptive management incorporates local and traditional ecological knowledge to empower a wider range of stakeholders. Skogen argues that social sciences should have a role in remedying environmental management conflicts. Gaps in cultural knowledge have been given too little attention, and these gaps can be reduced by integrating those stakeholders that have been alienated from formal collaboration. Environmental experts need to integrate experiences through hands-on work to build trust and exchange understanding between stakeholders, and local knowledge must be conveyed through other means than the traditional bureaucratic or scientific ones. Knowledge is power, and local and expert knowledge can be merged through the practice of generating and sharing experiences. Through this approach, cultural resistance can be replaced with cultural revitalization of the environment.

Notes

1. An acre is approximately 40% of a hectare, 1 hectare = 2.47 acre.
2. Monitoring like this is time consuming; the local branch of SNH kept a man employed 2.5 days a week counting geese in the Argyll area.
3. The Countryside Premium Scheme provides assistance to farmers who adopt environmentally friendly practices and maintain and enhance particular habitats and landscape features (www.scotland.gov.uk).

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