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# The Idea of Gardening and Landscape Restoration in Iceland

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## 1. Introduction

This article discusses how the ideas of 'gardening' and of 'gardens' are mobilised in global debates around land restoration, on the one hand, and in conflicts over ideal landscapes in Iceland, on the other. We will discuss the different approaches to land restoration in Iceland and the different notions of 'ideal' landscapes, of 'natural' processes, of 'natural' landscapes and gardens, and of the place of humans in nature that inform these different approaches. Of central importance to current land restoration debates in Iceland is the question over the use of the Alaska lupin (*Lupinus nootkatensis*). Soil erosion has been a major concern in Iceland for some time and over fifty years now the Alaska lupin has been widely used in soil conservation and restoration projects around the country due to its powerful soil binding characteristics. However, its use in land restoration projects has lately become one of, if not the most polarising issue in Icelandic nature politics; an issue that seems to divide land restorationists, and many ordinary Icelanders, into different 'camps' of supporters and opponents of the use of the lupin, even of the lupin itself. As a consequence of this, and in turn intensifying the debates even more, the lupin has recently acquired status as an 'alien invasive species' in Iceland.

In global discussions around land restoration and the fight *for* biodiversity, an important distinction is often made between 'nature' and 'natural landscapes' on one hand and 'gardens' as artificial landscapes on the other. This distinction, in turn, is closely linked to a contrast that in these debate is often drawn between the 'natural' and the 'native', on one hand, and the 'unnatural' and 'alien' on the other. Here the notion of 'invasive alien species' is crucial. The distinctions that inform debates around land restoration in Iceland in many ways echo debates that have taken place, and are taking place, over gardening and nature, the 'natural and native' and the 'unnatural and alien' in other national and, indeed, international arenas. The lupin's journey to become 'an invasive alien species' is the most acute example of these debates in the

Icelandic context. At the same time, however, the distinctions that informed and are reproduced in the Icelandic debates, reflect particular local concerns. Here the debates over the presence and uses of the lupin in Iceland become caught up in the enduring importance that a particular myth of origin has in the country; the importance of an ongoing national fantasy of a return to that origin; myth and fantasy that continue to inform contemporary identity formations in Iceland not least as these are understood to unfold in an increasingly globalised world. We argue here that while global debates around land restoration and biodiversity – debates where the notion of 'gardens' features heavily – are hugely important, it is vital still to pay attention to the particular local reflections such debates have. We suggest, furthermore, that doing so allows us to see more clearly how the distinctions themselves, important as they are, are somewhat ignored in actual land restoration practice. There, we suggest, lies the hope for locally and culturally meaningful struggles for biodiversity that a focus on more global debates can draw our attention away from.

## 2. Research process and research context

This article is based on fieldwork with actors taking part in the lupin debate in Iceland, the lupin conflict we might even call it. These actors include land restorationists, nature managers, foresters, conservationists and members of volunteering groups some of whom support the use of the lupin, others that seek to eradicate it from Iceland, at least in particular places or even entirely. In this paper we are interested in describing these actors and their perception of, relationships to and work with or against the plant. While public agencies have used and promoted the use of the lupin for soil conservation for decades, the last few years have seen the emergence of voluntary groups that seek to eradicate the plant at least from certain areas and to keep those areas free of the lupin. In this context a distinction between 'nature' and 'gardens' has emerged through the fieldwork. 'You cannot attend to nature as you would to a garden' is a statement made by those who criticise the proposals to eradicate the lupin from Iceland, in part or whole. The statement points to and highlights the continuous work that has to be done by nature volunteers and land managers in order to keep specific sites, let alone the whole country, lupin-free. Critics of plans to eradicate the lupin point out the time-consuming, energy-intense and on-going work of clearing and weeding that would be necessary to achieve this, work that is surely characteristic of the endeavour of gardening. This,

they add, is ironic as the desire to eradicate the lupin is to a large extent driven by a desire to restore a 'natural' Icelandic landscape. However, denouncing the work of others as 'just gardening' is a tactic to be found on both sides of the lupin debate. The lupin's aesthetic appeal, and the fact that it is widely used as a garden plant around the world, has led some to argue that the continuing use of the plant amounts to the transformation of all of Iceland into one big garden. In the process, the argument goes, the promoters of the lupin will only succeed in destroying 'wild', 'untouched' and 'uniquely Icelandic' landscapes, made up of deserts, lava fields and low-growing, 'native' vegetation.

Why is the comparison with, the contrast to, gardening, as different from 'proper' land restoration, such a widely-used reference in Iceland? What does the statement 'you cannot attend to nature as you would to a garden' mean and what does it do? Why is a garden not 'real' nature and why is the practice of gardening unlike, even antithetical to that of 'proper' land restoration? What distinctions and boundaries are made and upheld here, why are they important and what do they achieve? To consider these questions more carefully, this article will first discuss in detail the different approaches to land restoration in Iceland and the specific example of the debate over the use of the Alaska lupin within restoration projects. Afterwards, we will direct attention to the scholarly debate over the similarities and differences between land restoration and gardening and contextualise the Icelandic example within this wider framework. Consequently, this article will consider what the lupin example can tell us about the kind of 'boundary maintenance' surrounding the attempts at separation of 'nature' and 'gardens', of 'wild' and 'cultivated' and of land restoration and gardening.

## 3. Restoring Icelandic nature and the lupin controversy

Though often imagined as a place of 'untouched' nature – and now aggressively promoted as such to foreign tourists – Iceland actually has a long history of land degradation. While it is estimated that at the time of human settlement (around 850 AD) woodland coverage of the island amounted to 25–40%, in the late twentieth century it was estimated that forests covered only 1.2% of the total land area.[1] Connected to this history of deforestation

1 Björn Traustason and Arnór Snorrason, 'Spatial distribution of forests and woodlands in Iceland in accordance with the CORINE land cover classification', *Icelandic Agricultural Sciences* 21 (2008), 39–47, 40. Þröstur Eysteinsson, 'Forestry in

is the country's problem with soil erosion: not only were 95% of the original forest cover permanently destroyed[2] but furthermore it is estimated that 40% of the Icelandic surface has been lost since human settlement.[3] Today, large areas of the country remain affected by soil erosion and about 35 to 45% of the country is classified as desert.[4]

It is numbers like these that make some argue that Iceland is the most ecologically devastated country in Europe. Even though considerable disagreement exists over the historical as well as the present context of environmental destruction, a broad scientific consensus appears to be emerging. And so while it is widely acknowledged today that factors such as the harsh climate and the quite frequent volcanic activity played their part in deforestation and soil erosion, scientists now largely agree that the poor state of the land has to a large extent been brought about by unsustainable land practices introduced by the first human settlers.[5] In the twentieth century, reclamation efforts became a crucial part of the national agenda, linked to a project of nation building following independence in 1944.[6] These efforts were couched in terms of a powerful moral obligation of every modern Icelander to reverse the damage that their ancestors had caused to their land in their effort to at least survive if not thrive there. Ideas of a moral duty to 'repay the debt to the land' were of central importance in these efforts.[7] Planting trees became a symbol of national pride and patriotism, understood as part of the dedicated and collective effort to repay the debt to and restore the land. The fulfilment of this duty was, in turn, now understood to be possible because of the economic progress that Iceland had enjoyed in the course of the twentieth century, itself understood to be linked to restored political independence.[8]

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a treeless land', Icelandic Forest Service, skogur.is, 2017, http://www.skogur.is/english/forestry-in-a-treeless-land/, accessed 12 May 2017.

2 Ibid.

3 Thomas H. McGovern et al. 'Landscapes of Settlement in Northern Iceland: Historical Ecology of Human Impact and Climate Fluctuation on the Millennial Scale', *American Anthropologist* 109 (2007), 27–51, 29. See also Ólafur Arnalds et al. (eds.), *Soil erosion in Iceland* (Reykjavík, 2001).

4 Ólafur Arnalds and John M. Kimble, 'Andisols of Deserts in Iceland', *Soil Science Society of America Journal* 65 (2001), 1778–86.

5 Ólafur Arnalds, *The Soils of Iceland* (Dordrecht, 2015), 153–60.

6 Roger Crofts, *Healing the Land: The Story of Land Reclamation and Soil Conservation in Iceland* (Gunnarsholt, 2011), 43–5.

7 Ása L. Aradóttir et al., 'Drivers of Ecological Restoration: Lessons from a Century of Restoration in Iceland', *Ecology and Society* 18 (2013), 33.

8 Jón K. Helgason, *Ferðalok. Skýrsla Handa Akademíu* (Reykjavík, 2003). Guðmundur Hálfdanarson, *Íslenska Þjóðríkið: Uppruni og Endimörk* (Reykjavík, 2000).

It is in this context that the lupin arrived in Iceland: the plant was deliberately introduced to the country in 1945, the year after Iceland declared full independence from Denmark, for soil erosion control. The lupin was chosen carefully due to its ability to establish itself in barren areas and because of its nitrogen-fixing qualities.[9] Initially, the lupin's spread was actively encouraged by specialists, governmental agencies, as well as the general Icelandic public, the lupin being seen as an important ally in the project of 'healing the land'.[10] It was used both by the Icelandic Forest Service and the Icelandic Soil Conservation Service, the two biggest institutions concerned with land reclamation in Iceland. However, while the lupin is still highly valued for its soil-enriching properties, the plant has recently attracted considerable concern for what is termed its 'invasive' behaviour. Many ecologists, for example, are wary of the lupin's fast spread and the way it outcompetes and replaces low-growing, 'native' vegetation. The changing views of ecologists have reached the general public and as a consequence of this, the plant's status has experienced a shift from 'miracle plant' to 'invader' in Icelandic public discussions.

The shift that the lupin has experienced is in the Icelandic context the most visible and important example of a recent emphasis on the control of alien invasive species in the fight for local biodiversity that is to be found in many different national and indeed international contexts. This emphasis on the control of invasive species has in turn resulted in heated debates about what belongs and what does not belong in different local and national 'natures'. Tied to these debates are further discussions around what roles human inhabitants should assume here, if any.[11]

In Iceland disagreements have, on the one hand, arisen as to whether nature should be reclaimed at all or would be better off 'left to its own devices'. Iceland's barren landscapes are not only perceived as 'wastelands', as we have described above, but also understood to have their own particular aesthetic quality and beauty.[12] Here, the lupin is part of a wider debate between

9 Andrés Arnalds and Sveinn Runólfsson, 'The role of Nootka Lupin (Lupinus nootkatensis) for revegetation in Iceland' in Edzard van Santen and George D. Hill (eds.), *Wild and Cultivated Lupins from the Tropics to the Poles,* Proceedings of the 10th International Lupin Conference, Laugarvatn 19–24 June 2002 (Canterbury, 2004), 94–6. Borgþór Magnússon, 'NOBANIS – Invasive Alien Species Fact Sheet – Lupinus nootkatensis', Online Database of the European Network on Invasive Alien Species – NOBANIS www.nobanis.org, 2010, accessed 12 May 2017.

10 Cf. Crofts, *Healing the Land.*

11 See Mark A. Davis et al., 'Don't judge species on their origins', *Nature* 474 (2011), 153–4. Daniel Simberloff, 'Non-natives: 141 scientists object', *Nature* 475 (2011), 36.

12 Karen Oslund, *Iceland Imagined: Nature, Culture, and Storytelling in the North Atlantic*

two visions of Icelandic nature, namely 'whether dark sands or green forests should be the image of Icelandic nature'.[13] Promoters of the two visions are colloquially described as 'green' and 'dark' protectionists respectively. The green protectionists argue for the importance of reclaiming land and restoring it to the state of settlement times. For them green forests are the ideal of Icelandic nature. The lupin is the green protectionists' most important ally in this struggle but one that leaves them in something of a double bind: in restoring the land to its pre-settlement state they are reliant on a plant that was not in any way part of that land, indeed was markedly absent from that land. The dark protectionists, in contrast, claim that barren landscapes such as lava fields and dark deserts are uniquely Icelandic and worthy of protection as such. For them the use of the lupin is a double insult, as it were, an alien plant being used to destroy the very beauty of the land. As one participant in the public debate on the lupin said in an interview carried out during fieldwork:

> I can't travel around the country anymore because the lupin has gotten everywhere. It bothers me because it's not supposed to be there, it's not Icelandic. It's not natural and it's changing the landscape. I like the sight of barren hills, it's Icelandic nature to me. Now some people apparently can't see the beauty in our county and think it needs improvement. They want to bring in new trees and plants and grow it all up like a garden. But I personally don't think that our country needs such a drastic plastic surgery – I think we should value it for the uniqueness and beauty that is inherent in it.[14]

Here, we can see one way in which the reference to gardening and gardens appears in discussions about the lupin. In this instance, planting lupins and other 'foreign' species such as trees other than 'native' birch, is seen as creating an artificial landscape akin to the artificial looks created by 'plastic surgery'. The lupin-clad hills and mountains are for this interviewee not Icelandic nature precisely because dressed like that, the hills have been diminished, reduced to a garden dependent on human endeavour for its existence, no longer the

(Seattle, 2011), 39.

13 Ingólfur Á. Jóhannesson, 'Icelandic Nationalism and the Kyoto Protocol: an Analysis of the Discourse on Global Environmental Change in Iceland', *Environmental Politics* 14 (2005), 495–509, 497.

14 Interview excerpt, 19 April 2016.

wild and untamed nature that for this interviewee is the essence of Icelandic landscape.

On the other hand, the lupin does not only spark debate between 'green' and 'dark' protectionists, but also *within* the Icelandic restoration movement itself. For example, while both the Icelandic Forest Service and the Icelandic Soil Conservation Service agree on the importance of reclaiming land, the lupin has brought up questions concerning how to rightfully do so. This in some ways is a reflection of the fact that the lupin's status has not only experienced a shift in Icelandic public discussion, but also on an institutional level. For example, while many forestry advocates continue their support for the lupin, the Icelandic Soil Conservation Service has quite drastically changed its attitude towards the plant. They were instrumental in putting up new guidelines concerning the management and control of the plant, leading to its recent categorisation as an 'alien invasive species' by the Icelandic Ministry for the Environment.[15] Criticisms of the new measures towards controlling the lupin have often been met with references to international conventions and contracts that Iceland is a part of. For instance, a biologist and head of the Icelandic Environment Association wrote in a newspaper article published shortly after the introduction of the new guidelines to explain that:

> The Convention on Biological Diversity defines biodiversity as 'the variability of all life on Earth and the network that it forms'. This definition is independent of the criteria of good and bad. According to the convention, the lupin is not inherently better or worse for biodiversity than moss. Iceland, however, has to protect the moss at the expense of the lupin because the moss is native to this country. When discussing the restoration of damaged ecosystems on the basis of the convention, it is always focused on restoring as best as possible the native, original ecosystem, not creating a new and foreign one.[16]

This view echoes the sentiment many nature managers and conservation volunteers have voiced towards the lupin: it is a very strong land restoration tool, and a great way of getting back 'lost' ecosystem functions, however it is

15 Icelandic Institute of Natural History and Icelandic Soil Conservation Service, 'Alaskalúpína og skógarkerfill á Íslandi. Útbreiðsla, varnir og nýting. Skýrsla til umhverfisráðherra' ['Alaska-lupin and cow parsley in Iceland. Distribution, protection and usage. Report for the Minister for the Environment'] (Reykjavík, 2010).

16 Snorri Baldursson, 'Til varnar lífbreytileika Íslands' ['Saving Iceland's bio-diversity'], *Fréttablaðið,* 25 September 2010, 13.

just 'too aggressive', 'too foreign', 'too prominent' in the Icelandic landscape. An ecologist and prominent nature conservation volunteer has described the lupin thus:

> The lupin is a beautiful and a very striking plant, whether it is green, blue or brown. It adds to the diversity of the country to see it here and there. But if it is not possible to look out the car window without seeing lupin everywhere then it has gone too far. When that happens then it is too late to have any effect on the spread of the lupin. The spread of the lupin must be halted no later than now![17]

The fact that the lupin is so hard to control, that it can only be controlled through a lot of continuous work, is particularly worrisome for many. The article continues:

> It is possible to slow the spread of the lupin . . . This requires many willing hands. Nothing will do but annual monitoring for a decade or more because new plants come up all the time, both from the roots that remain and of the seeds which lie dormant in the ground for years.[18]

This is precisely the kind of work that the statement we evoked earlier, 'you cannot attend to nature as you would to a garden', is directed at. Many lupin advocates criticise this need for continuous work that has to be done by nature volunteers and land managers in order to keep a specific site lupin-free: the time-consuming, energy-intense and on-going work of clearing and weeding. In a discussion on the topic, a lupin supporter put it the following way: 'Can we not all agree that growing ecosystems are never the same for two moments – and it is not for us to design and manage it like the parks and gardens of Versailles.' The wish to protect low-growing, native vegetation against the ability of the lupin to outcompete them in their ecosystems, is for many lupin enthusiasts just another indication of their opponents' status and approach as 'gardeners'. In a discussion on the eradication of lupins in lava fields covered in moss, a lupin supporter stated the following:

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17 Þorvaldur Örn Árnason, 'Séð út um bílrúðu – og fram í tímann' ['Looking out of the car window – and into the future'], *Vísir* 5. August 2015, http://www.visir.is/sed-ut-um-bilrudu---og-fram-i-timann/article/2015708059983, accessed 12 May 2017.

18 Ibid.

> Are mosses and lichens not the first stage of ecological succession and grass and flowers another level? If the lupin does not grow into the moss fields, then something else will over time . . . Nature is versatile . . . I welcome all vegetation but look with suspicion at all destruction of vegetation. Other laws apply for gardening in backyards, parks and public spaces in urban areas. There, regulations of the organised, man-made environment prevail. These methods cannot be used in wild nature. If people try that then they will become like Don Quixote fighting wind mills.[19]

Moss, lichens, and other low-growing vegetation are seen as only one, 'low' grade of ecological succession – at some point they will and should be replaced by something else, a 'higher' form of vegetation. Not introducing efficient, 'alien' species, but freezing these kinds of landscapes in time, is seen as the ultimate 'artificial' act. Here, the central qualities of 'gardening' are the human desire to help some plants to survive and protect them from other, hardier plants, just because one wants them there. Applying the continuous work that is needed for this gardening ideal to materialise is seen to be an almost impossible task. The image of the gardener as a Don Quixote is a powerful and prominent one in this context. For instance, a forester also made this reference in an interview: 'Fighting the lupin is like fighting a windmill – it's a force of nature, you are not going to stop it'.[20] As this section has shown, the lupin debate enters into questions over the very basis of what is to be considered ideal Icelandic nature, what is to be considered 'authentic' Icelandic nature, and what it can and should go on to be in times of global environmental change. The lupin issue raises important questions regarding the distinction between land restoration and gardening, that we want to discuss in more detail: When is landscape restoration *not* restoration and 'just gardening' and why is it important to police or guard the boundaries of ecological restoration? The two following sections will discuss these questions in turn.

## 4. Gardening versus land restoration

As we have noted already, in the practices of and the discourses around soil conservation and land restoration in Iceland, an important and powerful

19 Interview excerpt, 10 August 2016.

20 Interview excerpt, 15 June 2016.

distinction appears to be made between land restoration and gardening. This distinction is part of a wider, international scholarly debate amongst land managers, ecologists and other interested parties.

For instance, comparing different approaches to land restoration in the United States and Italy, environmental historian Marcus Hall posits the following distinction:

> If one believes that *human* activities can best improve land, then one restores in a process likened to gardening; yet if one believes that *natural* activities can best improve land, then one restores in a process that might be called naturalizing – or perhaps rewilding. A gardener promotes culture on a natural landscape, whereas a naturalizer promotes nature on a cultural landscape.[21]

Discussing different types of restoration, Eric Higgs draws upon Hall's[22] typology. If land is damaged through neglect and restored by careful artifice, then one is engaged in the work of 'maintaining the garden'. If cultural practices are understood to be responsible for the degradation of landscape, but the sought after ideal condition is still a garden, then one is engaged in 'gardening the degraded'. Finally, one is engaged in 'naturalising the degraded' if one aims at restoring 'natural processes' in order to counteract human tendencies to either improve a landscape through 'gardening' or devastate it as a 'wasteland'. In this scenario the ideal landscape is 'untouched', and 'pristine wilderness' – before human corruption.[23]

These 'types' of restoration can, to a certain extent, be identified in the lupin debate in Iceland. An important point to make is that all of Hall's types depend on culturally informed notions of what is 'degraded', what is 'valuable' and what is 'ideal' in nature and landscapes. Those notions in turn inform what should be restored, how and to what state. Ideas of degraded landscapes, plans to restore such landscapes and expectations of their ideal state are in each case complex and very likely to be contested. The Icelandic example of land restoration and the lupin debate illustrates this nicely. We could say that those who seek to eradicate the lupin from the Icelandic Highlands and restore

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21 Marcus H. Hall, *American Nature, Italian Culture: Restoring the Land in Two Continents* (Ph.D. thesis, The University of Wisconsin-Madison, 1999), 43.

22 Cf. Hall, *American Nature, Italian Culture.*

23 Eric Higgs, *Nature by Design: People, Natural Process, and Ecological Restoration* (Cambridge, 2003), 85ff.

them to a state they see as 'wild' and 'pristine', are 'naturalising the degraded' in Hall's terms. For those engaged in this practice, as now for many others, 'ideal' nature in Iceland is imagined as 'untouched' and 'wild'. Interestingly, for those who support the use and presence of the lupin in the Highlands, this 'naturalising the degraded' looks very much like gardening as it requires constant attending to by humans in order to stay 'wild' and 'pristine'. The pro-lupin side, especially on the forestry side, stands in opposition to the idea of an 'untouched' nature, and advocates a *certain kind* of domesticated or cultural landscape. Still, it is a cultural landscape quite different from the 'traditional' Icelandic one of free-grazing sheep and soil erosion; rather it is a landscape of trees, lupins and other forms of vegetation.

For lupin supporters in Iceland it makes no sense to speak of 'untouched' or 'pristine' nature in a place with such a long and profound history of land degradation as the Icelandic Highlands in particular. For others, again, it is not clear how land can be damaged 'naturally' or how human influences can present an improvement.[24] For some people it is the biggest environmental crime in Iceland to rip out any plant, let alone a plant that grows so well there and improves the condition of the vulnerable Icelandic soil. However, for many it is clear that the biggest environmental crime in the country is actually spreading lupins, turning a 'wild' landscaped into an artificial 'garden'.

The history of land restoration in Iceland is not simple, and the story of the lupin and the relationship of various actors to the plant are its most illustrative examples. Moreover, as Higgs has argued, this does not only hold true for the Icelandic case, or the lupin, but could be argued for land restoration in general.[25] The point of distinguishing land restoration from gardening is most often made with reference to the notion of alien, invasive species. This notion has informed changing land restoration practices in Iceland and played into the restoration and gardening debate.

It is not debated in the case of Iceland that the lupin is not a native species. It is clearly understood by all parties to the debate that the lupin is an alien species, one very recently and very deliberately introduced to the country by humans. Even so, in Iceland, people will debate whether the lupin should be regarded as an invasive species or not, and the place, if any, it should have in the Icelandic landscape. What is the purpose of identifying something as an alien invasive species and what can be achieved by such identification?

24 Ibid., 86.
25 Ibid., 86ff.

Consider the following quote from a leading authority in the field, Peter Del Tredici:

> Implicit in the proposals that call for the control and/or eradication of invasive species is the assumption that the native vegetation will return to dominance once the invasive is removed, thereby restoring the "balance of nature." That's the theory. The reality is something else. Land managers and others who have to deal with the invasive problem on a daily basis know that often as not the old invasive comes back following eradication (reproducing from root sprouts or seeds), or else a new invader moves in to replace the old one. The only thing that seems to turn this dynamic around is cutting down the invasives, treating them with herbicides, and planting native species in the gaps where the invasives once were. After this, the sites require weeding of invasives for an indefinite number of years, at least until the natives are big enough to hold their ground without human assistance. What's striking about this so-called restoration process is that it looks an awful lot like gardening, with its ongoing need for planting and weeding.[26]

Del Tredici's point is powerful: in this scenario where possibly might we draw the distinction between land restoration and gardening, would the time ever arrive when 'gardening' in Tredici's sense becomes unnecessary? It would appear that the answer might be 'no'. That answer lends support to the suspicion that behind the distinction between land restoration and gardening, and the importance attached to this distinction, there lies an even more basic concern over what is and what is not 'natural'. In his *Keywords* of 1976, Raymond Williams famously declared that the word 'culture' is one of the most complex words in the English language.[27] 'Nature', as so often the opposite of culture, is similarly complex. It and its derivatives – natural, unnatural – carry a number of different meanings that only partially overlap.[28] The same goes for the Icelandic equivalent *náttúra* and *náttúrulegur* – nature and natural respectively. *Náttúra* is simultanesouly the natural world, for example the natural world of Iceland, *íslensk náttúra*, and essence or defining characteristic.

26 Peter Del Tredici, 'Neocreationism and the Illusion of Ecological Restoration', *Harvard Design Magazine* 20 (2004), 1–3.

27 Raymond Williams, *Keywords: A Vocabulary of Culture and Society* (New York, 1976).

28 Phillipe Descola and Gísli Pálsson (eds.), *Nature and Society: Anthropological Perspectives* (London, 1996).

*Náttúrulegur* is both of nature and normal, right, proper. Of course, the meanings often combine to powerful effect as when the lupin might be described as unnatural in the context of Icelandic nature. Here unnatural can simultaneously suggest that the lupin has no natural place in the Icelandic landscape and that its presence is somehow immoral. To some extent, we are suggesting, the distinction between land restoration and gardening maps onto and is informed by this distinction between the natural and the not-natural. These are distinctions that are of clear importance in the Icelandic ethnographic context. They are distinctions that people make and from which they draw powerful arguments in important debates not least in relation to invasive alien species. What we want to highlight here, an issue we develop in the following section, is the work that needs to take place to uphold these distinctions. This is so not least now, if we have truly arrived at the epoch of the Anthropocene, when separating the 'truly natural' from that which has been subject to 'human' influences is surely an impossible task. So why is it still clearly such an important task?

## 5. Boundary maintenance

Comparing the work of some nature conservationists and land restorationists to that of gardening often points towards how they both entail a certain kind of work aimed at the maintenance of boundaries. Here, the focus is on the gardener's care for desirable plants, while eradicating undesirable ones. Kay Milton, with reference to Mary Douglas's famous work on dirt as 'matter out of place', [29] speaks of weeds and alien species as 'plants out of place'.[30] What is seen as valuable to restore within land restoration is, according to Milton, based on the maintenance of important boundaries, for example and not least the boundary between humans and nature. A distinction between gardening and naturalising a landscape is often based on whether human presence in landscapes is accepted and maybe even valued, or if ecological processes, in opposition to human influences, are placed on the top of the agenda. This

29 Mary Douglas, *Purity and Danger: an Analysis of the Concepts of Pollution and Taboo* (New York, 1966).

30 Kay Milton, 'Ducks Out of Water: Nature Conservation as Boundary Maintenance' in Hilary Callan, Brian Street and Simon Underdown (eds.), *Introductory Readings in Anthropology* (New York, 2013), 105–13, 105. See also Marianne E. Lien and Aidan Davidson, 'Roots, rupture and remembrance: the Tasmanian Lives of the Monterey Pine', *Journal of Material Culture* 15 (2010), 233–53.

rests on a basic dichotomy between 'human' and 'non-human' and the related idea of 'alien' versus 'native' species. Discussing a campaign to eradicate ruddy ducks from the UK, Milton ponders the way nature conservation often entails work directed at the maintenance of certain categories and boundaries. The ruddy duck was introduced to the UK, as was the lupin to Iceland, from North America. Starting in the 1980s the ruddy duck was increasingly seen as an 'alien invasive species' in the UK that threatened to interbreed with the native, and rarer, white-headed duck. Milton describes how nature conservationists put forward a set of boundaries important to police and uphold: between the two duck species, between alien and native species, but also between human and non-human processes. Of course, nature conservation is itself a form of human agency, of human intervention, directed towards nature; demonstrating how problematic while interesting the distinctions between 'nature' and 'culture' are, even within conservationist discourses. However, as Milton describes it:

> In the Western concept of nature, nature is seen as separate from humanity; the boundary between human and non-human processes defines the natural. The conservation of nature, as conservationists understand it, thus requires the preservation both of the separate things that constitute nature (the species, sub-species and ecosystems) and of the quality that makes them natural (their independence from human influence). This makes conservation, inevitably, a boundary-maintaining exercise. In order to conserve the things that constitute nature, the boundaries that separate them must be maintained . . . and in order to conserve nature's 'naturalness', the boundary between the human and the non-human must be preserved. So it is not surprising if conservationists sometimes appear . . . to be acting like nature's housekeepers, obsessively restoring order by putting things where they belong – eliminating species that are in the wrong place, returning them to where they used to be – tidying up the mess that others (sometimes, ironically, other conservationists) have created.[31]

This focus on boundary maintenance is precisely the point of contention for many pro-lupin activists, land-users, and foresters in Iceland. People who want to maintain a separation between 'wild' and 'tamed' nature, 'natural' and

31 Milton, 'Ducks Out of Water', 112.

'cultural' landscapes, 'alien' and 'native' species are understood and portrayed as being engaged in upholding their own theoretical categories, not ones that are of relevance to Icelandic reality and needs. A good example here is the priority given to the Icelandic Highlands, an uninhabitable area that covers much of the country's interior and seen by many as 'Europe's last true wilderness'. Aiming to keep the Highlands lupin-free, the new set of guidelines concerning the management of the lupin include the aim of the complete eradication of the plant in all areas 400 meters above sea level. To this end, the use of glyphosate, including Monsanto's highly controversial herbicide 'Roundup', was suggested. Critics of these measures argue, as we have hinted at already, that the Icelandic Highlands are to such a big extent influenced by the history and ongoing presence of free-grazing sheep, as well as other land-use, that their differentiation from lowland areas and protection from 'outer' influences, such as the lupin, can only be made to rest on an imagined ideal of 'pristine nature'. Ironically, these critics continue, the Highlands are very far from being 'pristine nature' and would be more accurately considered a 'man-made desert'. What is more, the suggestion of using possibly toxic herbicides in sensitive areas in the name of 'protecting nature' is seen as an example of 'improper', hypocritical nature conservation and land restoration, aimed more at maintaining ideal boundaries than attending to 'real' problems. Similarly, the idea that only native birch trees should be planted in Iceland has been met with criticism by many forestry advocates, emphasising the better growth rate and resilience of some 'alien' species. The emphasis on 'native' birch, they argue, rests on the same kind of ideal boundary maintenance as is evident in the construction of the Highlands as pristine, wild nature. One interviewee put this bluntly thus:

> There are those that only want to plant native birch. But what, exactly, is native birch? We have heavily influenced the genetics of our birch by selectively cutting out all the largest trees for such a long time and overgrazing the hell out of it. So I think this whole thing is a lot based on feelings instead of facts.[32]

In many respects, then, the lupin debate resembles a wider, current discussion within nature conservation and restoration. Accelerating global environmental change has led to profound disagreements on how to manage nature in

32 Interview excerpt, 15 June 2016.

the Anthropocene. One reaction to the dominating influence of humans on the global environment that the notion of the Anthropocene signals, is to highlight the responsibility of nature conservation 'to maintain the boundary between the natural and the non-natural, between human and non-human processes'.[33] This very approach is criticised as not maintainable by others. Paul Robbins and Sarah Moore argue that at the core of such a critique lies the realisation that 'if there ever was a "rightful" natural condition to which to return, it is inaccessible to us in a world of global environmental change'.[34] Energy and resources put into this form of 'boundary maintenance' might be better used by embracing emerging 'novel ecosystems',[35] and the increasing functions that introduced and invasive species will take on in them.

However, the dichotomy between those who wish to conserve 'pure' nature and its boundaries, and those who do not, quickly proves too simple when we look at the practice of land managers in the broadest sense. Working with invasive species on a practical level often involves complex and continuing decision-making which is rarely a straight-forward matter of 'eradication'. Head and her colleagues have argued that 'the actual practice of weed management challenges those academic perspectives that still aspire to attain pristine nature',[36] and they look towards the 'practice and experience of invasive plant managers to show what it means to live with invasive plants'.[37] Similarly, when we look at conservationists and nature volunteers involved in on-the-ground work of controlling the lupin in Iceland, we realise that most of them are well aware of the difficulty of controlling the lupin, while at the same time keeping up a remarkable long-term commitment to their management practices. As one interviewee put it:

> Fighting the lupin is very hard work. I know that we are not going to stop it on all of this land. But we still come here regularly and keep this small part of the land free of it. It's partly just for ourselves and our

33 Milton, 'Ducks Out of Water', 111.

34 Paul Robbins and Sarah Moore, 'Ecological anxiety disorder: diagnosing the politics of the Anthropocene', *Cultural Geographies* 20 (2013), 3–19, 5.

35 Richard J. Hobbs, Eric Higgs and James A. Harris, 'Novel ecosystems: implications for conservation and restoration', *Trends in Ecology and Evolution* 24:11 (2009), 599–605.

36 Lesley Head et al., 'Living with Invasive Plants in the Anthropocene: The Importance of Understanding Practice and Experience', *Conservation and Society* 13 (2015), 311–18, 311.

37 Ibid., 312.

> connection to this landscape. But I have also planted lupins before! I know how powerful this plant is, and I am a land restoration supporter, so there are some parts of this country where I think it should be. But we don't want it everywhere, there are other methods that we can use for other areas that are more sensitive to the kind of vegetation that is already here so that we don't lose them.[38]

The quote above mirrors several characteristics of the management of alien, invasive plants in the Anthropocene that Head and her colleagues identify: for example, land managers continually face pragmatic trade-offs, have to consider and bring together a diverse set of views, even within one stakeholder group, and face tensions with the policy sector.[39] A forester and lupin supporter also spoke about the decision-making process in their day to day work in Heiðmörk, a conservational and forestry area just outside Iceland's capital Reykjavík:

> It's a little bit difficult, with my opinion on the lupin I kind of find myself sometimes in between. We have the red hills in Heiðmörk, it's a place where the British army excavated a lot of material to make the airport. It's a pretty special place geologically, with all this red in the soil. So it's protected now and it's a kind of a special place. I don't want the lupin there, because I want to see the red soil in the hills. I want the lupin *all over* Heiðmörk, but maybe I think that that is kind of a place that is special, it has some unique characteristics that the lupin could cover. So I have eradicated lupins there many times. But maybe that is not feasible.[40]

Following the actual work of land managers on both sides of the lupin debate tells us that managing and living with alien invasive species is a much more complex process than often assumed. As Head and her colleagues argue:

> Managing invasive plants is often just one part of a wider set of land management responsibilities, and needs to be incorporated into ongoing routines. It is a job that is never finished. Too often, though, living with invasive plants is interpreted to mean mere apathy, that is giving up

38 Interview excerpt, 25 June 2016.
39 Head et al., 'Living with Invasive Plants in the Anthropocene', 313ff.
40 Interview excerpt, 15 June 2016.

> on attempts to prevent their spread. However, managers must continue to make complex decisions about when, where, and how to intervene.[41]

## 6. Conclusion

In this paper we have discussed how the idea of 'gardening' and 'gardens' emerges in disputes surrounding the use of the lupin in land restoration in Iceland. This is a dispute, we have noted, that has become particularly acute as the lupin has been classified as an alien invasive species in Iceland. We have traced how the distinction between gardens and 'wild nature' is linked to the notion of 'alien species' that in turn, we have argued reflects and works to maintain a distinction between the 'natural' and the 'not-natural'. Our aim is not to say that the boundaries that arise within conservationists concerns, or the problems that alien, invasive species bring with them, are not real. Milton emphasises that whether the boundaries policed within the campaign against ruddy ducks in the UK are real or not is not for her to judge, but that the aim is to show that 'like all ideas they can be contested'.[42] As Higgs has said specifically in relation to the distinction between gardening and land restoration:

> If we extend a line between gardening and restoration, somewhere along the line, the border separating the two is going to become a matter of convention and judgment . . . The various points along the line are constituted of different values, practices, and histories. Thus, restorationists, reclamationists, ecologists, landscape designers, and gardeners have different ideas in mind for how nature should look and function. Each has a different way of approaching problems, of seeing what needs to be done, and of justifying answers. Yet each also has elements that are bound to the concerns of restorationists; they are turning to a prior condition for guidance and are focused to a greater or lesser extent on ecological integrity.[43]

What has become evident in our discussion of the lupin in Iceland is that the plant's ambiguity does not allow for a straightforward national conversation on

41 Head et al., 'Living with Invasive Plants in the Anthropocene', 312.
42 Milton, 'Ducks Out of Water', 107.
43 Higgs, *Nature by Design*, 91.

nature conservation and restoration. As Susanna Lidström and her colleagues have shown, the knowledge surrounding complex environmental problems 'is replete with uncertainty and tends to resist formation into easily comprehensible narratives'.[44] Disputes surrounding alien invasive species have been described as involving 'a contemporary concern with patrolling the physical and conceptual boundaries of "proper" places'.[45] This is particularly relevant in Iceland, where 'the facts of nature are part and parcel of Icelandic history'.[46] Faced with global change, the lupin debate demonstrates the significance that the myth of origin, and references to a continuity with the past, have for current concerns with nature in Iceland.

The manuscripts that contain the Icelandic Sagas and related writings describe the settlement of Iceland and the establishment of the country's original parliament. They describe a time when Iceland was an independent commonwealth. The Sagas suggest the year of settlement in Iceland as 874AD and while that is no longer accepted by archaeology, it has remained as the official year of the island's settlement. The Sagas are something all children encounter in school, if not at home, and they are treated by many as at least partly historical. They provide, moreover, a linguistic link between the present and past in Iceland. In this way Iceland possesses a strong myth of origin. But it also possesses a fantasy, we suggest, of a return to this origin. When Iceland, for example, celebrated full political independence in 1944 the event was spoken of as a homecoming. The then prime minister, Ólafur Thors, declared: 'Icelanders, we have arrived home. We are a free nation.' Historian Guðmundur Hálfdanarson remarks that this suggests that the independent nation state is 'not primarily a political form but a home where the nation can find peace in its own country'.[47] It was thus 'considered natural that the republic was established at Þingvellir, the place where the nation locates its symbolic origin and where the original Commonwealth and the new republic become one'.[48]

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44 Susanna Lidström et al., 'Invasive Narratives and the Inverse of Slow Violence: Alien Species in Science and Society', *Environmental Humanities* 7 (2015), 1–40, 3.

45 Stephanie Lavau, 'The Nature/s of Belonging: Performing an Authentic Australian River', *Ethnos: Journal of Anthropology* 76 (2011), 41–64, 44.

46 Kirsten Hastrup, 'Icelandic Topography and the Sense of Identity' in Michael Jones and Kenneth R Olwig (eds.), *Nordic Landscapes: Region and Belonging on the Northern Edge of Europe* (Minneapolis, 2008), 53–76, 63.

47 Hálfdanarson, *Íslenska Þjóðríkið: Uppruni og Endimörk*; cited in Helgason, *Ferðalok. Skýrsla Handa Akademíu*, 17.

48 Ibid.

In the Sagas Iceland is described powerfully as covered in forest from mountain tops to the sea shore. The loss of this lush cover is in Icelandic national discourses linked to the loss of independence in the thirteenth century, a loss the same discourses depict later political independence as overcoming. It has, as we have discussed, been understood as the aim and the duty of Icelanders to return the land to this condition, to repay their debt to the land, to return it to its original state. This is what the lupin was supposed to help to achieve. Only, ironically, the lupin itself was never part of the original landscape. Eradicating the lupin now, by a similar token, would simultaneously involve the kind of constant human attention characteristic of gardening, and restore the land to state of significant human impact, after the loss of the tree cover through human use. In the debate on the presence of the lupin in Iceland specifically, as well as in the work of restorationists more broadly, different 'natural' landscapes are evoked to different ends. They do not represent (Icelandic) nature the way it is, but rather speak to powerful images and values that have more to do with Iceland nature as it is supposed to have been and what it should be.

It is in this context that the charge of gardening, thrown in turn at both lupin supporters and detractors, takes its meaning in Iceland. It is here that the importance of the status of the lupin, as both a miracle and an alien plant, lies. However, while this state of affairs has certainly lead to a focus on boundary maintenance within nature conservation and restoration circles in Iceland, embracing the ambiguity that surrounds many invasive species might ultimately be more constructive than trying to seek a conclusive account. Therefore, rather than pitting gardening against 'proper' land restoration, we might consider the approach that Higgs has continued to argue for:

> The challenge is not, in my view, to describe which type of restoration is purer; rather, it is to be clear about the kinds of assumptions that generate the perceived needs and goals of any specific restoration project. We would be guilty of hubris if we were to suggest otherwise – to insist that we have somehow got everything right and know for certain the enduring meaning of ecological restoration.[49]

A field of lupins does not only prompt discussions on the practical matters of the plant's introduction and eradication. It also provokes deeply philosophical questions concerning the very basis of what *is* natural, *how* to take care of

49 Higgs, *Nature by Design*, 91.

nature, and what *kind* of nature to care for. This article has aimed to show that while questions like these keep proving ambiguous in the case of the lupin in Iceland, finding answers to them will necessarily have to involve considering the plant from a variety of directions as it has become meaningful beyond its ecological context.

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