Trees, Woodlands and Forests Old Norse-Icelandic Culture

INTRODUCTION

We live in an unprecedented era of climate change, mass wildlife extinction and largescale deforestation. On an existential, practical and ethical level, this is the great contemporary challenge of our time. When the future feels so uncertain and the present so critical, one may well question the value of studying the past. Yet these global changes, by their very nature, cannot be understood in an ahistorical vacuum. In taking a deeper chronological view, it is possible to shed light on how past human cultures have impacted on the physical world around them and responded to these changes both practically and psychologically. By interrogating the past, we can better understand our current circumstances, and in doing so perhaps provide both hope and forewarning for the future.

Medieval Iceland offers a unique perspective in this respect, since it was—to all intents and purposes—uninhabited before the 9th century *landnám* ("settlement", lit. "land-taking") by settlers predominantly from Norway and the British Isles. Such unusual circumstances invite a number of important questions: How did the first generations of Icelanders respond to their physical surroundings? How did they shape and alter the world around them? How was their own view of the world affected in return? The following analysis seeks to address these questions through a particular case study: the representation of trees and woodlands in the Old Norse-Icelandic textual tradition, and the *Íslendingasögur* ("Sagas of Icelanders") in particular. Through it, I aim to explore how medieval Icelanders thought about and engaged with the physical environment around them, as well as the broader non-human natural world beyond their homeland. At the heart of the discussion is the nature of the connections between geographical space—both real and imagined—and the way humans think about the world they inhabit, their place within it,

their present and their past. Beyond the medieval Icelandic context, the analysis has broader implications for our understanding of how historical cultures have engaged with threshold or marginal geographical spaces, particularly those undergoing modification as a result of human activity.

Trees and woodlands offer a particularly suitable focus for such a case study, not only because they were so fundamental to the functioning of medieval Norse societies (e.g. for heating, charcoal-production, ship construction, building materials, tools, storage containers, pannage, food) but also because of the long-held view that Iceland was deforested extensively in the first few decades of settlement. This picture is now undergoing scientific and archaeological modification, as will be discussed below. Nevertheless, the question of how a culture continued to think about trees even as woodland resources diminished remains significant. In the following, I seek to demonstrate that attitudes towards wood, woodlands, and wooden products in the *Íslendingasögur* reflect to a large extent the reality of resource availability and use in medieval Iceland, with recent developments in archaeology illuminating the sagas' testimonies in new and important ways. In the case of these texts, the key consideration will be, "land—its quality, organization, and management", for, as a recent study by Guðrún Sveinbjarnardóttir et al. notes, this is "an aspect of society-environment relationships that has received little attention until recently in studies of *landnám*".[1] By juxtaposing archaeological and/or scientific evidence for tree presence and woodland resources in medieval Iceland with the way in which the sagas depict this aspect of the physical world, it is possible to see a remarkable degree of concord between the two very different data sets.

In Old Norse texts, more than one word was used to describe areas of land covered in trees, particularly *skógr*, *viðr* and *mǫrk*. As might be expected, all had their nuances and cultural connotations, but it is important not to translate them in a way that means they take on additional

layers of meaning and interpretation that did not exist originally. *Skógr* seems to be the word most frequently employed, and I have translated this as 'woodland' or 'a wood', which is also the primary translation in Cleasby-Vigfússon.[2] Elsewhere, and deriving ultimately from the Proto-Germanic **wiðuz*, the Old Norse word *viðr* shares its etymological roots with the modern English "wood", which is used in a similar manner (for a tree, an area of land where trees grow collectively, or the physical material from which trees are made).[3] Finally, *mǫrk* has more complex origins, stemming from the Proto-Germanic **markō*, and cognate with OE *mearc* ("limit, term, boundary, sign"), Goth *marka* ("region, border"), OFris *merke* ("boundary"), OS *marka* ("boundary, district") and OHG *marca* ("boundary").[4] As is noted in Cleasby-Vigfússon, the association seems to have come about because "in olden times vast and dense forests often formed the border-land between two countries".[5] Thus, in the texts explored below, it is perhaps unsurprising that *mǫrk* is used primarily in the context of large Norwegian tracts of woodland with high-quality timber, under the control of kings and jarls.[6] Modern English makes similar distinctions between "wood" and "forest", with the former either used to describe an area of land where trees grow collectively, or the physical material from which trees are made. "Forest", on the other hand, is a more culturally and historically loaded word, with uncertain etymological origins and likely roots in the Merovingian period.[7] As Oliver Rackham emphasized, "the word Forest does not imply woodland", for medieval forests in both post-Conquest England and on the Continent comprised not only wooded areas but also heath, moorland, fenland, scrubland, and dwellings.[8] Yet today, "forest" often conjures images of a vast, dense treescape, and therefore is an appropriate translation for *mǫrk* despite not in fact sharing common etymological roots. It is worth pointing out that the majority of examples quoted below use *skógr* or *viðr*, particularly in the case of texts with an Icelandic setting, and these I have attempted to translate consistently.

IMAGINATION AND REALITY, TIME AND SPACE

Human engagement with the non-human natural world is a multifaceted process. Different layers, both physical and psychological, are conjured when humans experience, imagine, and make sense of their surroundings. This includes not only what they can see, touch, and make use of, but also the world—real or imagined—beyond their direct experience. Therefore, it is necessary to consider both the imaginative place of woodlands and trees in the textual tradition, and the ways in which the corpus reflects a tangible, practical and experiential engagement with the Icelandic topography. In this sense, the matter under consideration here feeds into the still-evolving conversation in saga scholarship regarding the relative historical and literary merits of the *Íslendingsögur*.[9] A re-rehearsal of this conversation and the various positions adopted over the years is beyond the scope of this present analysis, except to make the following observations. The sagas in their surviving forms are, in many ways, literary artefacts with debatable degrees of historical accuracy, at least in the sense that we understand the concept today. Yet it is also likely that on many levels they reflect the lived experience of medieval Icelanders at the time of saga writing (i.e. 13th century onwards), and the way in which they engaged with the physical world around them. What is harder to ascertain is the extent to which the sagas preserve orally transmitted information that was passed down the generations from the first decades and centuries of the *landnám* (i.e. 9th century onwards), and what modifications and transformations such information might have undergone over time. Such a state of affairs is relevant to an analysis such as this, since it is concerned with multiple historical timeframes (i.e. the earlier period during which the sagas are set up to the later period during which they were recorded) as well as mapping changes over time (i.e. the decline in woodlands throughout the medieval period). Nevertheless, despite the difficulties, in many ways these texts are as close as we will come to an understanding of how this medieval culture experienced their existence in the world.

In light of the inherent methodological challenges of the source material, the theoretical ideas that inform this analysis can be couched within a series of broader, multidisciplinary frameworks. The first concerns notions of landscape, space and place as developed by archaeologists, anthropologists and human geographers over recent decades.[10] The multi-temporal nature of landscapes and physical environments is a tenet that underpins much of this analysis. As the anthropologist and archaeologist Barbara Bender has argued, landscapes are "always polyvalent and multivocal", for there is a "historicity and spatiality to people's engagement with the world around them".[11] Such a "plurality of place … always in the making" can be seen in many *Íslendingasögur* descriptions of the physical world—including those elements of the physical world under consideration here—in which multiple chronological layers are incorporated into the texts.[12] After all, as Bender suggests, while cultures "move towards a sense of place and belonging […] they creatively work the past into a volatile present".[13] While her comments pertain to the ways in which people engage with landscapes, in the case of medieval Iceland they might be said to apply as much to the textual record of the *Íslendingasögur* themselves, which do not belong exclusively to one time period or single cultural moment. Bender's comments chime with those of fellow anthropologist Tim Ingold when he notes that, "environments, since they continually come into being in the process of our lives—since we shape them as they shape us—are themselves fundamentally historical".[14] Elsewhere, Ingold develops the concept of "taskscape", which posits socially constructed, delineated physical spaces of human activity, yet, as he points out, "by considering how taskscape relates to landscape, the distinction between them is ultimately dissolved".[15] Given the underpinning socio-economic dimensions of this analysis, and the natural intersection between the material exploitation of woodland resources and their cultural meanings, this too is a relevant concept that will be returned to again later in the analysis.

While the disciplinary backgrounds of these scholars naturally lead them to privilege the embodied experience, this discussion is also concerned with the non-embodied experience: the imaginative impulse to construct mental landscapes and worlds beyond the practical. For humans, living in the world is a process of negotiating the duality—sometimes tension—that arises from existing on multiple levels, as both biological and imaginative beings. Since much of this study is concerned with textual sources, it finds itself in natural dialogue with ecocritical theories developed in the field of literary studies, exploring the relationship between written texts and the non-human natural world while promoting underlying ecological values. Within Old Norse literary scholarship, ecocritical discourses are emerging through the work of those including Michael Bintley, who, in his use of Old Norse material, has focused particularly on the significance of trees in skaldic verse and mythological tracts.[16] The ecocritical call to arms was taken up subsequently by Christopher Abram, whose 2019 monograph has been described as "the first full-length ecocritical study of Old Norse myth and literature".[17] Abram's aim is not to understand "the environmental contexts that have helped shape Old Norse literaary culture", but rather to read "contemporary ecological issues *into* the medieval past so that we can read *out of* medieval texts ideas that inform our responses to the world that we live in now".[18] In a work largely concerned with mythological texts, he notes that such material may have a "deanthropocentrizing tendency in comparison to other forms of literature", since, "operating beyond conventional notions of history and geography, myth may be an important form of eco-discourse precisely because it does not center on relations between humans and their real-world environment".[19] By contrast, much of my aim here is to look precisely at relations between humans and their real-world environment, albeit mediated through a textual tradition that includes not only complex chronological layers but also oral and literary elements. In this respect it chimes more with Carl Phelpstead's ecocritical study of *Eyrbyggja saga*, which, he argues, concerns itself with 'the relationship between natural

environment and human civilization—between nature and nation—and specifically with the transition from a physical environment unaffected by humans to a state of 'natureculture' in which human cultivation and culture both bring about changes in the physical environment and also endow it with culturally contingent meanings".[20] In the present analysis, I seek to bring similar ideas into dialogue with still-emerging archaeological evidence, in order to better ground the saga texts in the socio-cultural realities of the first centuries of Iceland's settlement.

NORTH ATLANTIC SETTLEMENT

The early settlement of the North Atlantic produced a particularly "complex interaction of culture and nature", as explored by McGovern et al.[21] The medieval Icelanders were one link in a Norse diasporic chain that stretched across the ocean, and while many parts of the Scandinavian "homelands" were thickly wooded, it was a different matter out in the North Atlantic. Indeed, as Dugmore et al. note, "as the Norse established settlements across the North Atlantic, they crossed a series of environmental thresholds—such as the limits to forest growth".[22] The settlement and subsequent history of Iceland is identified by Amorosi et al. as a "well-documented case stud[y] that can be used to explore the interaction of natural environment and cultural landscape"[23] from a historical ecological perspective, since "[h]umans have seldom been passive receptors of environmental change".[24] The scope of their investigation means that the "cultural landscape" refers in the main to subsistence strategies and other practical measures adopted by settlers out in the North Atlantic. However, the definition of "cultural landscape" can be extended fruitfully to incorporate a far broader range of beliefs, attitudes and practices, all of which are relevant to a broader understanding of how human cultures in fact engage with the physical world. Indeed, in their analysis of how medieval Norse settlers in Greenland adapted to a comparable environment, Jackson et al. make the point that "colonization could have presented an acute challenge to

knowledge and practices established in homelands as they mismatched with the environments of new settlements",[25] since "culture plays a critical role in accumulating, transmitting, and, at times, limiting human adaptive capacities in new environments". [26] Noting that the cultural transmission of landscape learning "can be transferred between generations in art, objects, myth and legend, and ritual performances to give meaning to local environments known as traditional ecological knowledge", the study points to "adaptive lags" when "the discrepancy between past and current environments […] produces a mismatch between behavior and the environment."[27]

In the case of the Icelandic settlement, this was a situation with the potential to create a series of practical and imaginative disconnections in the mental world view of the Norse settlers. "Practical" in the sense that they came from a cultural context where wood was a primary resource for fuel (heating, charcoal), construction (ships, dwellings) and everyday life (storage containers, tools, food, pannage) amongst other essentials. "Imaginative" in the sense that—regardless of active belief—theirs was a pagan mythological system heavily indebted to trees (Yggdrasil the world tree, Askr and Embla the first humans) and one that continued to inform key cultural traditions such as skaldic poetry long after the conversion to Christianity (c. 1000 AD).[28] While such disconnections are perhaps more discernible in the mythological texts, they manifest themselves differently in the *Íslendingasögur*, firmly rooted as they are in the non-human natural world, its topographical features, resources and chronological depth, and it is to these texts that we now turn.

ÍSLENDINGASÖGUR

One recent estimate suggest that, at *landnám*, woodland covered more than 25% of the island of Iceland, and possibly as much as 40%.[29] The tree species were limited, predominantly comprising various types of birch, willow, rowan and juniper.[30] The traditional picture is one of widespread deforestation in the first few decades of settlement, supported by Margrét Hallsdóttir's

oft-cited study demonstrating rapid declines in birch pollen at this time.[31] This chimes with Ari Þorgilsson's famous statement in *Íslendingabók* (the Book of Icelanders, in its extant form written c. 1122–1133): "Í þann tíð vas Ísland viði vaxit á miðli fjalls ok fjǫru" (at that time, Iceland was covered with woods between the mountains and the shore).[32] Several remarks in the *Íslendingasögur* do indeed repeat this sentiment.[33] *Gísla saga* points out that "þá var víða skógum vaxit" (at that time, woodlands grew widely),[34] while *Laxdœla saga* notes that "Skógr þykkr var í dalnum í þann tíð" (at that time, there was thick woodland in the valley).[35] Elsewhere, *Fljótsdœla saga* notes, "Var þá víða gott til eldibranda, því at öll heruð vóru full af skógum" (then there was wood widely available for burning, because the whole district was full of woodlands), while according to *Kjalnesinga saga*, "Þá var skógi vaxit allt Kjalarnes […] reisti Andríðr bæ í brautinni ok kallaði Brautarholt, því at skógrinn var svá þykkr" (at that time, then all Kjalarnes was overgrown with woodland […] Andríðr built a farm along the path and named it Brautarholt [path through the woods] because the wood was so thick).[36]

Some scholars—notably Christopher Abram's insightful and thought-provoking monograph—have taken Ari's statement as a literary construct, painting the illusion of a "golden age" of settlement, while "in reality, Iceland was covered in a sparse layer of scrub birch and willow".[37] There may be some truth in this; certainly these are examples of a sharp distinction being made between the *landnám* period and the saga-writing era, where the scarcity of present woodlands is contrasted with their previous abundance. Yet this is certainly not the whole story, and even in the case of these texts, descriptions of formerly thickly wooded areas do not necessarily equate to a "lush and capacious Icelandic forest" or "a product of the mind—a trope-ical brain forest".[38] A useful comparison might be areas of modern-day Greenland that comprised the Eastern Settlement, a Norse colony from the end of the 10th century up to the 15th century. In the post-Norse period, this region was neither regularly farmed nor permanently settled, and today hillsides

close to the ruined medieval farmsteads may be covered in low, thick tangles of willow, juniper and birch trees. These are not "lush and capacious" in the sense that forests and woodlands might be understood and experienced in a more temperate climate beyond the northern islands of the North Atlantic, but they are still dense and widely growing, sometimes to the point of being impassable even on horseback.

As the following analysis seeks to demonstrate, most references to woodlands and wood resources in the textual corpus cannot be reduced to a literary construct alone. By digging down deeper into the sources, we can recognize that the sagas also reflect the everyday realities of life in the first centuries of the Icelandic settlement, up to and including the time when the sagas were recorded. These texts can tell us much about where wood was available (i.e. woodlands, driftwood, imports), how these resources were controlled and managed, and their many uses. In this respect, representations of trees and woodlands actually mirror the more nuanced picture now emerging from archaeological and scientific research to a remarkable extent.

Over the last two decades, studies have emerged that suggest less geographical and chronological uniformity than was previously assumed, in terms of how land was altered and resources utilized in Iceland throughout the middle ages and into the early modern period. Smaller-scale investigations at specific archaeological sites have painted a more complex, regionally specific picture. In particular areas there is evidence for rapidly unsustainable woodland reduction of the sort described by Margrét Hallsdóttir,[39] but elsewhere studies reveal sustainable woodland management and ongoing productivity. For example, a recent analysis by Dugmore et al. points to the fact that, while woodland would have quickly become constrained in the first century or so of the settlement, by the 18th century, half of the farms in Iceland still had access to woodland resources.[40] Elsewhere, in light of their work at the high-status complex at Hofstaðir in northern Iceland, Simpson et al. note that evidence for trees continuing to grow in the vicinity, "is in contrast

to the prevailing view of an Icelandic settlement period characterised by major woodland loss and land degradation".[41] Meanwhile, excavations by Church et al. in the Eyjafjallahreppur region of southern Iceland suggest that woodland resources were carefully managed for charcoal production and controlled by high-status landowners. This in turn points to the possibility that:

> the story of woodland use and deforestation is more complex than a simple felling of trees within the first two centuries after *landnám*; rather, a picture of slower depletion over 500 years emerges with evidence of possible woodland management, conservation, and regeneration occurring within this time.[42]

A similar picture has emerged from an excavation in Þjórsárdalur in southern Iceland, which suggests significant woodland survival in the early centuries of settlement. This seems to have been followed by woodland conservation and stabilization in the later medieval period, so that by the 16th century there were significant resources still under the ownership of the bishop of Skálholt.[43] Likewise, work by Guðrún Sveinbjarnardóttir et al. at Reykholt, also southern Iceland, indicates that, while there was some decline in woodland in the period following the *landnám*, a more marked reduction in tree cover came between 1150 and 1300. Since this is the period in which the saga tradition coalesced, even if the extent of settlement era deforestation has been overstated, it is possible that Icelanders may have noted a decline in woodlands over a longer period. Yet at the same time, as the study notes, a 12th/13th century charter lists more distant woodlands owned by the Reykholt estate, together with driftage and grazing rights, suggesting that woodlands certainly existed in the general vicinity.[44] Taken together, the overall picture that emerges from these localized studies is that land settlement and use was not uniform across the whole island, which is as true of deforestation as it is for the use and management of other land resources. As McGovern et al. state in their analysis of early human impact at Mývatnssveit in northern Iceland (involving local but not universal deforestation, with a persisting birch pollen

record perhaps suggesting woodland management linked to charcoal-making and iron-production): "settlement patterns at *landnám* were far more complex than previously realized."[45]

Providing an alternative, complementary perspective on such investigations, Dawn Mooney's ongoing analyses of wood types recovered during archaeological excavations presents crucial information about where wood came from and how it was used in medieval Iceland. Broadly speaking, Mooney divides this wood into three categories—native wood, driftwood and imported wood—although as she points out the last two in particular can be hard to tell apart. For instance, her analysis of the wood used for Iceland's seven Viking Age boat burials demonstrates that most were a mixture of pine and oak, and therefore non-native. However, there are various ways in which this wood might have reached Iceland: as driftwood (known to have been used to mend boats), as imported wood, or as pre-made vessels from areas where such wood species were available.[46] Likewise, Mooney's study of 353 Viking Age wooden artefacts found at the Alþingisreiturinn archaeological site in Reykjavík—an area of the country where rapid tree loss does seem to have taken place as Margrét Hallsdóttir suggested—shows that the majority of containers discovered were made of oak (i.e. non-native and possibly imported post-construction). On the other hand, conifer, which was the primary construction material and made up 50% of the overall assemblage, would have likely come from driftwood sources. At the same time, she argues, the presence of some birch wood in the artefact composition also "suggests some native wood remained, exploited for purposes other than firewood and charcoal".[47] It should be noted that the patterns of wood use and origin as set out by Mooney are supported by Lísabet Guðmundsdóttir's analysis of the wood composition of the Hrísbrú longhouse (9^{th}–11^{th} century) at Mosfell in southern Iceland. Once again, a mixture of local wood, driftwood, and imported wood seem to have been involved at various phases of construction and maintenance, leading Lísabet to conclude that "indigenous wood [was] more important to the Viking Age society than previously thought".[48]

The picture that has started to emerge from archaeological investigations—the presence or absence of woodland, wood use and origins—is one that is closely reflected in the *Íslendingasögur*. A similar view has been put forward in a recent MA thesis exploring the roles of wood and woodland in *Grettis saga* and *Eyrbyggja saga*, which, the author Rebecca Conway argues, "illustrate continuing, albeit controlled, political and personal relationships with an important raw material".[49] Across the saga corpus are found references to native woodland resources, driftwood and imported wood (predominantly from Norway). When they appear, they usually serve a narrative function within the plot, which fits with the tone of the genre as a whole. Trees and woodlands do not provide background color in the sagas, for, just as Jorge Luis Borges' responded to fellow Argentinians who complained that his books lacked a sense of locality: "What is truly native can and often does dispense with local color".[50] Yet when they do feature, they do so primarily in a way that chimes with the emerging archaeological picture, reflecting the physicality of the world in which the stories were set, transmitted and recorded.

NATIVE WOODLANDS

In what follows, I aim to give a sense of how Mooney's three categories of wood are reflected in the sagas, starting with the presence, use and management of native woodlands. In his excellent ecocritical analysis of *Eyrbyggja saga*, Carl Phelpstead draws attention to a feud between Snorri *goði* and his neighbors, centering on disputed ownership of a woodland. As Phelpstead points out, the disgruntled neighbor claims that Snorri is overexploiting the resource: "Snorri goði lét nú vinna Krákunesskóg ok mikit at gera um skógarhǫggit. Þórólfi bægifót þótti spillask skógrinn; reið Þórólfr þá út til Helgafells ok beiddi Snorra at fá sér aptr skóginn ok kvezk hafa lét honum, en eigi gefit" (Now Snorri *goði* began to make use of Krákunes woods, and many trees were chopped down. Þórólfr Lame-Foot thought the wood was being destroyed; then he rode out to Helgafell

and asked Snorri to give him back the wood, and said he had only lent them to him, not given them).[51] In this case, the flash-point is a realistic response to the use, management and ownership a contested, limited resource. Nor is this the only saga featuring references to ownership and use of woodland resources, for in the lesser-known *Ǫlkofra saga*, drama unfolds over an accident in the woods. Prior to the incident, the protagonist is engaged in charcoal-making, the woodlands a narrativized taskscape in which he sets about his work. Towards the end of the passage we learn that these woods are owned remotely by high-status individuals, the legal repercussions of the accident testament to the fact that, as Ingold writes, "the temporality of the taskscape is social … because people, in the performance of their tasks, *also attend to each other*":[52]

> Þat varð til tíðenda eitt haust, at Ǫlkofri fór í skóg þann, er hann átti, ok ætlaði at brenna kol, sem hann gerði. Skógr sá var upp frá Hrafnabjǫrgum ok austr frá Lǫnguhlíð. Hann dvalðisk þar nǫkkura daga ok gerði til kola ok brenndi síðan viðinn ok vakði um nóttina yfir grǫfunum. En er á leið nóttina, þá sofnaði hann, en eldr kom upp í grǫfunum ok hljóp í limit hjá, ok logaði þat brátt. Því næst hljóp eldr í skóginn. Tók hann þá at brenna. Þá gerisk á vindr hvass. Nú vaknaði Ǫlkofri ok varð því feginn, at hann gæti sér forðat. Eldrinn hljóp í skóginn. Brann sá skógr fyrst allr, er Ǫlkofri átti, en síðan hljóp eldr í þá skóga, er þar váru næstir, ok brunnu skógar víða um hraunit. Er þar nú kallat á Sviðningi. Þar brann skógr sá, er kallaðr var Goðaskógr. Hann áttu sex goðar. Einn var Snorri goði […] Þeir hǫfðu keypt skóga þá til þess at hafa til nytja sér á þingi.[53]
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> (It happened one autumn that Ǫlkofri [Ale-Hood] went to the woods that he owned, intending to make charcoal as he tended to do. The woods were up beyond Hrafnabjǫrg and east of Lǫnguhlíð. He stayed there for some days to prepare the charcoal-making, and then burned the wood and watched over the pits at night. But in the night, as he was sleeping, fire came up from the pits and leapt into the nearby branches, which soon started

> to burn. Next, the fire spread to the woods, which also began to burn. Then a sharp wind blew up. At this point Ǫlkofri woke up and was lucky to be able to save himself. The fire spread through the woods. First it burnt all the woods that Ǫlkofri owned, then it leapt into the woods that were closest, burning the woods all around the lava field. These are now called *Sviðningr* [burnt woodlands]. The wood called *Goðaskógr* [goði woods] was burnt. It was owned by six *goðar*, one of whom was Snorri *goði* […] They had bought the wood so that they could have use of it at the *Þing* [assembly].)

Elsewhere in other saga narratives, we meet for example workmen coming down from the local woods with brushwood and fagots (*Fostbrœðra saga*, chapter 2) and others being sent into the woods to cut firewood (*Eyrbyggja saga*, chapter 35; *Gísla saga*, chapter 31). Throughout, there is the sense of a limited but important resource that has to be exploited and managed, often in the ownership of higher-status individuals. Such a picture reflects many of the archaeological analyses mentioned above, such as evidence for charcoal production and woodland control by those higher up the social pecking order.[54]

DRIFTWOOD

Given its limited role in plot narratives, driftwood features more frequently than might be expected in the sagas. This backs up the importance given to driftage rights in the *Grágás* lawcodes, underlining its significance in a society relatively lacking in a resource so plentiful back in Scandinavia and the British Isles.[55] For good reason, *Grettis saga* devotes the most narrative space to driftwood, since Grettir meets his end thanks to a tree that washes up on the shore. Once they have reached the island of Drangey, the reader is informed that firewood is scarce and driftwood collection a vital activity, the shore an essential taskscape in a marginal environment barely suitable for human habitation: “en til eldiviðar var þar hneppst at afla, ok lét Grettir jafnan þrælinn kanna reka, ok rak þar opt kefli, ok bar hann þau heim til elda” (firewood was hard to come by,

and Grettir often made the thrall look for driftwood; pieces of wood often washed ashore there, which he carried back to burn).[56] The comment foreshadows the appearance of the cursed tree:

> Annan dag eptir en kerling hafði tréit magnat, gengu þeir Grettir ofan fyrir bjargit ok leituðu at eldiviði; en er þeir kómu vestr um eyna, fundu þeir rótartré rekit upp. […] Grettir spyrndi við fœti sínum ok mælti: "Illt tré ok af illum sent, ok skulu vit annan eldivið hafa."[57]
>
> (The day after the old woman had bewitched the tree, Grettir and the others went down the cliff to search for firewood; when they reached the west part of the island they found the tree with its roots washed ashore. […] Grettir kicked it with his foot and said: "An evil tree sent by evil: we should find some other firewood.")

Elsewhere in the texts, driftwood acquisition and utilization feature in various capacities. These include driftage rights, such as in *Egils saga* ("It þriðja bú átti hann við sjóinn á vestanverðum Mýrum; var þar enn betr komit at sitja fyrir rekum", he owned a third farm by the sea on the western side of Mýrar; this was still better for collecting driftage)[58] and *Grettis saga* ("um rekann var ekki skilit, því at þeir váru svá nógir þá, at hverr hafði þat, er vildi", nothing was decided about driftage rights, because there was so much there that everyone could have whatever they liked).[59] Likewise, *Þorsteins saga hvíta* makes reference to driftwood collection in the context of a poisonous feud ("ek lét fara eptir viðum hross mín […] gengu þau af rekastrǫndum", I sent my horses to collect wood […] they came from the driftage beach),[60] while *Laxdœla saga* mentions its use for house construction ("Þat var á einu hausti, at í því sama holti lét Óláfr bœ reisa ok af þeim viðum, er þar váru hǫggnir í skóginum, en sumt hafði hann af rekastrǫndum', it was one autumn that Óláfr had a farm built in the same clearing, made of wood that was cut down in the woods, and some he got from the driftage beaches).[61] In a similar vein, *Egils saga* juxtaposes the importance of driftwood with Skallagrímr's skill in shipbuilding: "Skalla-Grímr var skipasmiðr

mikill, en rekavið skorti eigi vestr fyrir Mýrar", Skallagrímr was a great ship builder, and there was no shortage of driftwood west of Mýrar).[62]

Within this context, is also worth drawing attention to the repeated motif of new settlers throwing high-seat pillars overboard as they approached Iceland and claiming land where the pillars drifted ashore. Margaret Clunies Ross has discussed this as a literary motif which may be "meant to convey something of a sense that this was an almost paradisal land when it was first discovered by Scandinavians, fertile, wooded, inhabited by holy men, and above all, already Christian".[63] While there may well be an element of this, it is also possible that the practice—whether historical or literary in origin—had a practical function beyond symbolic land transfer. It would have made perfect sense to have settled near good driftwood beaches where the currents were likely to bring wood to whoever controlled the area, and if a piece of wood is thrown overboard, it is likely to follow the same currents. This is perhaps hinted at in *Vatnsdæla saga*, when the new settlers come to a headland: "fundu þeir þar borð stórt nýrekit. Þá mælti Ingimundr: 'Þat mun ætlat, at vér skylim hér ørnefni gefa, ok mun þat haldask, ok kǫllum eyrina Borðeyri'" (they found a large wooden plank there, newly washed ashore. Then Ingimundr said: "It must be intended that we give this place a name that will last, and so let us call the headland Borðeyri [plank headland]").[64]

NORWEGIAN WOOD

The third category of wood to consider is that which has been imported, either because Icelanders have gone abroad to fetch it, or because it has been bought from visiting merchants. In both cases, as is so often true of the sagas, Norway is the main player. Moreover, as might be expected, imported wood is a high-status item for high-status use, with both the trade mechanisms and quality of lumber being of a different magnitude to that of native woodlands and driftwood. When Egill Skallagrímsson's son Bǫðvarr is drowned at sea, he has been buying timber from the merchant

ship moored on Hvítá, a large-scale enterprise that requires manpower and large vessels: "hafði Egill þar keypt við margan ok lét flytja heim á skipi; fóru húskarlar ok hǫfðu skip áttært, er Egill átti" (Egill had bought a great deal of timber and arranged for it to be brought home by ship; his house men went to fetch it on an eight-oared vessel that Egill owned).[65] Elsewhere, Norwegian merchant ships arrive in Iceland's fjords with timber to sell, such as in *Gísla saga:* "Þorgrímr reið til skips ok keypti fjǫgur hundruð viðar […] Ok kemr [Þóroddr] til ok tekr viðinn ok berr saman, ok þykkir þó nǫkkut annan veg um kaup þeira en Þorgrímr hafði frá sagt" (Þorgrímr rode to the ship and bought four *hundreds* of timber […] Þóroddr went out to look at the timber, and it seemed to him that it was rather less of a bargain than Þorgrímr had reported).[66] The same pattern is also seen in *Þórðar saga hreðu*, where the need for imported wood is explicitly linked to house-building: "Þórðr er at skálasmíðinni um sumarit. Ok er mjök var algerr skálinn, kom skip af hafi at Gásum í Eyjafirði. Þórðr segir bónda, at hann vill ríða til skips ok kaupa þá viðu, er honum þótti mest þurfa" (Þórðr built the longhouse all through the summer. And when the longhouse was nearly completed, a ship came from the sea at Gásir in Eyjafjǫrðr. Þórðr told the farmer that wanted to ride to the ship and buy the wood that he had most need of).[67]

A similar motif appears in *Reykdæla saga ok Víga-Skútu*, where once again the transaction in sizeable, and the wood required for high-status building construction: "Þat er nú at segja, at skip kom í Eyjafjǫrð eitthvert sinn við Knarrareyri, sem opt kann við at bera, þó at helzt sé hér nǫkkut frá sagt at sinni. Þat skip var viði hlaðit at miklum hluta. […] Herjólfr átti skála á velli ok vildi kaupa til góðan við" (Now it is told that a certain ship came into Eyjafjǫrðr at Knarraeyri, which often happens, although on this occasion there was something to be said about it. The ship was loaded with wood for the most part. […] Herjólfr was building a longhouse, for which he wanted to buy good timber).[68] It is worth noting that, in the case of *Reykdæla saga*, the presence of a merchant ship stocked with timber is explicitly said to be nothing out of the ordinary (*sem opt kann*

við at bera), and only becomes newsworthy because of the feud that ensues. At the same time, given the fact that such saga episodes only appear when they are of direct relevance to the narrative (i.e. leading to a death or feud), they are unlikely to tell us anything historically quantifiable about the frequency with which such timber-bearing ships actually came to medieval Iceland, either in the first centuries of settlement or at the time when the sagas were recorded.

Alternatively, saga protagonists may fetch wood from Norway themselves, typically expensive, high-status ventures for expensive, high-status projects. In both *Víga-Glúms saga* and *Vatnsdœla saga*, the goal is to buy high-quality wood to build houses. In the former, the wayward protagonist is advised "farir útan ok sœkir þér húsavið" (go abroad and get yourself house-building timber),[69] while the latter states, "Þá er Ingimundr hafði búit nǫkkura hríð at Hofi, lýsir hann útanferð sinni at sœkja sér húsavið, því at hann kvazk vel vilja sitja bœ sinn" (when Ingimundr had lived for some time at Hof, he said that he was going abroad to get house-building timber, because he wanted to live in fine style in his farm).[70] Imported wood functions as significant narrative device in the sagas specifically because it can be used as a marker of wealth and high esteem. Therefore, it is perhaps unsurprising that, on multiple occasions, the Norwegian ruler himself provides the wood (thereby proving that the plucky, talented Icelander is recognized as the equal of any Norwegian royal). When Ingimundr arrives in Norway to acquire building timber, the king's patronage has far-reaching consequences for the Icelander's future prospects:

> Konungr mælti: "Þat er vel gǫrt, er þér ok heimil vár mǫrk sem þú vill hǫggva láta, en ek mun láta til skips fœra" […] er váraði, var búit skip Ingimundar með farmi þeim, er hann kaus, ok því viðarvali, er bezt fekk. […] Ingimundr átti ágætt bú með nógum efnum; hann bœtti nú mikit bœ sinn, því at efnin váru n'óg; hann fekk sér ok goðorð ok manna forráð.[71]
>
> (The king said: "That is well done, and we give you permission to cut down whatever part of our forests that you want, and I will have the timber transported to the ship" […] when

spring arrived, Ingimundr's ship was loaded with the cargo that he had chosen, and the best timber that could be had. […] Ingimundr had an excellent farm with many resources; he now greatly improved his farm because he had enough materials; he acquired a *goðorð* for himself and authority over men.)

Likewise, in *Heiðarvíga saga*, when the protagonist's farmhouse starts falling down, it is Jarl Hákon who whose patronage he seeks when "fór hann útan til Nóregs at sœkja sér við til húsabótar" (he travelled out to Norway to get wood in order to make housing improvements).[72] Elsewhere, its cast-list jostling with a host of glitteringly brilliant, royally favored protagonists, it is unsurprising that *Laxdæla saga* has so many timber-generous rulers. Hǫskuldr is the first to bask in the bounty, as he responds to the king's invitation to stay with him in Norway:

"Hafið þǫkk fyrir boð yðvart, en nú á ek þetta sumar mart at starfa; hefir þat mjǫk til haldit, er ek hefi svá lengi dvalit at sœkja yðvarn fund, at ek ætlaða at afla mér húsaviðar." […] konungr fekk honum húsavið ok lét ferma skipit.[73]

("Thanks for your offer, but now I have much to do this summer: this is the main cause of my delay in seeking you out and paying my respects, for I intend to acquire house-building timber." […] The king gave him house-building timber and commanded it to be taken to the ship.)

A generation later, it is Óláfr Hǫskuldsson who seeks prime building timber from Jarl Hákon, who "á bezta mǫrk" (owns the best forests).[74] The Jarl's response is suitably generous: "Ósparat skal þat, þóttu fermir skip þitt af þeim viði" (It would be an honour to fill your ship with the wood).[75] Finally, towards the end of the saga Þorkell makes his ill-fated voyage to obtain timber to build a church equal to that of King Óláfr: "Um várit var viðr sá til skips fluttr, er konungr gaf Þorkatli; var sá viðr bæði mikill ok góðr" (in the spring the timber that the king had given Þorkell was loaded onto the ship; there was a lot of it and it was of high quality).[76]

The analysis ends with a saga episode in which all three types of wood resources come together in one narrative. *Króka-Refs saga*, with its eponymous master-builder protagonist, describes how Refr builds an ocean-going ship using driftwood (from a shipwreck) and local wood (for charcoal), all the while inspired by the large ships built by the timber-rich Norwegians. The passage conveys a sense of the various wood resources and practical concerns that are brought into play:

> Gestr lætr nú búa hróf eitt mikit ok draga þangat viðu mikla. Knörr einn hafði brotit á fjörum Gests; hafði hann keypt upp skipviðuna. Þessa alla viðu lætr Gestr færa til hrófs Refs ok svá sauminn allan. Gestr átti ok járn ósmíðat, ok lézt Refr þat vildu til sín taka, kveðst sjálfr vildu saum slá. Smíðartól á alla vega lét Gestr þangat bera, svá afl ok kol. […] Ferr hann heim ok segir Gesti, at eigi mun opt sénn slíkr selabátr, — "því at komit munu hafa út hingat til Íslands ekki stærri skip." […] Spyrst þetta nú víða, at Refr Steinsson hafði gert byrðing haffærandi; þóttu þat vera hér fáheyrð tíðindi, því at hann var kallaðr af mörgum mannvitull. Sá atburðr hafði orðit, at með föður hans hafði verit á vist norrænn maðr ok son hans. Váru þeir jafngamlir, Austmanns son ok Refr. Austmanns son hafði sér at leiku skip þat, er verit hafði í Nóregi sem líkast haffæröndum byrðingum; en áðr Austmanns son færi á brutt, gaf hann Ref skip þetta, ok þat hafði Refr haft til skemmtanar sér í eldaskálanum at smíða þar eptir.[77]
>
> (Now Gestr had a large boatshed built, and lots of wood brought up to it. A *knörr* had been wrecked on Gestr's beach; he brought up all the ship's wood. Gestr had all the timber brought to Refr's shed, together with all the ship nails. Gestr also had a quantity of unforged iron, and Refr said that he would like that brought too, declaring that he wanted to forge ship nails himself. Gestr had all manner of smithy tools brought there, likewise a forge and charcoal. [… Refr] went home and said to Gestr that such a sailing-boat would rarely have

> been seen—"because a bigger ship than this has never come out to Iceland." […] Now the news travelled widely that Refr Steinsson had built an ocean-going cargo vessel; it seemed to be remarkable news because many people thought he was a fool. It happened that a Norwegian man and his son had once stayed with his father. Refr and the Norwegian's son were the same age. The Norwegian's son had a toy ship to play with, just like a Norwegian ocean-going cargo vessel. When the Norwegian's son left, he gave the ship to Refr, which Refr kept for entertainment in the sitting room, and as a model for his woodwork afterwards.)

In this passage, many of the themes that have been explored above are united. In order to build a Norwegian-style ocean-going vessel, itself an *fáheyrð* (rare, seldom heard) feat, all possible resources must be deployed. These include enough wood to build a large boat-shed, driftwood timber and ship's nails from a wrecked *knörr*, great quantities of charcoal for the unforged iron, and a toy ship on which to model the life-sized one, gifted by a Norwegian child who comes from a heavily wooded country. The saga is highly unlikely to be historical in and of itself (Kendra Wilson refers to its 'novelistic self-consciousness',[78] while Frederic Amory describes it as a *skröksaga*, meaning false or invented).[79] Yet the underlying assumptions that support this narrative—the scarcity of wood, its need to be sourced from multiple locations, comparisons with Norway's superior shipbuilding and woodworking traditions—also support the broader picture that emerges from the *Íslendingasaga* corpus and archaeological studies. From the *landnám* onwards, the Icelanders were required to engage with the often-challenging, marginal environment in which they lived, attempting to balance the challenges of land modification with the necessities and demands of life lived as part of the Norse cultural diaspora. What *Króka-Refs saga* and other narratives demonstrate is that—albeit indirectly at times—this is as evident in the saga corpus as it is in other textual sources and the material record.

CONCLUSION

In seeking to understand the multifaceted way in which medieval Icelanders—and, by extension, human cultures more generally—thought about and engaged with the physical environment, it is necessary to consider the various practical and imaginative nuances that might be layered onto a topographical space at any given time. Taken as a whole, the Old Norse-Icelandic textual corpus reflects many of these layers, from pre-Christian cosmological ideas about the world that continued to hold cultural currency after the conversion, to the lived experience of inhabiting an island where tree growth was limited and wood resources often at a premium. In the case of the latter, saga references to woodlands, driftwood and imported timber may serve a literary function within the narratives, but this does not mean they are literary constructs without connection to a lived reality. Indeed, as new archaeological and/or scientific data continues to build a more nuanced, complex, regionally localized picture of land use and modification in medieval Iceland, it is clear that the sagas do in fact reflect this image to a significant degree. As the first generations of Icelanders modified the fragile physical environment of their island homeland, they would have had to adapt to new landscapes and a new physical reality. As part of a wider cultural diaspora reliant on trees for essentials such as building materials (ships and houses), fuel (for domestic use and charcoal production) and everyday life (tools, food, pannage, storage containers) their need for wood was of practical concern. In some Old Norse-Icelandic texts (most notably *Íslendingabók*), there does indeed seem to be an awareness of a distinction between a past with more trees and a present where some degree of deforestation has taken place. Nevertheless, a more significant, consistent feature of the saga texts is the way in which they reflect a more complex, quantifiably accurate picture of Iceland's physical environment during the middle ages. Icelandic woodlands—and therefore native tree resources needed for

activities such as charcoal-production and fuel—could indeed be scarce and in need of careful management, often controlled by those in positions of status and power. Driftwood was an important additional resource for fuel and small-scale construction, once again often controlled and managed by those who owned the land. Costlier, higher-status projects (such as the construction of ships and houses) required costlier, higher-status timber supplies from abroad, and this is the context in which they find their way into the saga narratives.

When considered together, it is the intersection between trees of the imagination and trees experienced on a day-to-day basis that can help us to understand how the human mind—and human cultures collectively—can hold multiple layers of meaning and interpretation in the perception of the physical world. Variously informed by direct experience and imagination, past memories and present realities, these different layers of understanding and imagining all come together to create a complex, imperfect, multifaceted impression of the non-human natural world, as it was perceived and experienced by the medieval Icelanders.

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[1] Guðrún Sveinbjarnardóttir, Ian A. Simpson, Amanda M. Thomson, "Land in Landscapes Circum Landnám: An Integrated Study of Settlements in Reykholtsdalur, Iceland," *Journal of the North Atlantic* 1 (2008), 1-15, 1.

[2] Richard Cleasby and Guðbrandr Vigfússon, *An Icelandic-English Dictionary* (Oxford: Clarendon Press, 1874), s.v. *skógr*, "a shaw, wood, *mörk* being a forest", p. 555.

[3] Orel, *Germanic Etymology*, s.v. *wiðuz*, p. 462. Cleasby and Vigfússon, *Dictionary*, s.v. *viðr*: "a tree… a wood… felled trees… wood… timber", p. 703.

[4] *Mǫrk* stems from the Proto-Germanic **markō*, and is cognate with OE *mearc* ("limit, term, boundary, sign"), Goth *marka* ("region, border"), OFris *merke* ("boundary"), OS *marka*

("boundary, district") and OHG *marca* ("boundary"). See Vladimir Orel, *A Handbook of Germanic Etymology*, s.v. **markō* (Leiden, Boston: Brill, 2003), p. 262.

[5] Cleasby and Vigfússon, *Dictionary*, s.v. *mörk*, p. 444.

[6] Cleasby and Vigfússon, *Dictionary*, s.v. *mörk*, p. 444.

[7] See Dolly Jørgensen, "The Roots of the English Royal Forest", *Anglo-Norman Studies* 32 (2010), 114–28, at 118.

[8] Oliver Rackham, *The History of the Countryside: The Classic History of Britain's Landscape, Flora and Fauna* (London: Phoenix), p. 130. For a lengthier discussion see "Wooded Forests: The King's Wood-Pasture", in his *Trees and Woodland in the British Landscape: The Complete History of Britain's Trees, Woods and Hedgerows* (London: Phoenix, rev. ed. 1990), pp. 164–83.

[9] For a recent discussion of the debates surrounding this question and the historiographical positions adopted see Ralph O'Connor, "History and Fiction", in Ármann and Sverrir Jakobsson, ed., *The Routledge Research Companion to the Medieval Icelandic Sagas* (Abingdon: Routledge, 2017), pp. 88–110.

[10] See Yi-Fu Tuan, *Space and Place: The Perspective of Experience* (Minneapolis: University of Minnesota Press, 1977); Yi-Fu Tuan, "Language and the Making of Place: A Narrative Descriptive Approach," *Annals of the Association of American Geographers* 81 (1991), 684–96; Tim Ingold, "The Temporality of Landscape," *World Archaeology* 25 (1993), 152–74; Tim Ingold, *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill* (Abingdon: Routledge, 2000); Monica Janowski and Tim Ingold, ed., *Imagining Landscapes: Past, Present and Future* (Farnham: Ashgate, 2012); Christopher Y. Tilley, *A Phenomenology of Landscape: Places, Paths and Monuments* (Oxford: Berg PL, 1994); Christopher Y. Tilley, *Interpreting Landscapes: Geologies, Topographies, Identities* (Walnut Creek, CA: Left Coast Press, 2010); Barbara Bender, *Contested Landscapes: Movement, Exile and Place* (London: Bloomsbury, 2001); Barbara

Bender, "Time and Landscape," *Current Anthropology* 43 (2002), 103–12, and AUTHOR 2012b, at 80–2.

[11] Bender, "Time and Landscape,", p. 103.

[12] This is a topic I explore elsewhere in the context of land-naming traditions in the Old Norse textual record. See Eleanor Rosamund Barraclough, "Naming the Landscape in the *landnám* Narratives of the *Íslendingasögur*,' *Saga-Book of the Viking Society* 36 (2012), 79–101.

[13] Bender, "Time and Landscape,", p. 107.

[14] Ingold, *Perception of the Environment*, p. 20.

[15] Ingold, "Temporality of Landscape,", p. 174.

[16] Michael D. J. Bintley, "Life-Cycles of Men and Trees in *Sonatorrek*," *Opticon 1826* (2009), 6; Michael D. J. Bintley, "Revisiting the *Semnonenhain:* A Norse Anthropogenic Myth and the *Germania* of Tacitus", *Pomegranate* 13 (2011), 146–62; Michael D. J. Bintley, "The Human Forest: People and Trees in Early Medieval England and Scandinavia", in his *Trees in the Religions of Early Medieval England* (Woodbridge: Boydell and Brewer, 2015), 129–52.

[17] Christopher Abram, *Evergreen Ash: Ecology and Catastrophe in Old Norse Myth and Literature* (Charlottesville, VA: University of Virginia Press, 2019). Description taken from the publisher's summary.

[18] Abram, *Evergreen Ash*, pp. 38–9.

[19] Abram, *Evergreen Ash*, p. 29.

[20] Carl Phelpstead, "Ecocriticism and *Eyrbyggja saga*," *Leeds Studies in English* 45 (2014), 1–18, at 4.

[21] Thomas H. McGovern, Adolf Friðriksson, 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, at 27.

[22] Andrew J. Dugmore, Thomas H. McGovern, et al., "'Clumsy Solutions' and 'Elegant Failures': Lessons on Climate Change Adaptation from the Settlement of the North Atlantic," in *A Changing Environment for Human Security: Transformative Approaches to Research, Policy and Action*, ed. Linda Synga and Karen O'Brien (Abingdon: Routledge, 2013), pp. 435–51, at 439.

[23] Thomas Amorosi, Paul Buckland, et al., "Raiding the Landscape: Human Impact in the Scandinavian North Atlantic," *Human Ecology* 25 (1997), 491–518, at 491.

[24] Amorosi, "Raiding the Landscape", p. 492.

[25] Rowan Jackson, Jette Arneborg, et al., "Disequilibrium, Adaptation, and the Norse Settlement of Greenland," *Human Ecology* 46 (2018), 665–84, at 666.

[26] Jackson, "Disequilibrium, Adaptation", p. 671.

[27] Jackson, "Disequilibrium, Adaptation", p. 666.

[28] For more see Michael D. J. Bintley, "Life-Cycles of Men and Trees in *Sonatorrek*," *Opticon 1826* (2009), 6; Michael D. J. Bintley, "Revisiting the *Semnonenhain:* A Norse Anthropogenic Myth and the *Germania* of Tacitus", *Pomegranate* 13 (2011), 146–62; Michael D. J. Bintley, "The Human Forest: People and Trees in Early Medieval England and Scandinavia", in his *Trees in the Religions of Early Medieval England* (Woodbridge: Boydell and Brewer, 2015), 129–52; Christopher Abram, *Evergreen Ash: Ecology and Catastrophe in Old Norse Myth and Literature* (Charlottesville, VA: University of Virginia Press, 2019).

[29] Andrew J. Dugmore, Thomas H. McGovern, et al., "Landscape Legacies of Landnám in Iceland: What Has Happened to the Environment as a Result of Settlement, Why Did it Happen and What Have Been Some of the Consequences," in *Human Ecodynamics in the North Atlantic: A Collaborative Model of Humans and Nature Through Space and Time*, ed. Ramona Harrison and Ruth A. Maher (Lanham, MD: Rowman and Littlefield, 2014), pp. 195–211, at 198.

[30] Mooney, "Examining Possible Driftwood Use," pp. 156–7.

[31] Margrét Hallsdóttir, *Pollen Analytical Studies of Human Influence on Vegetation in Relation to the Landnám Tephra Layer in Southwest Iceland* (Lund: Lund University, 1987). For further discussion see Andrew J. Dugmore, Mike J. Church, et al., "The Norse landnám on the North Atlantic Islands: An Environmental Impact Assessment," *Polar Record* 41 (2005), 21–37.

[32] Jakob Benediktsson, ed., *Íslendingabók, Landnámabók,* Íslenzk Fornrit, 1 (Reykjavík: Hið íslenzka fornritafélag, 1968) p. 5.

[33] Jón Jóhannesson, ed., *Fljótsdæla saga*, in *Austfirðinga Sǫgur*, Íslenzk Fornrit, 11 (Reykjavík: Hið íslenzka fornritafélag, 1950) p. 241.

[34] Björn K. Þórólfsson and Guðni Jónsson, ed., *Gísla saga Súrssonar*, in *Vestfirðinga sǫgur*, Íslenzk Fornrit, 6 (Reykjavík: Hið íslenzka fornritafélag, 1943), p. 86.

[35] Einar Ól. Sveinsson, ed., *Laxdœla saga*, Íslenzk Fornrit, 5 (Reykavík: Hið íslenzka fornritafélag, 1934), p. 165.

[36] Jóhannes Halldórsson, ed., *Kjalnesinga saga*, Íslenzk Fornrit, 14 (Reykjavík: Hið íslenzka fornritafélag, 1959), p. 5.

[37] Abram, *Evergreen Ash*, p. 104.

[38] Abram, *Evergreen Ash*, p. 104.

[39] See also Paul C. Buckland, Andrew J. Dugmore, et al., "Holt in Eyjafjallasveit, Iceland: A Palaeoecological Study of the Impact of Landnám," *Acta Archaeologica* 61 (1991), 252–71, where similar claims for deforestation and erosion in Southern Iceland are put forward.

[40] Dugmore, "Landscape Legacies", p. 31.

[41] Ian A. Simpson, Orri Vésteinsson, et al., "Fuel Resource Utilisation in Landscapes of Settlement," *Journal of Archaeological Science* 30 (2003), 1401–20, at 1415.

[42] Mike J. Church, Andrew J. Dugmore, et al., "Charcoal Production During the Norse and Early Medieval Periods in Eyjafjallahreppur, Southern Iceland," *Radiocarbon* 49 (2007), 659–72, at 669.

[43] Andrew J. Dugmore, Mike J. Church, et al., "Abandoned Farms, Volcanic Impacts and Woodland Management: revisiting Þjórsárdalur, the 'Pompeii of Iceland'," *Arctic Anthropology* 44 (2007), 1–11.

[44] Guðrún Sveinbjarnardóttir, Ian A. Simpson, et al., "Land in Landscapes Circum Landnám: An Integrated Study of Settlements in Reykholtsdalur, Iceland," *Journal of the North Atlantic* 1 (2008), 1–15, at 1.

[45] Thomas H. McGovern, Adolf Friðriksson at 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, at 45.

[46] Dawn E. Mooney, "Examining Possible Driftwood Use in Viking Age Icelandic Boats," *Norwegian Archaeological Review* 49 (2016), 156–76.

[47] Dawn E. Mooney, "An Archaeobotanical Perspective on Wooden Artefacts from Medieval Reykjavík," in *Objects, Environment and Everyday Life in Medieval Europe*, ed. Ben Jervis, Lee G. Broderick and Idoia Grau Sologestoa, (Turnhout: Brepols, 2016), pp. 41–66, at 54–5.

[48] Lísabet Guðmundsdóttir, "Wood Identifications on Wood Remains from Various Buildings from the Archaeological Investigation at Hrísbrú," 1–37, at 33. http://www.viking.ucla.edu/mosfell_project/reports/wood_hrisbru.pdf

[49] Rebecca Conway, *Stumped in the Sagas: Woodland and Wooden Tools in the Íslendingasögur* (unpubl. MA, University of Iceland), abstract.

[50] Jorge Luis Borges, "The Argentine Writer and Tradition," in *Selected Non-Fictions*, ed. Eliot Weinberger (New York: Penguin, 1999), 423.

[51] Einar Ól. Sveinsson and Matthías Þórðarson, ed., *Eyrbyggja saga*, Íslenzk Fornrit, 4 (Reykjavík: Hið íslenzka fornritafélag, 1935), p. 90.

[52] Ingold, "Temporality of Landscape", pp. 159 – 60.

[53] Jón Jóhannesson, ed., *Ǫlkofra saga*, in *Austfirðinga sǫgur*, Íslenzk Fornrit, 11 (Reykjavík: Hið íslenzka fornritafélag, 1950), pp. 84–5.

[54] For example, Guðrún Sveinbjarnardóttir, "Land in Landscapes", Dugmore, "Landscape Legacies".

[55] See Dawn E. Mooney, "Does the 'Marine Signature' of Driftwood Persist in the Archaeological Record? An Experimental Case Study from Iceland," *Environmental Archaeology* 23 (2018), 217–27.

[56] Guðni Jónsson, ed., *Grettis saga Ásmundarsonar*, Íslenzk Fornrit, 7 (Reykjavík: Hið íslenzka fornritafélag, 1936), p. 238.

[57] Guðni Jónsson, *Grettis saga*, p. 250.

[58] Sigurður Nordal, ed., *Egils saga Skalla-Grímssonar*, Íslenzk Fornrit, 2 (Reykjavík: Hið íslenzka fornritafélag, 1933), p. 75.

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[62] Sigurður Nordal, *Egils saga*, p. 75.

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[70] Einar Ól. Sveinsson, *Vatnsdœla saga*, p. 43.

[71] Einar Ól. Sveinsson, *Vatnsdœla saga*, pp. 44–5.

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[73] Einar Ól. Sveinsson, *Laxdœla saga*, p. 165.

[74] Einar Ól. Sveinsson, *Laxdœla saga*, p. 78.

[75] Einar Ól. Sveinsson, *Laxdœla saga*, p. 78.

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