

**SAGAS FOR SUSTAINABILITY? COMMONS, CONFLICT AND
COOPERATION IN THE SAGAS OF ICELANDERS**

**¿SAGAS PARA LA SOSTENIBILIDAD? BIENES COMUNES, CONFLICTO Y
COOPERACIÓN EN LAS SAGAS DE LOS ISLANDESES**

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Abstract: Natural resources managed as commons are often discussed following one of two opposed narratives: either Garret Hardin's pessimistic "tragedy of the commons" (assuming their inherent unsustainability), or Elinor Ostrom's optimistic account of the commons as resource systems that are sustainable over the long term. This article analyzes stories from the medieval sagas of Icelanders in which natural resources managed as commons play an important role. In all the examples, these resource systems appear as either vulnerable or failing. However, close readings reveal that an interpretation based on Hardin's "tragic" narrative fails to grasp the underlying meaning of these stories. In almost all cases, the sagas use various narrative means to characterize in negative ways those who endanger or terminate commons. The sagas depict egoistic and aggressive behavior as being wrong and highlight modesty and cooperation as an implicit (and sometimes explicit) ideal in the use of commons. The frequency and prominence in the sagas of stories that frame commons in this way, suggests that these stories had an important function in medieval Icelandic society: the promotion of norms, values and behavior that could facilitate long-term sustainability in the management of natural resources as commons.

Keywords: commons, sustainability, medieval literature, environmental humanities

Resumen: El estudio de recursos naturales, gestionados como bienes comunes, suele basarse en una de estas dos teorías opuestas: la perspectiva pesimista de la tragedia de los (bienes) comunes de Garret Hardin, "tragedy of the commons" (asumiendo su insostenibilidad inherente), o el argumento optimista de Elinor Ostrom que presenta los bienes comunes como sistemas de recursos que a la larga resultan ser sostenibles. Este artículo analiza historias de las sagas medievales de los islandeses en los que la gestión comunal de los recursos naturales juega un papel relevante. En todos los casos, este sistema se presenta como vulnerable o fallido. Sin embargo, una lectura detallada muestra que una interpretación basada en el discurso "trágico" de Hardin no es suficiente para entender el verdadero significado de estas historias.

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En casi todos los casos, las sagas usan distintos métodos narrativos para caracterizar de forma negativa a aquellos que ponen en peligro, o acaban con, los bienes comunes. Las sagas presentan comportamientos egoístas y agresivos como algo erróneo, y destacan la modestia y la cooperación como ideales implícitos (y a veces explícitos) en el uso de los bienes comunes. La frecuencia y prominencia en las sagas de historias que enmarcan los bienes comunes de este modo sugiere que estas historias tenían una importante función en la sociedad medieval islandesa: la de promover normas, valores y conductas que pudieran facilitar la sostenibilidad a largo plazo en la gestión de los recursos naturales como bienes comunes.

Palabras clave: bienes comunes, sostenibilidad, literatura medieval, humanidades ambientales

Introduction

The stories we tell about the environment affect our interactions with it. This is a foundational insight for the emerging field of the environmental humanities. Environmental humanities scholars explore how values, meaning-making processes, and not least, narratives affect what humans perceive as environmental problems and how they choose to deal with these.² The way storytelling structures human experience of the environment is a central object of research in ecocriticism – that is, literary and cultural studies with a focus on environmental issues – in particular. Like environmental history, ecocriticism examines “how texts are entangled with and address the larger processes by which societies conceptualize and manage their environment” (Bergthaller et al., 2014, p. 272).

Environmental problems such as anthropogenic climate change, mass species extinction, and the global degradation of ecosystems have recently led to calls for new stories that may help us to respond appropriately to these challenges. As the editors of a recent short-story collection on the theme of climate change express it: “We live our lives through stories, and if we want to create a thriving, sustainable world, we will need to change our story” (O’Brien et al., 2019, p. vi). However, there is no consensus on what kind of stories will be most useful in this regard. As ecocritic Ursula Heise notes, there is an ongoing “vigorous debate between

² For a recent overview of and introduction to the environmental humanities, see Emmett & Nye, 2017.

different strains of the environmental movement over what story templates will prove to be most effective in the future" (2017, p. 7).

This focus on a declared need for new narratives tends, however, to overlook how, for a long time, humans have in fact used storytelling as a tool to promote sustainability. In this article, I argue that many of the stories contained in the medieval sagas of Icelanders (*Íslendingasögur*) are likely to have had such a function regarding the sustainable management of a specific type of natural resources: the commons.

Commons – that is, resources whose use is not restricted to one single party, but which have more than one user – have, in the environmental debate of the last 50 years, become inextricably linked to questions of sustainability. The starting point was Garrett Hardin's influential essay "The Tragedy of the Commons" (1968), in which Hardin assumes that using resources as commons will inevitably lead to their degradation and depletion. Other researchers, most prominently Elinor Ostrom, have claimed that commons have enormous potential for long-term sustainable resource management.

Environmental historian William Cronon emphasizes that the way in which scholars recount human-environment interactions is itself inevitably structured in a narrative way, often leading to greatly diverging framings of the same source material (Cronon, 1992). This is also the case with Hardin's and Ostrom's narrative framings of the commons, which are based on two different plots: one with a tragic outcome, the other one with a happy ending.

This article focuses on source material that itself is obviously narrative. The sagas of Icelanders tell many stories about the use of commons in the past – that is, several hundred years before the sagas themselves were written down. Yet what kind of stories are these? Do commons figure in them as a "tragic" or a sustainable form of resource use? And what social function can the sagas' frequent narrative framing of commons have had in medieval Icelandic society?

To answer these questions, I will first, with Hardin's and Ostrom's positions as points of departure, outline the controversial contemporary narratives that have been established regarding the commons. I will then, against this background, provide close readings of several examples from the sagas where commons play an important role, and analyze these based on the above questions.

Hardin's and Ostrom's Narratives of the Commons

Hardin published his essay "The Tragedy of the Commons" in the journal *Science* in 1968. Although his actual interest is the question of human population growth, his most prominent example used to illustrate the unsustainability of the commons is "a pasture open to all" (Hardin, 1968, p. 1244). He argues that, since "[a]s a rational being, every herdsman seeks to maximize his gain" (p. 1244), everybody will keep as many animals on that pasture as possible. Consequently, the pasture will degrade due to overgrazing, and in the end, it will inevitably be destroyed: "the inherent logic of the commons remorselessly generates tragedy" (p. 1244). According to Hardin, therefore, "[f]reedom in a commons brings ruin to all" (p. 1244). In Hardin's eyes, appeals to individual consciousness and moderation in the use of commons are futile, since no one wants to be a fool who refrains from taking short-term advantage while others do not exercise the same restraint. The only solutions Hardin sees are therefore to turn commons into private property with mechanisms for legal inheritance, despite the injustice that it would necessarily involve, or to introduce public coercion that would enforce changed behavior.

Hardin's argument that commons will necessarily be ruined through overuse and that managing commons sustainably is impossible has been highly influential (cf. Daniels, 2019, p. 93), even though Hardin's essay is not based on any research on existing or former commons. This is one of the points of criticism brought forward against Hardin by Elinor Ostrom in her study *Governing the Commons: The Evolution of Institutions for Collective Action* (1990). Ostrom argues that neither state ownership nor private property have historically proven to be more efficient forms of managing natural resources than commons, and that indeed nationalization and privatization often have been detrimental to the long-term maintenance of resource systems. According to Ostrom, the main problem with Hardin's approach to the commons is the implied assumption that the users of natural resources are not capable of communicating with each other and of creating and changing rules, and that thus external intervention would always be necessary in order to prevent a negative outcome.

In her study of the commons, Ostrom uses the term "common pool resource" (CPR) for "a natural or man-made resource system that is sufficiently large as to make it costly (but not

impossible) to exclude potential beneficiaries from obtaining benefits from its use”, and calls those who withdraw “resource units” from such a system “appropriators” (Ostrom, 1990, p. 30). She argues that there are many examples of CPRs – such as forests, irrigation systems, inshore fisheries, pastures, and hunting grounds – that have been managed successfully and preserved over long periods of time, often many hundreds of years. Analyzing specific cases of successful, still existing commons, some of which can be traced back at least to the Middle Ages, Ostrom finds that these were not “open to all” as assumed by Hardin. Indeed, access to, for example, mountain pastures in Törbel in Switzerland was restricted to citizens of the municipality, and there were detailed rules regulating who could graze animals, how many they could graze, and during which periods of time. Through such protection from overgrazing, the mountain pastures’ productivity had been not only maintained, but even improved, for example, through weeding and manuring (p. 63-64). Ostrom finds similar results for other types of CPRs in places as varied as Japan, the Philippines and Spain. According to Ostrom, their “most notable similarity [...] is the sheer perseverance manifested in these resource systems and institutions. The resource systems clearly meet the criterion of sustainability” (p. 89).

Ostrom admits that Hardin’s assumptions may be “useful for predicting behavior in large-scale CPRs in which no one communicates, everyone acts independently, no attention is paid to the effects of one’s actions, and the costs of trying to change the structure of the situation are high” (p. 183). She even concedes that there is an “ever present temptation to free-ride” (p. 32) in all kinds of CPRs and discusses several cases of failed or failing and therefore unsustainable CPRs. Yet her main point is that the “tragedy of the commons” is not inevitable, and that long-term sustainability is indeed possible.

It can be said that, while Hardin’s basic premise is that humans are egoistic, competitive and focused on short-term profit, Ostrom assumes humans to be cooperative and to be capable of acting together for their own and others’ benefit in a long-term perspective. These assumptions result in two opposed narratives: a pessimistic one, in which commons necessarily result in a (socio-)ecological catastrophe, and an optimistic one, in which commons can not only be sustained in a long-term perspective, but even potentially yield greater benefits than other forms of resource use. I will, in the following sections, analyze to what extent

elements of these two narratives also shape the stories about commons featured in the sagas of Icelanders. I will mainly apply Ostrom's analytical terminology in my analysis (with terms such as "resource units" and "appropriators"), since it is more specific than Hardin's and thus better suited to discussing a variety of relevant details regarding the sagas' narrative framing of CPRs.

The Commons in the Sagas

The sagas of Icelanders were written in pre-modern Iceland, mainly during the 13th and 14th centuries. However, the stories told in them are mostly set in the 9th to 11th centuries, and thus in the period during which Iceland was settled and Icelandic society emerged and developed. This was primarily a farming society, and almost all the main characters in the sagas are farmers (cf. Byock, 2001, p. 23). This entails that the texts also contain a wealth of references to agriculture-related resources and activities, to an extent that is unique in medieval European literature.

CPRs figure in the sagas in many forms, such as mountain pastures, beaches, fisheries, grain fields, hay meadows, and forests. It is not possible here to discuss all of the numerous mentions of CPRs in the sagas, and I will therefore have to limit my analysis to cases that are especially significant and narrated in sufficient detail to be instructive with regard to the above research questions. It is also important to note that, while the sagas most often refer to real places and some of the CPRs mentioned in them indeed can be identified in Iceland, the actual past existence of these CPRs is not crucial for my argument. My focus is not on the sagas' historical accuracy in their accounts of CPR use, but on the underlying narratives and their implications.

These implications, or a kind of "message" concerning CPR use conveyed in these stories, may not necessarily be expressed in a direct way. The sagas of Icelanders are known for their seemingly objective style of narration (cf. Vésteinn Ólason, 2005, p. 105-106). Usually, focalization is limited to an external perspective, with the narrator not having insight into characters' thoughts and feelings. The narrator often quotes oral sources and tends (in most texts) to refrain from any explicit judgement or explanatory comments. However, as Lars

Lönnroth notes, “each saga also manages to convey the idea that certain ethical norms exist, against which characters as well as actions can be measured” (1970, p. 157). Preben Meulengracht Sørensen likewise argues that the sagas put their audiences in the position of judges evaluating the narrated events, with the texts providing various clues for which norms are to be considered as valid in this regard (1993, p. 210-211). The sagas convey such norms, for example, through the way they introduce characters, which often involves rather explicit judgements, making it possible for the audience to classify a character and to develop certain expectations as to his or her behavior. Another way norms are conveyed is through references to public opinion concerning a character or this character’s actions, or judgements uttered by other characters (usually in the form of direct speech). While according to Lönnroth, the quoted public opinion and the narrator’s own views usually are identical (1970, p. 170), Joanne Shortt Butler argues that there are cases where these do not match, especially in some of the outlaw sagas where the “hero” is showing socially aberrant behavior condemned by the public, but still has the sympathy of the narrator (Butler, 2019). Overall, however, it is usually possible to clearly discern whose behavior is to be appreciated, and whose is to be condemned, and thus what sort of moral is to be deduced from the story.

It is therefore important to focus not only on plot, but also on the specific combination of characters with a particular type of setting (a CPR) in the stories that the sagas tell about the use of commons. It is this combination of plot, character and setting that makes it possible to draw conclusions about an intended interpretation of these stories’ framing of the management (or mismanagement) of CPRs.

Vulnerable commons

The sagas feature basically two types of CPRs: those that appear as vulnerable, and those that fail. In the following, I will first discuss examples of CPRs that are threatened, but that do not (or not plainly) cease to exist as commons, and that thus can be categorized as vulnerable.

The common mountain pasture in Hávarðar saga Ísfirðings

Just as Hardin's essay, with its prominent example of a "pasture open to all" (Hardin, 1968, p. 1244), the sagas feature stories in which jointly used pastures figure as motifs. This means in most cases mountain pastures, called *afréttir*, which are historically documented to have existed in many parts of Iceland. Sheep and horses were driven up to *afréttir* in spring and down again in autumn. However, the *afréttir* were clearly not "open to all"; to the contrary, detailed legal provisions existed, regulating among other things the number of sheep and the length of the grazing period (cf. Thráinn Eggertsson, 1992).

Heiðarvíga saga tells not only how rules are set requiring every farmer to mark his livestock in an unambiguous way, but also how a local chieftain takes up the task of monitoring adherence to these rules and rigorously sanctions their transgression (cf. *Heiðarvíga saga* 226-229). Another aspect in which the *afréttir* in the sagas differ from Hardin's pasture (and rather resemble Ostrom's examples) is that they do not end in "ruin". There is no indication in any saga of overgrazing and subsequent degradation of vegetation and soil.³ Yet while ecological degradation in the sagas never appears as a threat to these CPRs, an issue not considered by Hardin but acknowledged by Ostrom does: that of free riders withdrawing resource units from the CPR although they don't have a legal right to them. *Heiðarvíga saga*, for example, mentions that the original impetus for developing the earmark system was that people suspected outlaws or neighbors of stealing animals from the *afréttir* (226).

Hávarðar saga Ísfirðings also mentions the problem of finding all the animals, since these are spread over a wide area. When, one fall, people are missing many of their sheep from the mountain pastures, a young man, Óláfr Hávarðsson, searches the mountains on his own initiative, finds many of the animals and returns them to their respective owners. He does so even in the following two years. However, a local *goði*, Þorbjörn, believes that when Óláfr comes to his farm with the missing animals, he is starting a relationship with Þorbjörn's housekeeper Sigríðr. Þorbjörn, not willing to tolerate this, assaults Óláfr and kills him (cf. *Hávarðar saga Ísfirðings* 294-307).

³ Soil erosion, although constituting a considerable problem already in Viking Age Iceland, barely ever figures as a motif in the sagas (cf. Hennig, 2019, pp. 332-334).

While this story gives an idea of the difficulty of monitoring a CPR stretched out over a wide area, it can hardly serve as an example of Hardin's tragedy. The pasture is obviously not "open to all", but only to the local community of farmers, and it is not destroyed by overuse. It thus shows more similarity with Ostrom's examples of CPRs. However, the saga makes clear what is to be considered appropriate or inappropriate behavior in the use of common mountain pastures. Óláfr, with his unselfish helpfulness, seems very much to function as a role model. He is described as "manna gørviligastr" (*Hávarðar saga Ísfirðings* 292) ["the most capable man"] and as "inn efniligasti maðr" (304) ["the most talented man"].⁴ He is a prime example of good cooperation, working for the common good of all users of the CPR. The narrator states twice that Óláfr becomes very "vinsæll" (295 and 296) ["popular"] because of this. Þorbjörn, on the other hand, is exclusively characterized in negative ways in the saga. He is "inn mesti ójafnaðarmaðr" (291) ["the most overbearing man"], he shows "ódrengskap" (300) ["meanness"] in dealings with his neighbors, and one character calls it a "skömm" (306) ["shame"] that Þorbjörn (having two supporters with him) uses superior numbers to overcome Óláfr. The saga thus barely leaves any doubt that Óláfr's example is the one to be imitated, while behavior such as Þorbjörn's is to be rejected. Not egoism and conflict, but cooperation, is showcased as a social ideal in the use of a pasture CPR.

The Almenningar eystri in Fóstbræðra saga

Another CPR of considerable size are the Almenningar eystri in the Strandir region, an area where people from this quarter of the country had the right to exploit stranded whales and other resources during a certain period of the year. In *Fóstbræðra saga*, the sworn brothers Þorgeirr and Þormóðr frequently travel there to provision themselves. Þorgeirr, hearing that a man called Þorgils Máksson has found a whale and is cutting it, confronts Þorgils and demands a share of the whale. When Þorgeirr finds a compromise suggested by Þorgils not acceptable, he kills Þorgils in a fight and takes the entire whale for himself. As a result, Þorgeirr becomes outlawed (cf. *Fóstbræðra saga* 147-149).

⁴ All translations in this article are my own.

It may appear as if the free availability of resources on the Almenningar fuels the egoism of the two parties involved here. With each of them wanting to withdraw as many resource units as possible, conflict becomes inevitable. Yet such a Hardin-based reading overlooks that clear rules for the use of the Almenningar, including the appropriation of stranded whales, are stipulated in law codes such as *Grágás* (186-187). Even though in the case of the Almenningar the number of those with use rights is high, it is not unlimited: the beaches there are not “open to all” as the pasture pictured by Hardin is, but only to inhabitants of the quarter. Þorgeirr, who doesn’t have a permanent residence there, thus has a rather dubious claim to the whale.⁵

Also, while the narrator presents Þorgils Máksson as “góðr búþegn” (148) [“a good farmer”], Þorgeirr appears as a more ambivalent character in the saga. While the narrator clearly admires Þorgeirr’s courage (cf. *Fóstbræðra saga* 128, 133, and 208), there can be no doubt that much of what Þorgeirr does is considered wrong by his contemporaries. Þorgeirr and Þormóðr “váru eigi vinsælir, tölðu margir þá ekki vera jafnaðarmenn” (125) [“were not popular; many people said they were not fair men”]. During their repeated trips to the Almenningar, they cause “mikil óhögendi” (134-135) [“a lot of trouble”] for many people: “Hafa þeir þat af hverjum manni, sem þeir kveðja” (142) [“they take from everyone what they want”] and “váru þar allir menn hræddir við þá” (149) [“everyone there was afraid of them”].

It is therefore clear that the sworn brothers’ behavior is not in accordance with the social (and legal) norms of their time. While they are the main characters of the saga and thus are described with some sympathy by the narrator, their actions on the Almenningar are not meant to be imitated. In Þorgeirr’s case, they even lead to him being outlawed and (indirectly) to his violent death sometime later. Þorgils (although described in much less detail) appears as the opposite of the troublemaker Þorgeirr, and his willingness to compromise and to share the resources on the Almenningar appears better suited to providing a role model. Thus, while the CPR in question is vulnerable regarding potential conflict, the saga implies cooperation as an ideal for its use.

The fishing place Bjarneyjar in Laxdæla saga

⁵ In *Grettis saga*, which describes the court case in more detail, this argument is used against Þorgeirr; cf. *Grettis saga Ásmundarsonar* 93.

Laxdæla saga contains a rare example of a large-scale commons that indeed seems to fulfill Hardin's criterium of being open to all – the archipelago of Bjarneyjar in Breiðafjörður:

“Þær eyjar eru margar saman ok váru mjök gagnauðgar. Í þann tíma sóttu menn þangat mjök til veiðifangs; var ok þar fjölmennt mjök öllum missarum. Mikit þótti spökum mönnum undir því, at menn ætti gott saman í útverjum; var þat þá mælt, at mönnum yrði ógæfra um veiðifang, ef missáttir yrði; gáfu ok flestir menn at því góðan gaum.” (29)

[“these are many islands and they were very productive. At that time, people drew there a lot for fishing. There were many people there every year. Wise men considered it very important that people cooperated well in outlying fishing places. It was said at that time that people would be less fortunate regarding catches if discord arose. Most people complied well with that.”]

In the saga, Hallr, the brother of a local chieftain, travels there for fishing. He shares a boat with another man, Þórólfr. One evening, when they are to divide the catch, Hallr tries to defraud Þórólfr, justifying this with his higher social position. Þórólfr is forced to withdraw, while Hallr takes the entire catch for himself. A short time later, Þórólfr takes revenge on Hallr by killing him (cf. *Laxdæla saga* 28-30).

A Hardin-based reading might argue that the status of the fishing grounds as a CPR necessarily fuels Hallr's egoism and greed. However, based on Ostrom, one might object that even in this CPR from which, it seems, everyone with a boat can freely appropriate resources, rules exist. These rules prescribe cooperation and the avoidance of conflict and are justified by the belief that discord would lead to reduced yields from the CPR, possibly even its devastation. It is not clear from the saga if the conflict between Hallr and Þórólfr indeed results in a degradation of the CPR, even though the use of the past tense in the description of the islands' productivity may indicate such an outcome.

What is quite clear, however, is that Hallr is described as acting in the wrong way. On the one hand, he breaks the social contract pertaining to all users of the CPR. On the other hand, he generally appears as a problematic character in the saga. The narrator states that most people judged Hallr not to be a “nytjungur” (*Laxdæla saga* 28) [“useful man”] and he is shown to behave in a markedly arrogant way. Hallr appears thus as an unlikeable person, who is doing the opposite of what the social norms for the use of the fishing place prescribe: he chooses conflict, instead of the cooperation that is expected from everyone appropriating

resources from the CPR. Had he behaved according to the rules, neither the common fishing grounds nor his own life would have been endangered.

The forest in Njáls saga

A CPR that is much smaller than in the previous examples plays an important role in *Njáls saga*. Two of the saga's main characters, Njáll and Gunnarr, share a forest which is described in the following way: "Peir áttu skóg saman Gunnarr ok Njáll í Rauðaskriðum; þeir höfðu ekki skipt skóginum, en hvárr var vanr at höggva sem þurfti, ok talði hvárrgi á annan of þat" (*Brennu-Njáls saga* 92) ["Gunnar and Njáll owned a forest together at Rauðaskriður. They had not parceled out the forest, and both used to cut down trees as needed and none of them reproached the other for it"].

The starting situation is thus a CPR with use rights restricted to two parties, Gunnarr and Njáll, but without any internal rules for resource withdrawal. Cooperation in the use of the CPR nevertheless works well, because it is based on Gunnarr's and Njáll's long-lasting friendship and mutual trust. Cooperation and self-restraint are obviously pre-supposed by both sides, making any overuse and subsequent degradation of the forest unlikely, since neither of the two parties using the CPR would act purely egoistically.

However, conditions change with the growing hostility between Gunnarr's wife Hallgerðr and Njáll's wife Bergþóra. Only a few months after a first (purely verbal) quarrel between the two women, and while both men are away at the Alþingi, Hallgerðr gets to know that Bergþóra has sent a farm hand, Svartr, to the forest to spend a week there and cut down trees for her. Hallgerðr exclaims that Bergþóra plans "at ræna mik mǫrgu" (93) ["to deprive me of much"] and has her overseer Kolr kill Svartr. Even though this has no negative impact on the friendship between Gunnarr and Njáll, it is, in the saga, the first act of actual, physical violence in a thenceforward escalating conflict that culminates in the killing of Gunnarr and the burning of Njáll and his family in their house. In this way, a disagreement about the use of a CPR stands at the beginning of one of the longest and bloodiest feuds in medieval Icelandic literature.

It is possible to read the story about the woodland in terms of Hardin's tragedy of the commons. Hallgerðr assumes that Bergþóra is withdrawing too many resource units from the woodland than is possible if this principally renewable resource is to be sustained over time. Thus, her own chances of appropriating resource units from the CPR would be negatively affected in the future. The average rate of replenishment, at least as Hallgerðr assesses the situation, is exceeded, and Hallgerðr as the other user of the CPR will be disadvantaged if she doesn't take as many resource units out of the system as Bergþóra does. Following Hardin, Hallgerðr, acting rationally (that is, egoistically), would likewise have to start overexploitation of the forest in order to not be disadvantaged and fooled, and the final devastation of the forest and thus a tragedy of the commons would be the inevitable result. Hallgerðr, however, decides instead to stop Bergþóra's withdrawal of resource units through having Svartr killed. It is not clear from the saga how the forest is used later on and whether it is ruined by overuse. Neither is there any indication of whether Bergþóra's appropriation of wood via Svartr indeed constitutes an unsustainable use, transgressing the previous amount of resource units withdrawn from the CPR, or if this is only the biased opinion of Hallgerðr. The forest thus certainly constitutes a vulnerable CPR, but not necessarily a failed one.

In a reading based on Ostrom, the actual problem is that the two parties with use rights to the CPR haven't set any rules for the appropriation of resource units from the forest, making any assessment of the right or sustainable amount to be withdrawn by either side difficult if not impossible. Had there been clear rules (and a monitoring system) in place, the conflict (and possibly even the subsequent acts of violence) could have been avoided.

However, a close reading of the saga indicates that neither of these two interpretations conforms with the actual message behind the story of this resource conflict. Hallgerðr is frequently described in negative ways, both by the narrator and by other characters in the saga, especially by her uncle Hrútr. She is "skaphǫrð" (29; "hǫrð í skapi", 31) ["harsh of mood"], "blandin mjök" (86) ["of dubious character"] and full of "ofmetnað" (31) ["pride"]. She is also responsible for the murder of her first husband. When Njáll learns of Gunnarr's engagement to Hallgerðr, he predicts that she will cause "allt it illa" (87) ["everything bad"]. Even when Hallgerðr is still a child, Hrútr (who tends to make prophesies that come true)



states that she has “þjófsaugu” (7) [“a thief’s eyes”],⁶ which puts her accusations against Bergþóra into a dubious light: she, herself being considered a thief, complains about theft of wood, although the absence of rules for resource withdrawal from the forest doesn’t allow for such a classification. In addition, Kolr, whom Hallgerðr instructs to murder Svartr, is called “it mesta illmenni” (92 and 93) [“the worst villain”] both by herself and by the narrator, casting what he does on behalf of Hallgerðr in an even more negative light. Hallgerðr’s escalation of the conflict thus clearly appears as wrong, even though Bergþóra also seems to bear some responsibility for the dispute about use of the CPR. Bergþóra is introduced in the saga in more positive terms as “kvenskörungur mikill ok drengur góðr” (57) [“an excellent and good-hearted woman”], but she is, just as Hallgerðr, also called “skaphörð” (57) [“harsh of mood”]. It is also Bergþóra who first offends Hallgerðr and thus causes the enmity between the two women (cf. *Brennu-Njáls saga* 91).

This readiness of the two women to engage in conflict stands in notable contrast with the qualities embodied by Gunnarr and Njáll. Gunnarr is, among other positive attributes, called “stilltr vel, vinfastr ok vinavandr” (53) [“self-controlled, faithful to friends and choosing his friends carefully”], while Njáll is “vitr [...], heilráðr ok góðgjarn, [...] hógværr ok drenglyndr, langsýnn ok langminnigr; hann leysti hvers manns vandræði, er á hans fund kom” (57) [“wise [...], offering good advice, full of good intentions [...], sociable, noble-minded [...] and he resolved the problems of everyone who went to see him”]. These characteristics are what enable the two friends to manage the forest together as a CPR. Their conflict-free cooperation appears in the saga as an ideal and thus as a model for imitation, while the behavior of Hallgerðr and Bergþóra not only risks the future of the CPR, but also clearly deviates from the dominant social norms and leads, if not to ecological ruin, at least to social tragedy.

⁶ Cf. Lönnroth, 1970, p. 168.

Failed commons

Besides CPRs that appear as threatened and thus vulnerable, there are also numerous examples in the sagas of CPRs that indeed fail. These include not only cases where the resource system in question is destroyed by unsustainable use, but also cases where a CPR is transformed into private property and thus ceases to be managed as a CPR.

The forest in Vápnfirðinga saga

While in *Njáls saga*, the later fate of Gunnarr's and Njáll's forest remains unclear, *Vápnfirðinga saga* tells about a forest CPR that clearly fails. Two neighbors, Þórðr and Þormóðr, "áttu skóg saman, ok skilði þá á um skógarhöggit [...], ok þóttisk Þórðr mjök vanhaldinn fyrir Þormóði" (*Vápnfirðinga saga* 38) ["owned a forest together, but they were in disagreement with each other about the felling of trees [...] and Þórðr reckoned himself to be greatly disadvantaged by Þormóðr"]. Þórðr asks the chieftain Brodd-Helgi for support, but in return, Helgi demands that the right to inherit Þórðr's property is transferred to him, which Þórðr agrees to. Soon after, Helgi and his men "hjuggu upp allan skóginn ok drógu hvert tré heim til Hofs" (39) ["cut down the entire forest and drew all the trunks home to Hof"], which is Helgi's farmstead. Þormóðr, who is a *þingmaðr* of another chieftain, Geitir, complains to the latter about this "óþfnuðr" (39) ["injustice"], but is killed by Helgi when he attempts to bring the case to court (cf. *Vápnfirðinga saga* 38-41)

In a superficial reading, one might argue that this is a case of a tragedy of the commons. Þórðr first thinks that Þormóðr is acting egoistically and withdrawing too many resource units from the CPR, and then Helgi acts egoistically to pre-empt any action from the other side. He withdraws *all* resource units and thus destroys the entire CPR. However, the forest here is, unlike Hardin's pasture, not "open to all": its use is restricted to Þórðr and Þormóðr. That Helgi, taking over Þórðr's use right, appropriates all the wood from the forest, is clearly a violation of existing rules.

The saga does not in any way indicate whether Þórðr's complaint about Þormóðr is justified. However, Helgi's characterization in the saga makes it clear that he acts in the wrong

way when destroying the CPR. While Helgi, as a young man, acquires popularity in the region through the killing of an outlaw, the narrator introduces him also as being “ódæll ok óvægr” (23) [“quarrelsome and relentless”] and as “margbreytinn” (23) [“capricious”]. The outlaw killed by Helgi has cursed him, and it seems that the curse is taking effect when Helgi spoils his initially very close friendship with Geitir due to disputes over financial matters. One character in the saga also calls Helgi “stórlátr ok féfjarn” (29) [“overbearing and greedy”]. His hostility against Geitir is Helgi’s actual motivation for devastating the forest and killing Þormóðr, actions that contribute to changing Helgi’s reputation from one of being popular to one of being considered “ójafnaðarmaðr mikill” (47) [“a very overbearing man”], not only by Geitir’s *þingmenn* but also by others in the wider region. Geitir, on the other hand, is never described in such negative terms; the only way in which the narrator characterizes him is as “spekingr mikill” (28) [“a very wise man”]. The destruction of the forest therefore appears in the saga not as an inevitable result of its status as a CPR, but rather of Helgi’s unjust behavior. The main mistake regarding the forest seems to be that Þórðr involves Helgi in the dispute with Þormóðr, which leads to a situation where everyone loses (even Helgi, since the conflict in the long run results in his own death). A more likely message that can be read from this story than the inevitability of the tragedy of the commons is therefore the importance of good cooperation in the management of a CPR and the avoidance of involving external parties, who may have other interests than sustaining the CPR.⁷

The barley field in Víga-Glúms saga

A similar case can be found in *Víga-Glúms saga*, which tells how, through inheritance, landed property at Þverá is divided up between two families, the one represented mainly by Ástríðr and her son Glúmr, and the other by Þorkell inn hávi and his son Sigmundur. The property includes a barley field that, through this division, is transformed into a CPR: “En þau gœði fylgðu mest Þverárlandi, þat var akr, er kallaðr var Vitazgjafi, því at hann varð aldregi

⁷ Another failed forest CPR is Goðaskógr in *Ólkofra þáttr*. This forest, jointly owned and used by six *goðar*, is, however, destroyed not by overuse, but through an accident (a fire in a neighboring forest that gets out of control).

ófrær; en honum hafði svá skipt verit með landinu, at sitt sumar hofðu hvárir” (*Víga-Glúms saga* 22) [“The most important good belonging to the land at Þverá was a field which was called Vitazgjafi because it was never barren. The field had become divided such that each side had it every second summer”].

While Glúmr is abroad in Norway, Þorkell and Sigmundur accuse some of Ástríðr’s slaves of having stolen two of their heifers and seize Vitazgjafi as a compensation. When it turns out that the heifers had died in a landslide, Þorkell and Sigmundur try to buy the field from Ástríðr, which she rejects. In the year Glúmr returns from Norway, Ástríðr would normally have the use right to Vitazgjafi; however, in the fall, Sigmundur and his wife Vigdís start reaping the field. When Glúmr comes to Vitazgjafi, he kills Sigmundur there. In the following court case, Glúmr argues that Sigmundur had been stealing from him and that he was killed on Glúmr’s property, and thus there should be no penance. In addition, Glúmr invokes the earlier false accusations against Ástríðr. Glúmr wins the case, and Þorkell has to sell him his part of the land at Þverá below value to avoid being outlawed.⁸ The CPR is thus re-transformed into private property (cf. *Víga-Glúms saga* 22-34).

Based on Hardin, this case could be interpreted as a tragedy of the commons: Vitazgjafi fails as a CPR because of the egoism of at least one of the parties involved, and the only solution is privatization. However, an Ostrom-based reading would emphasize that Vitazgjafi is not “open to all” and that clear rules for its use exist among the rights holders. The problem is that one side doesn’t adhere to these rules and tries to appropriate resource units also in a year when they have no right to them, as is also confirmed in the court case.

The latter reading is subtly supported by the narrator, who in his recounting of the conflict almost exclusively focalizes Glúmr and Ástríðr, who consider Þorkell’s and Sigmundur’s behavior to be “ójafnað” (20) [“injustice”] and “rangendi” (23) [“wrongness”]. The narrator even lets a relative of Þórarinn confirm that the killing of Sigmundur was a to be expected consequence of the “ójafnað” (30) [“injustice”] that Þorkell and Sigmundur had shown against Ástríðr and Glúmr. In this way, the failure of Vitazgjafi as a CPR is attributed neither

⁸ The saga doesn’t mention Vitazgjafi again after this, but Anne Holtsmark speculates that it may be implied that it becomes barren due to the act of killing on a field that was associated with the fertility god Freyr (Holtsmark, 1933, p. 130).

to a logic of tragedy inherent to this form of resource management, nor to a lack of rules. What leads to this outcome is rather the decision by one of the parties involved to introduce conflict and competition instead of cooperation.

The hay meadows in Hávarðar saga Ísfirðings and Eyrbyggja saga

Hávarðar saga Ísfirðings tells about a similar small-scale CPR, in this case an irrigated hay meadow owned by two neighbors, Ljótr and Þorbjörn. Each party has the right to use the meadow every second year. However, Ljótr controls the brook that is used to water the meadow (and which is equipped with dams), and he blocks Þorbjörn's access to the water in the years when it is Þorbjörn's turn to benefit from the meadow. In the end, Þorbjörn sees himself forced to buy the meadow from Ljótr for a huge sum in order to have any use of it at all (cf. *Hávarðar saga Ísfirðings* 336-337).

In this way, the meadow ceases to be a CPR, and becomes Þorbjörn's private property. It could therefore be regarded as an example of a failed commons according to Hardin, even though it shows no ecological degradation. An Ostrom-based reading would emphasize that the meadow is not "open to all", that rules for its use existed, and that the failure is due to one of the involved parties not abiding by these rules.

The narration rather underpins this latter reading. Ljótr is introduced as "inn mesti ójafnaðarmaðr" (*Hávarðar saga Ísfirðings* 336) ["the most overbearing man"] and as "óvinsæll" (341) ["unpopular"], and when people learn about the forced purchase, they regard it as "inn mesti ójafnaðr" (337) ["the greatest injustice"]. Privatization of the CPR thus appears here not as a desirable or even necessary outcome, but as something that could have been avoided, had Ljótr acted in accordance with the existing rules. Ljótr's inclination towards conflict instead of cooperation is obviously not an implied role model here. It also has negative consequences for Ljótr himself, since he is killed soon after by Þorbjörn's sons, who were not content with the forced purchase.

Eyrbyggja saga mentions a similar hay meadow located on a ridge and jointly owned and used by two neighbors, Þórólfr bægifótr and Úlfarr. One day, when both sides have a lot of dried hay up on the ridge, Þórólfr orders his slaves to take Úlfarr's hay. In the conflict that

follows, Úlfarr sees no other option than to transfer his property to the *goði* Arnkell for protection against Þórólfr. Since Arnkell is Þórólfr's son and heir, after Úlfarr's and Þórólfr's deaths the entire hay meadow becomes Arnkell's private property, and thus ceases to be a CPR.

In a Hardin-based reading, the conflict and the final failure of the meadow as a CPR are inevitable, since Þórólfr, acting rationally and thus egoistically, tries to withdraw as many resource units as possible, leading necessarily to conflict with the other party involved. Based on Ostrom, one could argue that the problem rather seems to be an absence of clear rules governing the amount of hay each party is allowed to harvest, even though the CPR clearly is not "open to all". It seems, however, that at least once the hay is put up in haystacks, it has to be considered as belonging to the party that harvested it, which means that Úlfarr is right in accusing Þórólfr of theft (cf. *Eyrbyggja saga* 82), and what actually happens is that Þórólfr breaks existing rules.

This latter reading is confirmed by Þórólfr's characterization – he is consistently described as an evil person. The narrator calls him "inn mesti ójafnaðarmaðr" (*Eyrbyggja saga* 14) ["the most overbearing man"], "illr ok æfr [...] ok mjök ójafnaðarfullr" (81) ["evil and fiery [...] and very much full of injustice"]. Even according to his own son Arnkell, Þórólfr's is characterized by "illgirmi" (91) ["malevolence"]. The narrator describes Úlfarr, on the other hand, as a good farmer, and Úlfarr appears as friendly and helpful when Þórólfr once asks him for advice. There can thus be little doubt that the narration suggests an interpretation of Þórólfr's egoistic and conflict-laden behavior as wrong, while Úlfarr's readiness to help and cooperate figures as a norm for the use of a CPR. The failure of the meadow as a CPR is therefore not to be understood as an inevitable "tragedy" or the result of an absence of rules, but of Þórólfr's inappropriate and antisocial behavior.

The beach in Grettis saga

Grettis saga tells about a conflict concerning flotsam from a beach used as a CPR. Grettir's great-grandfather Qnundr tréfótr arrives in the Strandir region of Northern Iceland, when most of the land there is already taken. Yet he receives land from the *landnámsmáðr* Eiríkr

snara: “Síðan gaf Eiríkr honum Veiðileysu alla ok Reykjarfjörð ok Reykjanes allt út þeim megin; en um rekann var ekki skilit, því at þeir váru svá nógir þá, at hverr hafði þat, er vildi” (*Grettis saga Ásmundarsonar* 23) [“then Eiríkr gave him the entire Veidileysa and Reykjarfjörðr and all of Reykjanes on that side. But the rights to flotsam were not divided, since it was so abundant then that everybody could take that what he wanted”]. In this way, a CPR is established, yet given the abundance of resources, no rules are put in place for the appropriators involved.

The narrator states that there were no problems at first, but after the deaths of Eiríkr and Qnundr, Eiríkr’s son Flosi disputes the right of Qnundr’s descendants to the land that Eiríkr had given Qnundr. The conflict between the two sides is augmented by a decrease of the initial abundance of natural resources in the region, causing famine. When during this time a whale is washed ashore on Reykjanes, both Flosi and Þorgrímr hærukollr, one of Qnundr’s sons, make a claim to it, with Flosi contesting Þorgrímr’s right to flotsam from the beach. A fight starts, and in the end, several men are dead or wounded.

In the ensuing court case, the decision is left to the lawspeaker Þorkell máni, who argues that Qnundr should have paid Eiríkr at least a symbolic sum for the land he received from him, so as to make his own claim to the land undisputable. He suggests “at skipat sé brotgeiranum, ok hafi hváirtveggju at jafnaði; síðan sé þat lögtekkit, at hverr eigi reka fyrir sinni jörðu” (32) [“that the bone of contention is divided equally between both sides; then it should be laid down by law that everyone owns the flotsam on his land”].

In this way, a CPR is divided into smaller parts that become private property. It is possible to read this story as an example of Hardin’s tragedy of the commons: Joint use of the CPR becomes impossible when population increases and the resource base diminishes, even though the decrease in flotsam cannot be attributed to human overuse of the CPR in this case. While the CPR itself (unlike Hardin’s pasture) is not destroyed, privatization appears as the only solution.

Following Ostrom, a different interpretation is possible. The problem was not that the beach, as a CPR, was unsustainable per se. After all, its use as a CPR worked well in Qnundr’s and Eirik’s time, with both sides seemingly being on friendly terms with each other. Conflict occurs only when the younger generation does not acknowledge their fathers’ arrangement.

The violent conflict could have been avoided had the two parties jointly developed rules for shared resource appropriation from the CPR. Such rules would have forestalled the ambiguity concerning ownership of the stranded whale and would have made privatization of the CPR unnecessary. In this view, a lack of clear rules and of cooperation between the appropriators is what leads to the ultimate failure of the CPR.

What makes this case from *Grettis saga* different from all the other examples discussed so far is that the text does not indicate through any means that one conflicting party is in their right and the other is not. None of them is cast in a negative light. This makes this example the strongest case for a Hardin-based interpretation, according to which self-interest and egoism prevent CPRs from being sustainable, and privatization offers itself as an obvious solution.

The island Drangey in Grettis saga

This is different in another case of a failed CPR likewise included in *Grettis saga*: the island Drangey. This is at the same time the only example where a pasture managed as a CPR fails. The saga tells that on this uninhabited island, there were 80 sheep meant for slaughter and that birds' eggs could be collected there by those who owned a share in the island: "Svá segja menn, at eigi ætti færi menn í eyjunni en tuttugu, ok vildi engi sinn part þóðrum selja" (*Grettis saga Ásmundarsonar* 228) ["People say that no fewer than 20 people owned the island, and no one wanted to sell his share to another"]. This is certainly not to be understood as meaning that the island itself is divided into 20 separate parts, but rather that the number of animals each party can graze on it is adjusted according to the size of the share. Drangey thus constitutes a CPR that resembles the common mountain pastures.

When the outlaw Grettir and his brother Illugi take refuge on Drangey, they refuse to let the farmers access the island, and they eat the animals kept there. Not being able to make use of Drangey any longer, the smallholders among the farmers offer their shares to Þorbjörn ǫngull, the brother of a local chieftain, on the condition that he will kill or remove Grettir from the island. In this way, Þorbjörn acquires "mikinn hlut eyjarinnar með litlu verði" (236) ["a large part of the island for a low price"]. Þorbjörn only manages to kill Grettir with the help of pagan sorcery, which is illegal at this time and leads to him being outlawed. However,

ownership of the island is not transferred back to the smallholders, but to Þorbjörn's brother Hjalti.

Drangey is thus transformed from a CPR to private property. It is a failed CPR, even though Grettir's presence doesn't lead to ecological degradation. He acts as a free rider, like the thieves causing trouble on common mountain pastures who unlawfully appropriate the farmers' resource units. Unlike Hardin's pasture, Drangey was obviously not "open to all", but managed cooperatively by the farmers, with clear rules for its use. In an Ostrom-based reading, the failure of the CPR would thus mainly be attributed to the involvement of an external party acting as a free rider.

However, the way the story is narrated suggests that it actually is Þorbjörn who is responsible for this outcome. The narrator describes him variously as "ódæll" (226) ["quarrelsome"], "illfengr ok ófyrirleitinn" (226) ["malicious and ruthless"], "óvinsæll" (236) ["unpopular"] and as "mestr óeirðarmaðr" (227) ["the greatest troublemaker"]. He takes advantage of the smallholders' problematic situation to acquire their shares. His use of pagan magic to overcome Grettir casts him in an even more negative light.

As Butler (2019) argues, even though what Grettir does is shown to be problematic, the narrator's sympathies rest with him. Considering that Grettir had only a short time left before his outlawry would have ended, Þorbjörn could simply have waited until the problem solved itself. Instead, he acts egoistically and greedily in his privatizing of the CPR. His characterization in the saga and his later violent death through blood vengeance suggest that his behavior is to be considered wrong, and that cooperation with the other parties involved in the management of the CPR would have been preferred.

The Social Function of Narratives of the Commons

The CPRs in all the examples from the sagas discussed above appear either as vulnerable or as failing. It is striking that it is not a saga, but *Íslendingabók* alone that mentions an example of a successful CPR: the land at Þingvellir, which provides free access to pasture and firewood to the participants of the Alþingi (cf. *Íslendingabók* 8-9). According to *Íslendingabók*, this CPR has emerged through the transformation of privately owned land into common property.

Considering that the *Alþingi* was the most important legal and judicial institution in the Icelandic Free State and that it figures as an important setting in many of the sagas of Icelanders, it may appear strange that this case of an apparently uncontested and long-term successful CPR is not narrated in more detail in any of the sagas.

The sagas' many stories about conflicts concerning CPRs certainly have contributed to creating the view among scholars that pre-modern Icelanders lived in a "competitive society oriented to private property" (Byock, 2001, p. 57), as Jesse Byock expresses it, drawing conclusions from the medieval sagas about real-world Iceland in the Viking Age. William Ian Miller, who like Byock sees the sagas as relatively reliable sources concerning Iceland's social history, likewise assumes a strong tendency towards private ownership in early Icelandic society. Based on some CPR conflicts in the sagas, he claims that "shared ownership of property interests by people of different households was fertile ground for dispute" (Miller, 1990, p. 131). He seems thus to follow Hardin's assumption of an inevitable "tragedy of the commons" that suggests privatization as a solution.

However, it can be problematic to draw direct conclusions from the sagas' accounts of CPR conflicts about the social reality of pre-modern Iceland, such as Byock and Miller do. One explanation for why the sagas do not tell any stories about successful CPRs may be narrative need: well-functioning long-term cooperation between CPR users doesn't provide as much storytelling material as violent resource conflicts do. Also, there is little historical evidence that CPRs indeed were less sustainable than private property. Economic historian Thráinn Eggertsson, for example, argues that the common mountain pastures in Iceland constituted a "relatively efficient resource system" (1992, p. 436) that had considerable advantages for its users. Recent research at lake *Mývatn* in northern Iceland has documented how waterfowl there were managed sustainably as a CPR for more than a millenium (Hicks et al., 2019). Environmental historian Richard Hoffmann likewise emphasizes that historical material from medieval Europe provides little support for Hardin's "tragedy" and that it is not possible to conclude that management of resources as private property was more sustainable than CPRs (Hoffmann, 2014, p. 247-263). And, as the case of *Pingvellir* indicates, CPRs that were undisputed and (relatively) successful in the long term seem to have existed and indeed played a very important role for the functioning of pre-modern Icelandic society.

But why, then, would Icelanders in the 13th and 14th centuries tell so many stories about vulnerable and failed CPRs set in a period several hundred years in the past? The answer must be that these stories were regarded as having some kind of relevance for the present – that is, for the time when the sagas were composed. As Jan Assmann emphasizes in his influential study of cultural memory, the past is never remembered for its own sake (Assmann, 2013, p. 75), and the way in which it is reconstructed (and narrated) is always guided by the hopes and reference frames of the present in question (p. 88). Literary texts contribute to the construction of cultural memory through, amongst other things, the establishing of collective identities and the “conceiving of shared values and norms” (Erll and Nünning, 2005, p. 275). This is clearly the case in the sagas of Icelanders, which deliver narratives about the founding of Icelandic society and in this way, as Pernille Hermann expresses it, create “a vision of continuity between present and past, constructed in literature, for the real-life audience, i.e. readers and most likely very often listeners, to relate itself to” (Hermann, 2010, p. 82).

The question is, then, what sort of values and norms the sagas convey to their audiences concerning CPR use for these audiences’ own present. The ten examples of stories about CPRs analyzed in this article all show these resources systems to be vulnerable or failing. However, only the case of the beach in *Grettis saga* can be read as support for Hardin’s “tragic” narrative, in which the resource’s status as a CPR appears as unsustainable per se and privatization as the preferred alternative. This is at the same time the only example that does not come with a negative characterization of any of the parties involved in the failure of a CPR. In the nine remaining cases, the characterization of the involved parties suggests that such failure is neither desirable nor inevitable. Those who endanger or terminate a CPR are in four cases explicitly characterized as *ójafnaðarmenn* [“overbearing men”] and are associated with *ójafnaðr* [“injustice”] in two more cases. In the three remaining cases, similar negative characteristics based on other terms are described. In all these nine cases, it is those who are characterized in such negative ways who, through aggressive and antisocial behavior, threaten the CPRs in question – never the other parties involved.

In this way, the sagas provide rather clear guidelines to how the narrated resource conflicts are to be interpreted by their audiences. As Vésteinn Ólason remarks, “[a]rrogance and aggression are always shown to be wrong” (1998, p. 144) in the sagas. Modesty and

cooperation, in contrast, figure as an often implicit and sometimes explicit ideal in almost all the stories about CPR use analyzed in this article. This is nowhere as clearly expressed as in *Laxdæla saga's* description of the fishing place at Bjarneyjar, which explicitly emphasizes peaceful cooperation as a social norm for the users of this large-scale CPR, even though it appears to be “open to all” (and thus according to Hardin would inevitably fail). In the sagas, the basic requirement for successful CPRs is not even the existence of clear rules (as Ostrom would claim), but that all involved parties practice modesty and demonstrate willingness to cooperate.

In a recent volume on contemporary novels and films about climate change, the editors argue that such “[s]tories are forms of collective sense-making with the capacity to motivate and mobilize readers. [...] They do this above all through textual cues which invite readers to inhabit a particular point of view” (Goodbody and Johns-Putra, 2019, p. 7). The hope connected with such “climate-change fiction” is that it will encourage its audiences to take appropriate action in their own present to fight global warming. The analyses presented above suggest that the stories about CPR use in the sagas had a similar function for their medieval audiences: to promote behavior that could lead to long-term sustainability in the managing of natural resources as commons. In this sense, the sagas of Icelanders are indeed sagas for sustainability.

Bibliography

Primary sources:

Brennu-Njáls saga. Edited by Einar Ól. Sveinsson. Íslenzk fornrit 12. Reykjavík: Hið íslenska fornritafélag, 1954.

Eyrbyggja saga. Edited by Einar Ól. Sveinsson and Matthías Þórðarson. Íslenzk fornrit 4. Reykjavík: Hið íslenska fornritafélag, 1935.

Fóstbræðra saga. In: *Vestfirðinga sögur*. Edited by Björn K. Þórólfsson and Guðni Jónsson. Íslenzk fornrit 6. Reykjavík: Hið íslenska fornritafélag, 1943, pp. 119-276.

- Grágás. Islændernes loobog i fristatens tid.* Vol. 1. Edited by Vilhjálmur Finsen. Kjøbenhavn: Brødrene Berlings bogtrykkeri, 1852.
- Grettis saga Ásmundarsonar.* Edited by Guðni Jónsson. Íslenzk fornrit 7. Reykjavík: Hið íslenska fornritafélag, 1936.
- Hávarðar saga Ísfirðings.* In: *Vestfirðinga sögur.* Edited by Björn K. Þórólfsson and Guðni Jónsson. Íslenzk fornrit 6. Reykjavík: Hið íslenska fornritafélag, 1943, pp. 289-358.
- Heiðarvíga saga.* In: *Borgfirðinga sögur.* Edited by Sigurður Nordal and Guðni Jónsson. Íslenzk fornrit 3. Reykjavík: Hið íslenska fornritafélag, 1938, pp. 215-326.
- Íslendingabók.* In: *Íslendingabók: Landnámabók.* Edited by Jakob Benediktsson. Íslenzk fornrit 1. Reykjavík: Hið íslenska fornritafélag, 1968, pp. 1-28.
- Laxdæla saga.* Edited by Einar Ol. Sveinsson. Íslenzk fornrit 5. Reykjavík: Hið íslenska fornritafélag, 1934.
- Vápnfirðinga saga.* In: *Austfirðinga sögur.* Edited by Jón Jóhannesson. Íslenzk fornrit 11. Reykjavík: Hið íslenska fornritafélag, 1950, pp. 21-65.
- Víga-Glúms saga.* In: *Eyfirðinga sögur.* Edited by Jónas Kristjánsson. Íslenzk fornrit 9. Reykjavík: Hið íslenska fornritafélag, 1956, pp. 1-98.
- Ólkofra þáttur.* In: *Austfirðinga sögur.* Edited by Jón Jóhannesson. Íslenzk fornrit 11. Reykjavík: Hið íslenska fornritafélag, 1950, pp. 83-94.

Secondary sources:

- ASSMANN, Jan. *Das kulturelle Gedächtnis. Schrift, Erinnerung und politische Identität in frühen Hochkulturen.* Seventh edition. Munich: C. H. Beck, 2013.
- BERGTHALLER, Hannes, Rob Emmett, Adeline Johns-Putra, Agnes Kneitz, Susanna Lidström, Shane McCorristine, Isabel Pérez Ramos, Dana Philips, Kate Rigby, and Libby Robin. "Mapping Common Ground: Ecocriticism, Environmental History, and the Environmental Humanities". *Environmental Humanities* 5, 2014, pp. 261-276.
- BUTLER, Joanne Shortt. "Þótti mönnum ... hann myndi verða engi jafnaðarmaðr: The Narrator, the Trouble-Maker, and Public Opinion". In: MORAWIEC, Jakub, Aleksandra

- Jochymek, and Grzegorz Bartusik (eds.). *Social Norms in Medieval Scandinavia*. Amsterdam: Arc Humanities Press, 2019, pp. 239-253.
- BYOCK, Jesse. *Viking Age Iceland*. London: Penguin Books, 2001.
- CRONON, William. "A Place for Stories: Nature, History, and Narrative". *The Journal of American History* 1992, pp. 1347-1376.
- DANIELS, Brigham. "Commons Storytelling. Tragedies, Comedies, and Tragicomedies". In: HUDSON, Blake, Jonathan Rosenbloom, and Dan Cole (eds.): *Routledge Handbook of the Study of the Commons*. New York: Routledge, 2019, pp. 91-105.
- EMMETT, Robert S., and David E. NYE. *The Environmental Humanities. A Critical Introduction*. Cambridge, Mas.: MIT Press, 2017.
- ERLL, Astrid, and Ansgar NÜNNING. "Where Literature and Memory Meet: Towards a Systematic Approach to the Concepts of Memory Used in Literary Studies". *REAL. Yearbook of Research in English and American Literature* 21, 2014, pp. 265-298.
- GOODBODY, Axel, and Adeline JOHNS-PUTRA. "Introduction". In: GOODBODY, Axel, and Adeline Johns-Putra (eds.): *Cli-fi: A Companion*. Oxford; New York: Peter Lang, 2019, pp. 1-18.
- HARDIN, Garrett. "The Tragedy of the Commons". *Science* 162, 1968, pp. 1243-1248.
- HEISE, Ursula K. "Introduction: Planet, Species, Justice – and the Stories We Tell about Them". In: HEISE, Ursula K., Jon Christensen, and Michelle Niemann (eds.): *The Routledge Companion to the Environmental Humanities*. New York: Routledge 2017, pp. 1-10.
- HENNIG, Reinhard. "Memory of Environmental and Climatic Change in the Sagas of Icelanders". *Scandinavian Studies* 91 (3), 2019, pp. 323-344.
- HERMANN, Pernille. "Founding Narratives and the Representation of Memory in Saga Literature". *Arv* 66, 2010, pp. 69-87.
- HICKS, Megan, Árni Einarsson, Kesara Anamthawat-Jónsson, Ágústa Edwald, Ægir Thór Thórsson, and Thomas H. McGovern. "Community and Conservation: Documenting Millennial Scale Sustainable Resource Use at Lake Mývatn, Iceland". In: ISENDAHL,

- Christian, and Daryl STUMP (eds.): *The Oxford Handbook of Historical Ecology and Applied Archaeology*. Oxford: Oxford University Press, 2019, pp. 226-245.
- HOFFMANN, Richard C. *An Environmental History of Medieval Europe*. Cambridge: Cambridge University Press, 2014.
- HOLTSMARK, Anne. "Vitazgjafi". *Maal og Minne* 1933, pp. 111-133.
- LÖNNROTH, Lars. "Rhetorical Persuasion in the Sagas". *Scandinavian Studies* 42 (2), 1970, pp. 157-189.
- MEULENGRACHT SØRENSEN, Preben. *Fortælling og ære. Studier i islændigesagaerne*. Aarhus: Aarhus universitetsforlag, 1993.
- MILLER, William Ian. *Bloodtaking and Peacemaking: Feud, Law, and Society in Saga Iceland*. Chicago; London: The University of Chicago Press, 1990.
- O'BRIEN, Karen, Ann El Khoury, Nicole Schafenacker, and Jordan Rosenfeld. *Our Entangled Future: Stories to Empower Quantum Social Change*. s.l.: s.n., 2019
- OSTROM, Elinor. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press, 1990.
- THRÁINN EGGERTSSON. "Analyzing Institutional Successes and Failures: A Millennium of Common Mountain Pastures in Iceland". *International Review of Law and Economics* 12, 1992, pp. 423-437.
- VÉSTEINN ÓLASON. *Dialogues with the Viking Age: Narration and Representation in the Sagas of the Icelanders*. Reykjavík: Heimskringla, 1998.
- VÉSTEINN ÓLASON. "Family Sagas". In: MCTURK, Rory (ed.): *Old Norse-Icelandic Literature and Culture*. Malden, MA: Blackwell, 2005, pp. 101-118.