

# Samuel Hearne, The Denesuline, and The Beaver

Zoology and Its Effect in an Early Canadian Natural-Cultural Contact Zone

Sigfrid Kjeldaas

To cite this article: Sigfrid Kjeldaas (2023): Samuel Hearne, The Denesuline, and The Beaver, Interventions, DOI: [10.1080/1369801X.2023.2169622](https://doi.org/10.1080/1369801X.2023.2169622)

To link to this article: <https://doi.org/10.1080/1369801X.2023.2169622>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 24 Jan 2023.



[Submit your article to this journal](#)



Article views: 272



[View related articles](#)



[View Crossmark data](#)

# SAMUEL HEARNE, THE DENESULINE, AND THE BEAVER

Zoology and Its Effect in an Early Canadian Natural-Cultural Contact Zone

*Sigfrid Kjeldaas*

Department of Language and Culture, UiT The Arctic University of Norway, Tromsø, Norway

.....  
**animals**  
**exploration**  
**fur trade**  
**Hudson's Bay Company**  
**natural history**  
.....

*Recent scholarship on Samuel Hearne's A Journey to the Northern Ocean (1795) has highlighted how Hearne's journey of exploration functioned to demonstrate the Hudson's Bay Company's strategic geopolitical worth, obscure the violence of its colonialist enterprise, and generate images of an empty North conducive to colonial settlement. Drawing on such scholarship, this essay attempts to nuance statements regarding Hearne's complicity in "emptying" the North by showing how the Journey establishes images of the Canadian North as neither completely barren nor fertile enough for settlement. Applying a natural-cultural contact zone perspective on Hearne's old text, I argue that the anthropocentric bias of the Journey's reception has impeded the realization that Hearne's zoological descriptions and sometimes sophisticated ecological contemplations owe much to the Denesuline who guide his travels. In part through his "beaver science", Hearne deliberately opposes prospects of further colonization based on ideas of systemic expansion of the fur trade detached from the realities of local environmental conditions. His concern regarding the anthropomorphism and uncritical use of cultural metaphors*

*in the emerging science of zoology nevertheless causes Hearne's "beaver science" to consolidate the distinctly anthropocentric and objectifying qualities of natural science that ultimately facilitate the exploitative activities of the Hudson's Bay Company.*

## Introduction

1 Hearne gave this river the name "Coppermine". In Denesuline language, the name for the Far Off Metal River is Neetha-san-san-dazey.

*A Journey to the Northern Ocean* (1795) depicts the three expeditions Samuel Hearne – an English explorer, author, naturalist, and fur trader with the Hudson's Bay Company (HBC) – made together with local Denesuline guides towards the Far Off Metal River in the years 1769–1772.<sup>1</sup> Described as "one of the linchpins of the early Canadian literary canon" (Venema 2000, 163) and hailed for its detailed descriptions of "early-contact" Indigenous life in the North (Marsh and Panneton 2008), the text has received much scholarly attention. Recent scholarship has modified early celebratory interpretations by pointing to how Hearne's way of "storying the land" and presenting himself in terms of an innocent, vulnerable traveller "obscures the violence of colonialism and his relationship to it" (Milligan and McCreary 2011, 149, 163; cf. Cameron 2015; Venema 1998). According to Milligan and McCreary (2011, 151–155), Hearne's narrative establishes images of an empty North which tacitly endorse settler colonialism and would become important in the later development of Canadian nationalism.

This essay proposes that there exists a culturally conditioned disregard for the non-human world in Western scholarship on Hearne's *Journey* which causes scholars to accept the narrative of the "empty North" too easily. The discussions here presented exemplify how reading the *Journey* closely, and with an openness towards animals and the natural world, exposes landscapes brimming with animal as well as human life. Acknowledging this is important out of respect for the Indigenous peoples who guided Hearne's travels, and their cultural relationship with the land. A reading more focused on Hearne's representation of animals moreover allows admission of how Indigenous knowledge may have influenced the science of (Arctic) zoology emerging at the end of the eighteenth century. Arguing that traditional Indigenous knowledge was ultimately what enabled Hearne's journey, I will show how Hearne actively selected aspects of this knowledge to shape his argument against further colonization and settlement of the Canadian North. Drawing up new boundaries for what constituted proper science, Hearne's concern for the uncritical use of metaphors in the emerging science of zoology nevertheless caused him to deny the moral and philosophical implications of Indigenous knowledge of animals in ways that exonerated the HBC's exploitative activities.

Like Kathleen Venema (1998), I use Mary Louise Pratt's (2008) concept of the *contact zone* to explore how Hearne's *Journey* negotiates the discourses of science and colonialism within a narrative shaped by stories of personal experience with, and Denesuline knowledge of, the land. Such a contact perspective allows analyses of the effects of "co-presence" and "interaction" on the "understandings and practices" (Pratt 2008, 8) emerging in the zone of contact between Hearne's Western colonial culture and Indigenous cultures of Northern Canada. In line with my interest in Hearne's animal descriptions, the contact zone of my investigations is a broader natural-cultural contact zone in which animals are included. This extended notion of the contact zone aligns well with northern Indigenous hunters' perception of the land as a life-sustaining social sphere encompassing both human and human-animal relationships (Ingold 2011b; Smith 1998; Nelson 1983). It allows examination of how Hearne carefully adapts (or appropriates) Indigenous observations for his scientific descriptions of animals to strategically de-value other authors' claims to knowledge in colonial disputes. As these adaptations take place in a contact zone situation in which Hearne and the Denesuline possess radically different (although unstably shifting) positions of power (Venema 1998; cf. Pratt 2008, 8), a proper discussion of Hearne's natural history must engage with what is left out or ignored in his authoritative representation of the Canadian North. Accordingly, the final section of this essay provides some brief comments on the relationship between Hearne's zoology and Indigenous traditional ecological knowledge.

Over twenty years ago, Val Plumwood (2002, 101) pointed out how the colonization and exploitation of the natural world is but the ultimate extension of modern Western culture's profoundly "reason-centered", "eurocentric", "ethnocentric", and "anthropocentric" conceptual structures. In making animals the entry point into my study of Hearne's *Journal*, I acknowledge the text's racism and Hearne's complicity in the Bloody Falls massacre, uncovered and problematized by other scholars (Cameron 2015; Milligan and McCreary 2011; Fulford 2006; Horne 2005; McGrath 1993). Building on this scholarship, I wish to emphasize that in looking at depictions of northern environments, our readings should be alert to the presence of Western culture's ultimate subalterns: animals and other non-human beings. If we broaden our perspective beyond the human (like northern Indigenous hunter cultures do), the clash between ideas of an "empty North" and historic evidence of the long-time presence and success of fur-trading companies in this North becomes conspicuous. Accordingly, we may initiate investigations into the sometimes contradictory political manoeuvres of strategically "emptying" the land of people to justify its exploitation and settlement; and of displaying its relative abundance in animals, local hunters, and carriers to support ideas of an already existing and highly successful (sustainable) fur trade. This essay makes an

initial step towards such investigations by showing: first, that Hearne’s Canadian North was truly never empty, but balanced images of emptiness and abundance in a way that supported the HBC’s activities; second, that his scientific rigorousness contributed to emptying it in a way different from, but conducive to, his fur-trader activities. In the current Anthropocene moment, in which we are facing the threat of animal extinctions at unprecedented rates, my hope is that this more animal-focused rereading of Hearne’s *Journey* will elaborate our understanding of how science, in the particular context in which Hearne wrote, could serve arguments tempering ambitions of further colonization and expansion of the fur trade while, at the same time, reinforcing human separateness and supremacy over the natural world in ways that allowed the exploitation of animals to continue unabated.

### **The beaver: resource and focal point of colonial politics**

Fur trade on the North American continent began with the European desire for one particular accessory: hats made from beaver felt. The insatiable demand for this small, waterproof garment had, by the seventeenth century, created a “serious depletion of the European beaver population” (*Castor fiber*), and formerly abundant Russian supplies were drying up (Carlos and Lewis 2008, n.p.). The North American trade emerged as European beaver stocks waned. First to participate in the fur trade on the North American continent were the French, but in the seventeenth century (following the Dutch) the English developed a trade through Fort Albany. In 1670, King Charles II issued a Royal Charter which granted the HBC a monopoly over the trading rights of the extensive Hudson Bay drainage basin. Soon after, the North American beaver (*Castor canadensis*) “was imported through agents in the English, French and Dutch Colonies” (Carlos and Lewis 2008, n.p.) and the HBC emerged as one of the giants of early capitalism (Carlos and Nicholas 1988).

Over the course of the eighteenth century the market for beaver pelts expanded and prices rose. Ann M. Carlos and Frank D. Lewis (2008, n.p.) find in the “remarkably complete records” of the HBC evidence of overharvesting which, “at least in some years, gave rise to serious depletion of the beaver and possibly other animals such as marten”. The dwindling beaver population created unease among interested observers. In his landmark work *Arctic Zoology* (vol. 1), Thomas Pennant (1792, 121) expresses his concern for how the “southern colonies” have already become “exhausted of their Beavers”. He offers statistics on the imports of animal skins into the ports of London and Rochelle to account for “the ravages made among

2 In Pennant's description, beavers on both the European and North American continent are classified as *beaver castor*.

the animal creation" in "*Canada and Hudson's Bay*" (121).<sup>2</sup> Statistics compiled in retrospect show these "ravages" to be substantial: from 1700 to 1763, a total of 2.75 million beaver pelts were sold to the HBC from local hunters and traders (Carlos and Lewis 2010, 107).

Competition between French and British actors for the trade in furs supplied by local Indigenous hunters was a great concern to the HBC. Whereas the English traded "along hierarchical lines with salaried managers", established trading posts along the Hudson Bay, "and waited for the Indians, often middlemen, to come to them", the French issued licenses to enterprising individuals and established trading posts in the interior, where they came in direct contact with the Native Americans who harvested the furs (Carlos and Lewis 2008, n.p.). Towards the middle of the eighteenth century, the disadvantages of the British system generated fear of losing position in the transatlantic fur trade and harsh critique of the HBC (Hearne [1795] 2011; Dobbs 1744; Cameron 2015).

Perhaps the most severe accusation against the HBC published in written form was Arthur Dobbs's *An Account of the Countries Adjoining to Hudson's Bay* (1744). As evident in its voluminous subtitle, Dobbs's account contains a description of the "Lakes and Rivers, the Nature of the Soil and Climates, and [the] Methods of Commerce" in the region. It additionally presents an extensive argument for the "Benefit to be made by settling Colonies, and opening a Trade in these Parts; whereby the French will be deprived in a great Measure of their Traffick in Furs". Written ten years before the outset of the French and Indian Wars, the text criticizes the way the HBC leaves the region's riches in the hands of a few merchants, instead of opening up the fur trade to the private enterprise of individuals, as the French had done (Dobbs 1744, 66). By moving into the interior and encouraging settlement, Dobbs (1744, 2) argues, the British may not only improve and expand their fur trade, but further open up "a considerable Market for our coarse Woollen and Iron Manufactures" in the colder, northern parts of HBC territories.<sup>3</sup> Establishing settlements "southward, in the bottom of the Bay", he continues, "we should by this encouragement make all the Natives our friends, by underselling the French, and securing the trade", thereby "becom[ing] so powerful, as not to fear the *French* in a case of War" (Dobbs 1744, 57). In Dobbs's view, the HBC's avaricious protectionism comes at the cost of geopolitical vulnerability for the nation's new colonies.

In promoting his vision for settlement of the regions covered by the HBC charter, Dobbs questions contemporary depictions of the North. Contrary to current perceptions of how the narrative emptying of the Canadian North has functioned to promote settler colonialism, Dobbs accuses writers affiliated with the HBC of applying "dismal" descriptions of the region to hide its vast economic and political potential and *discourage* full-

3 The access to new markets for European consumer goods was, as Wendel Berry ([1977] 2015, 5–9) observes, as important to the colonial enterprise in the New World as the appropriation of geographical spaces and natural resources. Images of the region as "empty" undermine ideas of

markets to be accessed.

scale colonization, settlement, and open trade (Dobbs 1744, 2). Because he believes the HBC deliberately withholds information from the public, Dobbs (1744, 3) bases his vision for the new “northern colonies” on a number of “[a]ccounts published by the *French*” or communicated to him by people “who have resided there, or have been employed in [the fur] Trade”. Among his most important witnesses to the “true” state of the regions to the south and west of the Hudson Bay is a “*French Canadese Indian*” he names “*Joseph la France*” (Dobbs 1744, 3). Based on the testimonies of la France, Dobbs can present evidence of the physical impracticalities and costs of the British fur trade.

In response to critique like Dobbs’s, a Parliamentary committee was in 1749 tasked with inquiring into “the State and Condition of the Countries adjoining to Hudson’s Bay, ... the Trade carried on there” and the right granted HBC, through their charter, to “the Property of Lands, and exclusive Trade to those Countries” (Carlos and Lewis 2010, 135). Although the committee’s final recommendation was that HBC be allowed to maintain its trade monopoly (Carlos and Lewis 2010), past allegations of economic and geopolitical misconduct doubtlessly motivated the HBC to arrange Hearne’s journey in search of the rumoured Far Off Metal River. Hearne’s narrative account of this journey may well be interpreted as a reaction – or counter-narrative – to Dobbs’s (1744, 55) representation of a “friendly” Canadian North in which Churchill River, at 59 degrees latitude, abounds in copper and has a climate not worse than Stockholm or St. Petersburg.<sup>4</sup> Because Dobbs’s text cannot easily be dismissed as a fictitious fabrication against the HBC, Hearne spends quite some energy, both in the “Introduction” to his travel narrative and in his animal descriptions, critiquing the content and evidence base of Dobbs’s claims.<sup>5</sup> In the following, we will see how Hearne, particularly through this “beaver science”, offers arguments against prospects of further colonization. To a significant extent, this science is based on knowledge Hearne has acquired in contact with the Denesuline.

4 I here use the term “friendly” to call attention to this early example of a literary trope used by explorers promoting settlement of the American North, most famously in Vilhjálmur Stefánsson’s 1921 *The Friendly Arctic* (see Gaupseth in this volume).

### Different modes of travel, different images

5 In his description of “Life and Trade in the Bay”, Andrew Graham (1969), like Hearne, devotes extended attention to accusations made by Dobbs against the HBC.

From 1769 to 1772 Hearne makes three different excursions from Prince of Wales Fort at Churchill in search of the Far Off Metal River. Only on the last one does he reach this river and trace it to Coronation Gulf. There is little in Hearne’s narrative of his two first excursions to indicate a “friendly” Canadian North. What Hearne presents are vivid images of a monotonous, harsh, and empty landscape whose ravaging storms and extreme lack of sustenance regularly threaten survival (Hearne [1795] 2011).

In the summer of the second expedition, however, a slight change occurs in Hearne's mode of travel that will greatly alter the success and experience of his further journeys. Although the original plan is to proceed northwards that summer, Hearne ([1795] 2011, 72) suddenly finds his guide, Con-ne-e-quefe, to "hesitate about proceeding any farther" and to keep "pitching his tent backward and forward, from place to place, after the deer, and the rest of the Indians". Explaining that the summer is too far advanced to allow them to travel all the way to the Far Off Metal River and back, Con-ne-e-quefe secures Hearne's consent to keep "moving to the Westward with the other Indians" and pass the winter in their company (73). Difficulties abate as the movement through the land on the second expedition thus shifts away from the mode of (Western) goal-directed travel *across* the land towards an animal-oriented (*wayfaring*) movement *within* the land in accordance with local Denesuline traditions (Ingold 2011a, 148–152; Kendrick, Lyver, and Lutsël K' é Dene First Nation 2005).

Hearne himself emphasizes how the success of this third and final journey rests on the substantial ecological qualifications of his guide, Matonabbee, who is by descent part Denesuline ("Northern Indian"), part Cree ("Southern Indian").<sup>6</sup> Hearne describes Matonabbee as "a man of extensive observation with respect to times, seasons, and places; and well qualified to explain every thing that [can] contribute either to facilitate or retard the ease of progress of travelling" (Hearne [1795] 2011, 88–89). Leading a group of Denesuline through Denesuline ("Northern Indian"), Yellowknives ("Copper Indian"), Tlichō ("Dogrib Indians"), and Western Woods Cree ("the Athapuscow Tribe" [Smith 1987]) territories, Matonabbee relies on pre-existing socio-cultural networks and Indigenous (predominantly Denesuline) knowledge of the land to bring Hearne to the mouth of the Far Off Metal River and back.

The Denesuline possess extensive knowledge of their natural environment and the ecology and movement of the animal populations on which they subsist. This knowledge has been accumulated and culturally transmitted through generations, as Denesuline land-use patterns have shifted in response to the ranges and movements of the herds of barren-ground caribou (*Rangifer tarandus groenlandicus*) on which Denesuline culture relies (Kendrick, Lyver, and Lutsël K' é Dene First Nation 2005). Building on the work of anthropologist James G. E. Smith (1978), Kendrick and colleagues describe how, traditionally,

[c]aribou movements were tracked by communication networks of families and bands, each highly mobile within its own geographical locality, linked to each other across a broad front (Smith 1978). In late summer, the front would advance north out onto the barrens, and in winter the people would withdraw into the taiga country and come together in large camps to share information (Smith 1978). [There were] campsites where people would gather in large groups

6 For detailed discussions on other aspects of Matonabbee's significance to the success of Hearne's journey, see Roberts (2007) and Venema (2000).



to intercept caribou during fall migrations and to meet caribou at fall water crossings ... or winter feeding grounds. ... Essentially, this network of communication served as a “reconnaissance system”, informed by experience and collectively held, multi-generational knowledge of caribou movement patterns. (Kendrick, Lyver, and Lutsël K’ é Dene First Nation 2005, 176–177)

I contend that this dynamic network of observation and response to animal movement is precisely what Matonabbee makes use of as he guides Hearne towards the mouth of the Coppermine River. My claim is inspired by W. A. Fuller (1999, 259), who notes that “[t]he route followed by Matonabbee must have been well known to him and his companions”. Strother Roberts (2007) further discusses how Matonabbee, who was in his youth hired by the HBC as “Ambassador and Mediator” between the “Northern Indians” (the Denesuline) and the “Athapuscow Tribe” (the Western Woods Cree) (Hearne [1795] 2011, 291), built on existing social networks and patterns of movement to establish new cross-territory itineraries for the trade in fur animals between Indigenous groups. Hearne’s journey, Roberts (2007) argues, followed in part such a newly established itinerary.<sup>7</sup>

7 At the time he acted as Hearne’s guide, Matonabbee had positioned himself as a prominent carrier of furs to the HBC fort at Churchill (Roberts 2007). His standing in the local cultural contact zone protected Hearne and allowed their return journey to include a hunting trip for beaver and other valuable fur animals into Cree territories. In this manner, Matonabbee enacted an expansion in the range of hunting grounds and animal prey among the predominantly reindeer-hunting Denesuline that HBC traders found desirable and actively encouraged (Smith 1978, 71, 77; cf. Carlos and Lewis 2010).

Once Hearne begins to follow paths of travel adjusted to the seasonal movements and whereabouts of animals, his narrative performs a metaphorical move from landscapes of extreme scarcity to landscapes of relative abundance. In spite of this, Hearne seems completely unaware of how Matonabbee’s “extensive observations” guide their itinerary along paths of travel already well known to the Denesuline. Because all experiences are novel to him, encounters with Indigenous groups or individuals are presented as incidental, and it takes an interested reader to detect more than chance in how the party’s numbers vary from the tens to the hundreds as it proceeds through the land.

Denesuline lifeways and traditional patterns of movement are nevertheless abundantly evident in the *Journey*’s inscription of local place names. Hearne travels along Seal and Egg River, to Cossed Whoie/Partridge Lake, Whooldyah’d Whoie/Pike Lake, The-whole-kyed Whoie/Snowbird Lake, Black Bear Hill, and the Goose-hunting Islands, to mention a few. These and other place names are given in both (Hearne’s version of) Denesuline and in English (when available). As each place takes the name of the animal designating its importance, ideas of an “empty North” falter before the *Journey*’s abundant evidence of human–animal co-presence and interdependence. That Hearne views such Denesuline naming practices with sympathy becomes evident the moment he is given the opportunity to give name to a lake for which his guides have none. Rather than following the British custom of naming it after members of royalty, Navy officers, or company superiors, Hearne “distinguish[es] it by the name of Buffalo, or Musk-Ox Lake, from

the number of those animals that we found grazing on the margin of it” (Hearne [1795] 2011, 142).

One may interpret Hearne’s apparent adherence to Denesuline naming practices as evidence of what William C. Horne (2005) has identified as his gradual phenomenological adaptation to the region’s physical and cultural realities. The following discussion will leave open the question of Hearne’s possible adjustments to these realities to engage with how his experience of them came to influence his natural history.

### Hearne in eighteenth-century natural history: overt knowledge transfers and tacit influences

During the winter of 1782–1783, at which time the French had taken possession of the fort at Churchill, Hearne met Thomas Pennant in England and gave him a copy of his “natural-history sightings” (Houston, Ball, and Houston 2003, 85). Through this exchange, several of Hearne’s observations found their way into Pennant’s two-volume *Arctic Zoology* on mammals (1784) and birds (1785). Part of these observations originate in Hearne’s exploratory journeys to the Far Off Metal River, others in work performed at and around the fort.<sup>8</sup> The scientific exchange initiated between the two naturalists in the winter of 1782–1783 continues in Hearne’s *Journey*, which represents a rewritten form of earlier reports compiled for the internal use of the HBC completed just one month before Hearne’s death in 1792 (Houston, Ball, and Houston 2003; McGoogan 2011).

Hearne’s *Journey* presents an autobiographical travel narrative interspersed with sections containing detailed ethnographic and scientific (natural history) descriptions. The basic structure and sequence of animals presented in the text’s zoology section, “An Account of Flora and Fauna”, follows Pennant and seems clearly influenced by this work. However, lacking Pennant’s interest in classification systems, Hearne only at times mentions the taxonomic divisions and sections to which the different animals belong. His depictions focus more closely on practical knowledge of the animals’ lives, habitats, and distinctive characteristics (often including vivid aesthetic descriptions), and their possible utility to humans. At times, Hearne ([1795] 2011, 296, 308, 311) comments on small “mistake[s]” that have crept into Pennant’s *Arctic Zoology*. At other times, he corroborates Pennant’s descriptions and discusses his findings in relation to them. This is the case for the fauna’s well-developed section on birds, in which Hearne includes Indigenous names of several bird species while underscoring the inestimable “assistance” he has received from “Mr. Pennant’s *Arctic Zoology*; which has enabled [him] to give several of the birds their proper

8 The *Journey*’s account of Grizzled Bear Hill exemplifies the former. Here we find Hearne ([1795] 2011, 146) astonished to learn that the “long and deep furrows” surrounding the hill and the “enormous stones rolled out of their beds” are caused not by lightning, but by grizzlies searching for ground squirrels and mice. Pennant’s (1792, 70) *Arctic Zoology* reports that “Grizzly Bears” are found in “as high as lat. 70; where a hill is called after them, *Grizzle Bear Hill*”, around which the “neighborhood is in all parts turned by them in search of the

hoards formed by the Ground Squirrels for winter provision”.

[English] names; for those by which they are known in Hudson’s Bay are purely Indian” (29). While openly celebrating Pennant’s contribution to his bird descriptions, Hearne’s comment also silently speaks to the way local and Indigenous knowledge has impacted (or indeed forms the basis of) them.

Hearne, however, never openly acknowledges this influence of Indigenous knowledge on his work of natural history. Instead, this influence is evidenced through a series of slightly unusual zoological descriptions originating in Hearne’s experiences as a bystander on Denesuline hunts. The buffalo provides an apposite example. Without the possibility of providing accurate images or exact measurements of this animal from the field, Hearne applies his unique physical closeness to it during Denesuline hunts to communicate in other ways its impressive dimensions. Accordingly, we learn how the buffalo’s head is sometimes “so large” that he himself cannot “without difficulty lift them from the ground” (Hearne [1795] 2011, 223), and how it may take six to eight hunters to turn the animal over in skinning it.

Physiological descriptions like the above are often complemented with unusual facts about the edibility and food value of the animal in question. Whereas the rut of bulls, the bearing and rearing of young certainly are factors mentioned in this respect, more interesting in terms of animal behaviours and environmental adaptations are Hearne’s reports on how the palatability of different animals is affected by changes in their diet. American hares, Hearne ([1795] 2011, 314) writes, are “in season all the Winter”, at which time they “generally feed on the brush of pine and fir”; are in summer “not esteemed good eating; but as the Fall advances ... are, by feeding on berries, etc. most excellent”. The generality with which Hearne asserts that hares are “not esteemed good eating” hides *by whom* this estimation is performed. It is only by reference to the Denesuline practice of eating the stomach contents of hares in winter (Hearne [1795] 2011, 314) that we get a sense that both the general evaluation of the edibility of their flesh and the detailed knowledge presented neutrally as the “facts” of the hares’ seasonal variations in diet originate with Hearne’s companions, rather than with Hearne himself.

Nature writer Barry Lopez (2001, 71) has accused the Western science of biology of considering relationships between animals primarily in terms of “the way they serve each other as food” within schematized and reductive food chain models. The *Journey* avoids such reductive representations by including ecological observations that allow more profound understandings of how the lives of different animals sustain each other. Beaver dams, for instance, serve multiple functions. Constructed by “drift-wood, green willows, birch, and poplars”, intermixed with “mud and stones”, some old and frequently repaired beaver dams come to form solid banks in which the cut trees “take root and shoot up, [and] by degrees form a kind of regular-planted hedge ... in some places so tall, that birds have built their

.....

nests among the branches” (Hearne [1795] 2011, 206). Shrew mice too, Hearne tells us, are “frequently found in Beaver houses during Winter, where they not only find a warm habitation, but also pick up a comfortable livelihood from the scraps left by the Beaver” (316).

Hearne gives us rich descriptions of the beaver’s life throughout the seasons. “When the ice breaks up in the Spring”, he reports, beavers

leave their houses, and rove about the whole Summer, probably in search of a more commodious situation; but in case of not succeeding in their endeavours, they return again ... a little before the fall of the leaf, and lay in their Winter stock of woods. (Hearne [1795] 2011, 211)

Through this and similar descriptions, Hearne allows the beaver a life of freedom, enjoyment, sociality, and ability to plan ahead. We learn how, when the beaver builds its houses in small rivers or creeks that may dry up as the winter freeze sets in, it is “wonderfully taught by instinct to provide against that evil, by making a dam quite across the river, at a convenient distance from their houses” (206). Hearne comments:

This I look upon as the most curious piece of workmanship that is performed by the beaver; not so much for the neatness of the work, as for its strength and real service; and at the same time it discovers such a degree of sagacity and foresight in the animal, of approaching evils, as is little inferior to that of the human species. (Hearne [1795] 2011, 206)

To Hearne, the beaver’s intimate knowledge of its environment and ability to foresee wintertime dangers render its level of mental discernment and intent in planning almost on par with the human. Far from performing what Plumwood (2002, 104) has identified as a characteristically Western “backgrounding” through which animals are reduced to radically separate, inferior, and inessential beings,<sup>9</sup> Hearne presents his readers with the beaver’s achievements, its life and history in the land, and its worth to a multitude of other living beings.

These unusual and sympathetic animal depictions hint of ways in which Hearne’s experiences on the land in the company of Indigenous hunters have influenced his natural history. Knowledge of animal behaviours presented in the *Journey* but obviously based on observations accumulated over long periods of time must originate with the Denesuline. This is evidently so in the account of how the seasonal migration of caribou in and out of the Barren Grounds corresponds with seasonal shifts in weather systems – or, as Hearne ([1795] 2011, 184) puts it, “the deer are supposed by the natives to walk always in the direction from which the wind blows, except when they migrate from East to West” (or the reverse) “in search

<sup>9</sup> In *Environmental Culture*, Plumwood (2002, 104) reveals how this denial, or “backgrounding”, is associated with “a perceptual politics of what is worth noticing, of what can be acknowledged, foregrounded and rewarded as ‘achievement’ and what is relegated to the background”.

for the opposite sex, for the purpose of propagating their species”. Hearne’s zoology is thus arguably a product of the natural-cultural contact zone in which he operated. In analysing this product, however, we must not underestimate the impact of Hearne’s own position as fur trader and naturalist. The former would have allowed Hearne to compare observations on changes in animal populations with the number of furs received at the Churchill factory. The second accounts for his extended focus on the beaver, an animal of central importance not to the Denesuline but to Western fur traders and natural historians.

### **Critique of emerging beaver science**

Perhaps because of its special abilities as “nature’s engineer” (Simpson 2021, 11), the beaver seems in several texts of eighteenth-century natural history to exemplify the very possibility of civilization in the natural world. In praising the beaver’s near-human qualities, which he carefully emphasizes are unique, Hearne ([1795] 2011, 206) is in agreement with what appears almost like genre requirements of beaver descriptions of his day. However, his emphasis on the “strength and real service” of beaver dams, rather than their “neatness” (206), forms part of a more extensive critique of representations of the beaver in contemporary works of natural history. As part of this critique Hearne engages in dialogue with Pennant’s *Arctic Zoology* and its sources – among which we find the texts and testimonies of Dobbs, la France (to Hearne: “Lefranc”, [214]), Antoine-Simon Le Page du Pratz, and Andrew Graham. Central to this dialogue is the issue of how to interpret the significance of beaver dams and houses.

### **Critique of exaggerated anthropomorphism and the uncritical use of metaphor**

Hearne’s argument with Pennant and other “naturalists” of his time is that their anthropomorphic depictions of the beaver’s sagacity and civilization have gone too far. Pennant’s *Arctic Zoology* (1792, 114), for instance, ascribes to the beaver both a social system and a commonwealth, in which all “unite in their labors” for the common good: the construction of beaver dams and beaver houses. To “effect” these constructions, Pennant writes, beavers assemble in communities of two or three hundred in which “every individual bears his share in the laborious preparation” (114). *Arctic Zoology* describes in detail the seven different teams of labourers involved in the construction of beaver houses, each with its allotted task: like felling trees for beams or

piles; carving holes in the bottom of the pond and erecting the beams; and filling in the erected truss with twigs and “mortar” (Pennant 1792, 114–115). Through this description, beaver houses emerge as pre-planned and orderly executed structures of the kind presented in Antoine-Simon Le Page du Pratz’s *The History of Louisiana* ([1774] 1947, 130) (Figure 1).

To Pennant (1792), the beaver’s success in executing these constructions is the result of the hierarchical nature of their social structure – simultaneously the origin and product of the beaver “commonwealth”. His description of beaver dams further exemplifies this. Again, Pennant draws substantially on du Pratz ([1774] 1947); this time on his night-time observations of a group of beavers repairing their dam. Noting (in darkness and from a distance) how one beaver surveys the damage, and subsequently – by blowing his tail four times – summons the others and mumbles orders that set the entire group to work, du Pratz ([1774] 1947, 129) infers that this must be the “overseer of the works” who has several “common labourer[s]” under his command. Combining du Pratz’s account (referenced as a source for his entry on the beaver) with Andrew Graham’s (1969, 10) description of the “slave beaver”,<sup>10</sup> Pennant elaborates on how beavers

10 Graham appears in turn to have got the idea that beavers kept “slaves” from James Isham (Graham 1969, 10, editor’s note 2).

have a chief, or superintendant, in their works, who directs the whole. The utmost attention is paid to him by the whole community. Every individual has his task allotted, which they undertake with the utmost alacrity. The overseer gives a signal by a certain number of smart flaps with his tail, expressive of his orders. The moment the artificers hear it, they hasten to the place thus pointed out, and perform the allotted labor, whether it is to carry wood, or draw the clay, or repair any accidental breach.

They also have their centinels, who, by the same kind of signal, give notice of any apprehended danger.

They are said to have a sort of slavish Beaver among them ... which they employ in servile works, and the domestic drudgery. (Pennant 1792, 117)

Pennant’s description acknowledges the planned orderliness of beaver society and the animal’s ability to effectively communicate through signs but leaves out du Pratz’s account of its use of verbal language. The “beaver commonwealth” he describes possesses a hierarchical structure of authority modelled on human military forces and processes of production. The success and order of this commonwealth becomes in turn an indirect verification of the naturalness of such hierarchical power structures, which may entail the practice of keeping slaves.

Hearne is not happy with such contemporary descriptions of the beaver and its dams. Admitting that the beaver’s constructions are “not altogether unworthy of admiration”, he proceeds to question how the little beaver, whose “fore-paws are not much larger than a half-crown piece”, can possibly

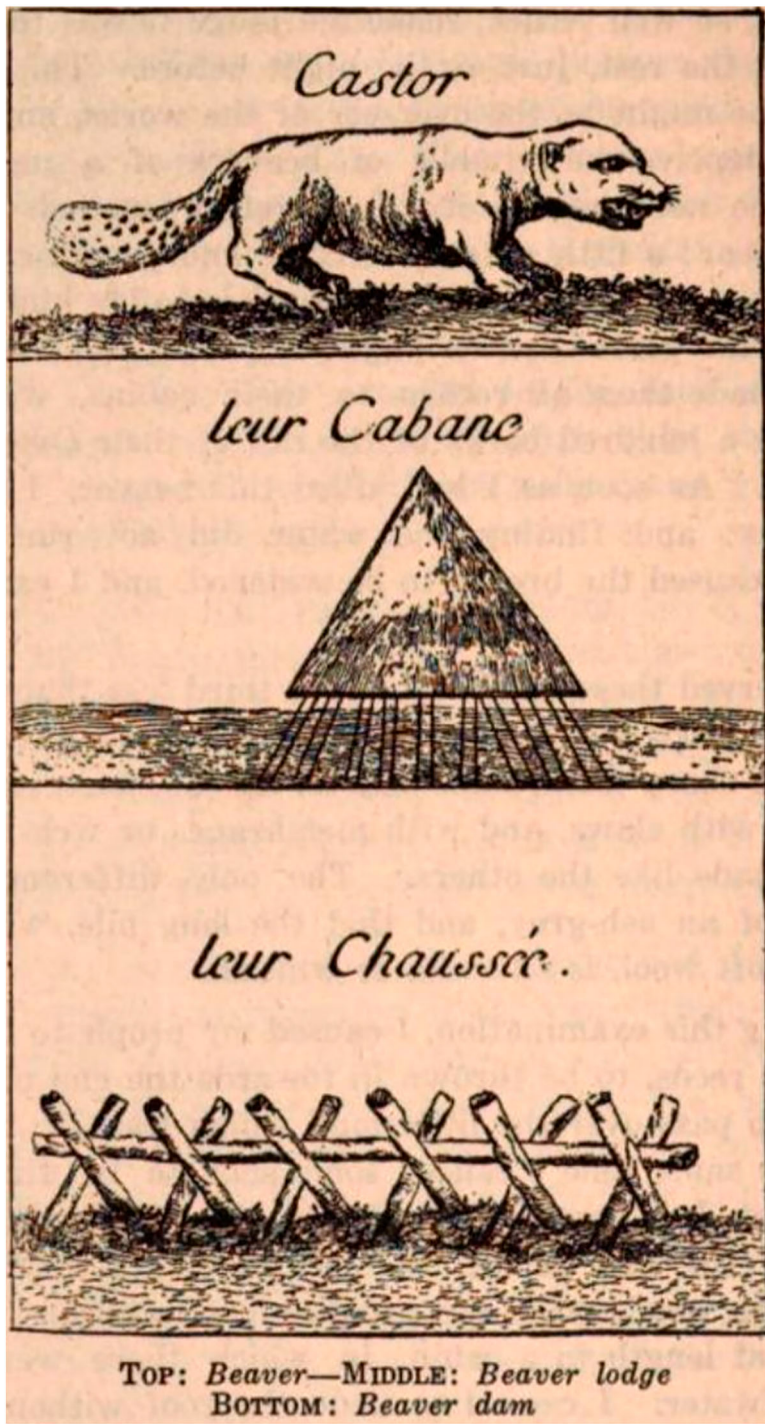


Figure 1 Illustration of the beaver, a beaver lodge, and a beaver dam in du Pratz's *The History of Louisiana* (1774, 130).

drive “stakes as thick as a man’s leg into the ground four feet deep” (Hearne [1795] 2011, 207, 209). “The form and size of the animal, notwithstanding all its sagacity”, he writes, “will not admit of performing [the] feats” of construction du Pratz and Pennant present (209).

Hearne moreover charges “[t]hose who have undertaken to describe the inside of beaver-houses, as having several apartments appropriated to various uses; such as eating, sleeping, store-houses for provisions, and one for their natural occasions” of being “very little acquainted with the subject; or, which is still worse, guilty of attempting to impose on the credulous, by representing the greatest falsehoods as real facts” (207; cf. Pennant 1792, 115–116; Graham 1969, 9). As counter-evidence, he presents his own descriptions, based on “[m]any years constant residence among the Indians, during which I had an opportunity of seeing several hundreds of those houses” (Hearne [1795] 2011, 207). His participation in a long line of winter beaver hunts, in which beaver houses are broken open, has Hearne contend that the beaver’s only need is for their dwellings to provide a dry place to lie on and eat their food. Large beaver houses with many partitions are merely a conglomerate of individual, one-room dwellings, between which there is no communication “but by water” (207). Accordingly, Hearne writes,

Notwithstanding what has been so repeatedly reported of those animals assembling in great bodies, and jointly erecting large towns, cities, and commonwealths, as they have sometimes been called, I am confident, from many circumstances, that even where the greatest numbers of beaver are situated in the neighbourhood of each other, their labours are not carried on jointly in the erection of their different habitations, nor have they any reciprocal interest, except it be such as live immediately under the same roof; and then it extends no farther than to build or keep a dam which is common to several houses. (Hearne [1795] 2011, 212)

Denying the idea that beaver societies are highly elaborate social organizations developed to support the mutual interest of their members, Hearne sets the limits of “reciprocal interest” to animals living under the same roof; generally the reproductive unit of the family. With a stroke of the pen, he reduces the great commonwealth of beavers to a set of merely familial collaborative efforts to construct beaver dams and houses. In so doing, Hearne implicitly cautions against the uncritical transfer of metaphors – particularly powerful ones associated with cultural ideas of civilization and power structures – from social to scientific discourse.

As part of his systematic contestation of beaver civilization, Hearne disputes the existence of the “slave beaver”. To him, the observation that some beavers have “but a very indifferent coat”, with “broad patches on the back, and shoulders almost wholly without hair”, does not necessarily



mean that their hair is “worn off ... by carrying heavy loads”. It is more likely “caused by a disorder that attacks them somewhat similar to the mange” (218). Based on sound physiological and ecological knowledge, and a rare interest in fur quality, Hearne posits a scientific and empirically grounded *biological* explanation for a phenomenon other naturalists wrongfully interpret as evidence for a natural social hierarchy among beavers, in which slaves perform “drudgery work”. Exposing the “un-scientific” implications of transferring culturally potent metaphors and power discourses into scientific discourse on the beaver, Hearne in his own descriptions recognizes the animal’s mental capacities and part of its social and collaborative way of life, but does so in a way that undoes the highly questionable analogy between human and animal power structures advanced by contemporary natural philosophers.

Hearne’s apparent admiration for the beaver and its ways of life explains his annoyance at other naturalists’ misrepresentations. Some of these he finds to constitute a gross “insult” on “common understanding”, particularly those developing the metaphor of beaver civilization into full-fledged analogy, in which “little remains to be added ... beside a vocabulary of their language, a code of their laws, and a sketch of their religion” (208). Others reveal a striking lack of knowledge of the lives of animals and people of the region alike. Hearne is eager to expose how both kinds of errors arise from contemporary naturalists’ lack of (or disregard for) direct empirical evidence and love of more scholarly studies reliant on second- or third-hand textualized sources of information. (Pennant’s use of du Pratz and Graham provides an example of the latter.) Practices of collecting and referencing previous textual descriptions seem to have been common in Hearne’s day. Houston, Ball, and Houston (2003) have shown Hearne to be among the early naturalists of Hudson’s Bay who improved the science of natural history by providing empirical evidence in the form of actual animal specimens from the New World to contemporary naturalists in the Old World, like Pennant. Accordingly, against the figure of the uncritical “Compiler of the Wonders of Nature and Art” – “collecting” and “improv[ing]” upon “all the fictions into which other writers on the subject have run” – Hearne presents himself as an expert in and of the field: one who “ha[s] not, or shall not ... advance any thing that will not stand the test of experiment, and the skill of the most competent judges” ([1795] 2011, 208, 187).

***Critique of instrumental science as argument for expansionism***

Hearne’s methodological critique is part of his broader argument against the deliberate use of poor scientific argumentation to advance prospects of intensifying the extraction of beaver fur from the Hudson Bay drainage basin.

Mixing scientific and mercantile categories constitutes such scientifically poor argumentation. Hearne makes a point of specifying that the eight different kinds of beavers Dobbs (1744, 25–26) carefully lists in his *Account of the Countries Adjoining to Hudson's Bay* (“the Coat Beaver”, “the *Muscovite* dry Beaver”, etc.) are “all of one kind and species” (Hearne [1795] 2011, 214). The same is the case for beavers of different colours, like the black beaver and the highly valuable white beaver, whose extreme biological rarity (215) – not British traders’ unwillingness to offer proper payment (Dobbs 1744, 49) – causes so few white skins to be brought to the English market. Dobbs’s categorizations are not scientifically defined species categories but product categories assigning monetary value to individual and seasonal variations within a single-species resource base. As such, their range and diversity must not be mistaken for species diversity. Perhaps inadvertently, Hearne identifies a conflict between Dobbs’s economic perspective, in which a diversification of products is what allows market expansion and enhanced productivity rates (cf. Carlos and Lewis 2010; de Vries 2008), and his own scientific one, which acknowledges how a mix-up of scientific and product categories may lead to an overestimation of the beaver resource base. In this manner, he tacitly acknowledges the fur trade’s unique attachment to its biological and environmental foundations. As Carlos and Lewis (2010, 14) would later put it, in the latter half of the eighteenth century, in which all HBC trading posts except the northern Prince of Wales Fort experienced a serious decline in beaver furs procured (despite their heightened prices), “an economy based on furs offered no real avenue for productivity growth”.<sup>11</sup>

11 Carlos and Lewis (2010) have nuanced long-standing debates on the role of Indigenous hunters in the decimation of beaver and other fur animal populations (cf. Martin 1978; Krech 1999) by showing that the groups with which HBC traded responded to heightened fur prices and the introduction of novel consumer goods by increasing the amount of labour allotted to fur-hunting activities. Ideas of conservation – including territorial boundaries and concepts of trespass –

Hearne’s comments on errors in what is today population biology similarly function to temper prospects advanced by Dobbs (1744, 56) of bringing in “four times as many Furs” to the companies’ factories than its forms of trade in the mid-eighteenth century allowed. Indeed, Hearne ([1795] 2011, 216) accuses Dobbs’s main witness, la France, of having wilfully deceived Dobbs (1744, 40–41) into believing that “the beaver have from ten to fifteen young at a time”. On the evidence of knowledge claims made by local Denesuline and his own experience of seeing “some hundreds of [beaver] killed at the seasons favourable for those observations”, Hearne ([1795] 2011, 216) declares the size of beaver litters to vary from two to five, with a maximum of six, young. They are, in other words, only about half the size la France claims them to be.

Although he finds support for this adjustment in litter size in Pennant’s *Arctic Zoology* (which reports litters to consist of two to three young [1792, 118]), Hearne is uneasy about presenting such a significant deviation from earlier (and more southern) accounts, and emphasizes the soundness of the scientific method through which he has obtained his data. Against la France’s single oral report, mediated through Dobbs, Hearne ([1795] 2011, 216) posits the Denesuline (“Indian”) method of establishing, “by

existed, but rules of territoriality were subservient to “good Samaritan” rules granting other groups access to hunting grounds and food animals when in need (Carlos and Lewis 2010, 13).

dissection”, the number of “hardish round knob[s]” in the womb of female beavers. Confirmed through a multitude of observations, this method has proved unerringly to indicate the number of kits in the past litter. In the role of science’s “modest witness” (Haraway 1997), Hearne ([1795] 2011, 216) reassures his readers that “[t]his is a circumstance I have been particularly careful to examine, and can affirm it to be true, from real experience”.

Hearne’s “beaver science” exposes how Dobbs combines biological and cultural misinformation to advance his argument for a rearrangement of the British fur trade. This gives rise to an overly optimistic prognosis of future yields in beaver skins. Key to Dobbs’s prognosis is the claim by “Joseph Lefranc” that “a good hunter can kill six hundred beaver in one season, and can only carry one hundred to market” (Hearne [1795] 2011, 214). Allegations of severe under-harvesting and of logistic limitations to trade lie implicit in this claim. Dobbs’s (1744, 56) solution to these problems is to establish trading posts upriver and give fair prices, through which “the Number of Hunters would increase, and [they] would bring four times as many Furs”. Scaled up to the magnitude of the HBC’s annual fur trade, Dobbs calculates the opening up of the trade and the settlement of the southern and western parts of the region, to yield an increase in profits from 40,000 to 100,000 pounds – soon to be heightened to 200,000 pounds “by supplying the Natives with Woollen Goods, Iron Tools, Guns, Powder and Shot” (Dobbs 1744, 56).

Against such statistical abstractions and idealized future gains, Hearne posits contextualized knowledge of local hunting and trading practices. He insists: “[i]f ever a particular Indian killed six hundred beaver in one Winter, (which is rather to be doubted,) it is still more than probable that many in his company did not kill twenty, and perhaps some none at all” (Hearne [1795] 2011, 215). Six hundred beavers must thus be understood not as the average but as the maximum seasonal catch of a local hunter. Hearne furthermore dismisses Dobbs’s claim that there exists a great surplus of furs that never reaches the market because of the small size of Indigenous people’s canoes, and that this surplus goes to waste. Canoes are larger than described by la France (214), and the Denesuline culture of sharing ensures that surplus furs are distributed among relatives and friends. No resources go to waste, and all valuable furs eventually make it to the Company’s factories (215).

In summary, the contribution of Hearne’s “beaver science” to the colonial and capitalist power discourse of his day is to posit the following arguments against Dobbs’s system critique of the HBC fur trade: (1) No significant transportation problem hampers the trade with the Indigenous peoples of the region. (2) There is no real underutilized surplus of hunted beaver furs or of living beavers. (3) The beaver population does not have the ability to expand or renew itself at the rate indicated in Dobbs’s estimations and

there is little reason to expect that an increase in fur-hunting activities will secure increasing yields. Accordingly, there is little reason to reorganize the fur trade or settle the region.

Dobbs's other visions for the settlement and utilization of the region's resources also come across as idealized fictions. As Hearne maintains:

It is a truth well known to the natives ... that there are many very extensive tracts of land in those parts, which are incapable of affording support to any number of the human race even during the short time they are passing through them ... ; much less are they capable of affording a constant support to those who might wish to make them their fixed residence at any season of the year. (Hearne [1795] 2011, 97)

With this claim, Hearne acknowledges the migratory lifestyle of the Denesuline and other Indigenous groups as a necessity in the northern regions known to him. Not only is much of the land incapable of supporting steady settlement; the migratory lifestyle of the Indigenous population, which supports the extended resource extraction on which the HBC relies and constitutes the logistic infrastructure through which these resources flow, must not be disrupted.

### **The beaver and the barriers to knowledge**

Hearne's experiences in the natural-cultural contact zone west and north of Hudson Bay provide an important resource base for his natural history. To meet the requirements of the emerging science of zoology, however, Hearne bases his descriptions of animals primarily on empirical observations. As evidenced in the above, his account of animals and their ecological significance relies on observations of specific events or phenomena made by himself or his Denesuline guides, or on generalized observations based on his guides' numerous and long-term experiences – at times reinforced by the accounts of other members of the Denesuline community. Such observations all belong to what Usher (2000, 186) has identified as “Category 1” aspects of traditional ecological knowledge (TEK). Forms of factual knowledge about past and current use of the environment based on Denesuline personal experience, observation, and oral history (Usher's [2000, 186] “Category 2” TEK) are evident only to the extent that they constitute tacit background knowledge guiding the itinerary of Hearne's travels, of which Hearne is unaware. Left out completely are alternative cultural norms for proper conduct and ethical behaviour towards animals and the environment (“Category 3” TEK). Similarly, the cosmology (“Category 4” TEK) that forms the basis of this integrated system of knowledge and values is never outlined (Usher 2000, 186). Hearne's contact zone zoology thus establishes what has recently been identified as a characteristically Western way of engaging with the

empirically verifiable and factual parts of TEK while neglecting its cultural, normative, and ontological aspects (Usher 2000; Wenzel 2004; Barrett 2013).

It is entirely possible that Hearne never gained access to the moral and ontological aspects of his companions' knowledge about the environment travelled and animals encountered. Denesuline teachings ("Old-Timer Law") warn of the dangers of granting the life-giving knowledge and power of animal stories to people lacking proper respect or moral aptitude (Smith 2002, 66), and Hearne's involvement in the HBC's mercantile extractivism would have effectively disqualified him. As other scholars have mentioned, Hearne ([1795] 2011, 275, 277, 325) moreover seems partly baffled, partly impatient with the spiritual aspect of Denesuline hunting practices (Martin 1978; Smith 1998). He dismisses perceptions of the wolf or the wolverine ("quiquehatch") as "something more than common animals" as "silly", particularly as they leave these animal resources unutilized (Hearne [1795] 2011, 193–194; cf. Mandeville 2009). The fact that animals are part of the complex reciprocal communicative and social relationships that constitute Denesuline realities (Smith 1998, 2002) either escapes Hearne or is neglected by him. The same is the case for the Denesuline conception that animals possess powers in many ways superior to that of humans, and that their lives bear witness to the moral fabric of the world and the rules of conduct humans must emulate (Smith 1998, 2002).

Hearne acknowledges the beaver's significance as a keystone species important to the creation of habitats and food sources for other animals, but he never presents the idea shared by many North American Indigenous peoples that beavers are "perceptive and powerful members of the natural community" and beings of much the same kind as humans (Nelson 1983, 135–136; Smith 1998; Ingold 2011b).<sup>12</sup> The Anishinaabe, for instance, highlight how the beaver's dam-building practices create new, shared worlds and multiply life (Simpson 2021). These practices speak of the beaver's continuous engagement in negotiations with other plant, animal, and fish nations; in politics of diplomacy as well as in ethical practices of wisdom (Simpson 2021, 14). Thus, the beaver embodies the deep relationality that is at the core of all life in and of the land (Simpson 2021; Mazzocchi 2020; Sepie 2017; Ingold 2011b; Smith 1998). Dene and Anishinaabe cultures alike have stories of "the woman who married a beaver" that emphasize the importance of scrupulously, and at all times, attending to such relationships (Curtis [1928] 1976, 128; Jones 1919, 251). Through the beaver's example, then, profound life wisdom may be found.

Hearne's "beaver science" is not far from allowing the beaver a sense of personhood, albeit one that does not imply an understanding of human–animal sociality or reciprocity. Having good cause to be sceptical of contemporary natural historians' uncritical use of metaphors, Hearne reserves the

12 This quote is from Richard K. Nelson's (1983) study of the Koyukon, but the same basic ontology appears to be shared among Dene and Anishinaabe peoples in what is now Canada.

use of (verbal) language, concepts of “commonwealth” and “civilization” for human cultures. In his wish to hinder the inappropriate transfer of a metaphor implying a very specific cultural ideal of human development into the emerging scientific discourse on the beaver, he ends up indicating that animals and their societies should not be thought of as analogues to human societies. With this, Hearne implicitly refuses the Indigenous tenet that the beaver should be studied as a model for human conduct (Simpson 2021; cf. Smith 2002). Hearne’s critique of analogy in this manner becomes a barrier against the transfer of knowledge from animal social realities into human ones. Once established, this barrier dims the view in both directions, and hides the effect human societies may have on animal ones.<sup>13</sup>

13 On the one hand, Hearne’s resistance against the application of cultural power discourses in the emerging natural sciences may arguably have served as protection against the naturalization of harmful political and ideological ideas – exemplified in social Darwinism a century later. On the other hand, it seems highly unfortunate that the dangers of inscribing Western value systems onto nature should block recognition of the normative implications of

From a current environmental perspective, Hearne’s neglect of the moral and ontological aspects of animals in Denesuline worldviews seems regrettable. From an Indigenous point of view, it must appear a significant shortcoming of his zoology. A contact zone perspective on Hearne’s natural history allows this deficiency to be interpreted as the result of radically unequal power relationships between the actors involved in its creation. Although Hearne depends on the Denesuline’s knowledge of the natural environment for survival in this contact zone “wilderness”, his authority in reporting on its “natural facts” is not something the Denesuline are in a position to contest. Accordingly, Hearne’s natural history is more attuned to the practical and discursive colonial-scientific infrastructures developing within (and out of) this contact zone than to Denesuline cultural realities. It expresses Hearne’s own judgement on what constitutes sound, valuable, and relevant knowledge on animals. Despite their flaws, peer natural historians are to Hearne more valuable as arbiters of this than his Denesuline companions.

### Conclusion: the failure and success of Hearne’s journey

interspecies sociality, which North American Indigenous cultures emphasize must be based on mutual respect and the acknowledgement of reciprocity.

Hearne’s journey to the Northern Ocean was both a failure and a great success. The physical journey failed in the sense that Hearne found neither a viable copper mine nor the long-desired Northwest Passage. The journey’s published narrative nevertheless demonstrated the HBC’s willingness to explore the region’s geography and possibilities of further resource extraction, be it the mining of metals or the expansion of existing networks of trade. More significantly, it was successful in establishing an image of the region as neither completely barren nor fertile enough for settlement. Offering deliberate opposition to prospects of further colonization based on abstract ideas of systemic expansion detached from the realisms of local environmental conditions, the *Journey*’s “beaver science” presented a solid

argument for status quo in the organization of the British fur trade. Analysis of how Hearne employed this “science” in his dispute with Dobbs moreover reveals how different forms of discourse sought in different ways to “empty” or “fill” the North, according to their different political agendas.

Hearne’s narrative supported the HBC’s monopoly and a form of large-scale and quite intensive form of animal resource extraction that – paradoxically – protected the region against permanent settlement as a kind of “wilderness preserve for fur-bearing animals” (Ellis 1886, 132). His many vivid and insightful animal depictions may moreover have caused his home audience to accept the current arrangement of the fur trade by allowing this large-scale extractive industry to remain associated with a hunter’s way of life among wild animals. Any romantic illusions regarding the fur trade’s “protection” of this wilderness, however, fade against the harsh reality of history. By 1821, the time the HBC merged with the North West Company and competition for the beaver trade ceased, the beaver population had been seriously depleted in the entire Hudson Bay drainage basin (Carlos and Lewis 2010, 107).<sup>14</sup>

14 Only in the hinterland north and west of Fort Churchill/Prince of Wales Fort, in which HBC maintained its monopoly and prices rose only very slightly from the 1720s to the 1760s, did no serious decline in beaver returns occur, indicating that harvesting regimes were kept at sustainable levels (Carlos and Lewis 2010, 111–112, 125).

Revisiting *A Journey to the Northern Ocean* reveals that Hearne’s zoology and early ecological contemplations – his focus on relationships between species; on animals’ seasonal migratory movements; on population dynamics; and even on limited forms of animal sociality – in all likelihood owe much to Denesuline culture and the willingness of Hearne’s guides to share their knowledge of the living world. Hearne appears to have had high aspirations for his work of natural history, and a wish to establish himself as – quite literally – an expert in the field. As part of this project, he challenges the lack of knowledge or the erroneous, overly anthropomorphizing, and environmentally decontextualized knowledge of contemporary book-learned naturalists. Regrettably, Hearne generally does not acknowledge the extent to which his status as a field expert relies on information he has acquired through, or in the company of, Denesuline guides. Nevertheless, despite his oftentimes racist and derogatory comments on Denesuline culture, Hearne time and again tacitly associates the empirical aspects of Indigenous knowledge with long-term and reliable field observations applied as evidence against poor – more text-based and archival – forms of contemporary natural history. His discussion on the size of beaver litters exemplifies how Hearne at instances also openly valorizes “Indian methods” for the study of animals and their anatomy. Thus it is on the basis of “twenty years residence” (Hearne [1795] 2011, 215, 323), and on much unacknowledged transfer of knowledge, that Hearne can give us information on seasonal and periodic variations in animal populations corroborated by the biological sciences much later (Houston, Ball, and Houston 2003).

.....

Hearne's mode of travel, which brought him beyond the boundaries of the colonial infrastructure and necessitated his increasing phenomenological adaptation to environmental realities (Horne 2005), appears to have heightened his interest in, and sensibility towards, the region's animal denizens. As evident in his "beaver science", Hearne regarded physiological, behavioural, and ecological accuracy as more important to his natural history than formal scientific classifications. His early ecological perspectives and emerging thoughts of sustainable yield represented important contributions to the emerging sciences. Similarly, his largely context-specific animal descriptions would arguably have enhanced his readership's understanding of the wealth of animal and human-animal relationships to be found in the Canadian North. In this sense, Hearne is only partially guilty of what Pratt (2008, 31) describes as the early natural historian's practice of severing "networks of historical and material relations among people, plants, and animals". However, while openly displaying the existence of several such relationships, Hearne simultaneously denies their reciprocity, along with their spiritual and ethical profundity.

If there is an emptiness to Hearne's North, then, it is constituted not by the absence of people and animals, for they are abundantly part of his narrative. Rather, Hearne's northern landscapes are empty in the sense that the relationships they hold are wanting of deeper philosophical and normative meaning. In line with the requirements of the emerging natural sciences, Hearne empties the relationship between humans and wild animals by reinforcing a boundary between human and animal sociality that renders the human separate from, and above, obligations of mutual respect and care. By challenging ideas of the beaver's "civilization", Hearne's narrative hides emerging conflicts between the commonwealth of beavers and of (fur-hunting, fur-trading) humans. The reduction and scientific objectivization of wild animals his "science" enacts leave the HBC's highly exploitative practices beyond critique, and perhaps aided in shifting the focus of Indigenous (sustenance) economies towards new and more exploitative forms of human-animal relationships. Identified as one of Western scientific culture's major flaws and the cause of environmental destruction, the boundary between the human and the animal has in recent decades been the focus of much philosophical debate (e.g. Plumwood 2002; Agamben 2004; Derrida 2008; Descola 2013; Braidotti 2013). Hearne's *Journey* offers an early example of how this boundary was drawn, and its author's motivation for doing so.

In the eighteenth-century contact zone in which Hearne operated, the form and method of scientific description were still negotiated. Hearne's discussion of the beaver exemplifies how natural history in its different forms could at this time be used in arguments both for and against further exploitation of the natural world, depending on its instrumental or relational outlook.



This situation, I believe, has not changed much over the centuries. As ecological knowledge alone seems unable to temper exploitative visions of future development, Western scholars would do well to learn from narratives of early science the motivation behind scientific ideas of human separateness and supremacy, and to reopen scientifically verified human–animal relationships to ideas of reciprocity, ethical responsibility, and care.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Funding

This work was supported by Norges Forskningsråd [grant number 301340].

## References

- Agamben, Giorgio. 2004. *The Open: Man and Animal*. Translated by Kevin Attell. Stanford: Stanford University Press.
- Barrett, M. J. 2013. “Enabling Hybrid Space: Epistemological Diversity in Socio-Ecological Problem-Solving.” *Policy Sciences* 46 (2): 179–197. doi:10.1007/s11077-013-9178-x.
- Berry, Wendel. [1977] 2015. *The Unsettling of America: Culture and Agriculture*. Berkeley, CA: Counterpoint.
- Braidotti, Rosi. 2013. *The Posthuman*. Cambridge: Polity.
- Cameron, Emilie. 2015. *Far Off Metal River: Inuit Lands, Settler Stories, and the Makings of the Contemporary Arctic*. Vancouver: UBC Press.
- Carlos, Ann M., and Frank D. Lewis. 2008. “The Economic History of the Fur Trade: 1670 to 1870.” In *EH.Net Encyclopedia*, edited by Robert Whaples. March 16. <https://eh.net/encyclopedia/the-economic-history-of-the-fur-trade-1670-to-1870/>.
- Carlos, Ann M., and Frank D. Lewis. 2010. *Commerce by a Frozen Sea: Native Americans and the European Fur Trade*. Philadelphia: University of Pennsylvania Press.
- Carlos, Ann M., and Stephen Nicholas. 1988. “‘Giants of an Earlier Capitalism’: The Chartered Trading Companies as Modern Multinationals.” *Business History Review* 62 (3): 398–419. doi:10.2307/3115542.
- Curtis, Edward S. [1928] 1976. *The North American Indian*. Vol. 18. Edited by Frederick Webb Hodge. New York: Johnson Reprint.
- Derrida, Jacques. 2008. *The Animal That Therefore I Am*. Translated by David Wills. Edited by John D. Caputo. New York: Fordham University Press.
- Descola, Philippe. 2013. *Beyond Nature and Culture*. Chicago, IL: University of Chicago Press.
- de Vries, Jan. 2008. *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present*. Cambridge: Cambridge University Press.
- Dobbs, Arthur. 1744. *An Account of the Countries Adjoining to Hudson’s Bay, in the North-West Part of America*. London: J. Robinson.
- du Pratz, Antoine-Simon Le Page. [1774] 1947. *The History of Louisiana, Or of the Western Parts of Virginia and Carolina: Containing a Description of the Countries That Lie on Both Sides of the River Mississippi: With an Account of the Settlements, Inhabitants, Soil, Climate, and Products*. Translated from the French. Reprint. New Orleans, LA: Harmanson.
- Ellis, George E. 1886. “Hudson Bay Company, 1670–1870.” *Journal of the American Geographical Society of New York* 18: 127–136. doi:10.2307/196790.

Kjeldaaas Sigfrid

- Fulford, Tim. 2006. *Romantic Indians: Native Americans, British Literature, and Transatlantic Culture 1756–1830*. Oxford: Oxford University Press.
- Fuller, W. A. 1999. "Samuel Hearne's Track: Some Obscurities Clarified." *Arctic* 52 (3): 257–271. doi:10.14430/arctic931.
- Graham, Andrew. 1969. *Observations on Hudson's Bay 1767–1791*. Edited by Glyndwr Williams. London: The Hudson's Bay Record Society.
- Haraway, Donna J. 1997. *Modest\_Witness@Second\_Millennium:FemaleMan©\_Meets\_OncoMouse™: Feminism and Technoscience*. New York: Routledge.
- Hearne, Samuel. [1795] 2011. *A Journey to the Northern Ocean: The Adventures of Samuel Hearne*. Classics West Collection. Victoria: Touchwood. Kindle.
- Horne, William C. 2005. "The Phenomenology of Samuel Hearne's Journey to the Coppermine River (1795): Learning the Arctic." *Ethics, Place & Environment* 8 (1): 39–59. doi:10.1080/13668790500115664.
- Houston, C. Stuart, Tim Ball, and Mary Houston. 2003. *Eighteenth-Century Naturalists of Hudson Bay*. Montreal: McGill-Queen's University Press.
- Ingold, Tim. 2011a. *Being Alive: Essays on Movement, Knowledge and Description*. London: Routledge.
- Ingold, Tim. 2011b. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. London: Routledge.
- Jones, William. 1919. *Ojibwa Texts*. Vol. 7, Part 2. Edited by Truman Michelson. New York: Stechert. American Ethnological Society Publications.
- Kendrick, A., PO'B Lyver, and Lutsël K' é Dene First Nation. 2005. "Denésq̄liné (Chipewyan) Knowledge of Barren-Ground Caribou (*Rangifer tarandus groenlandicus*) Movements." *Arctic* 59 (2): 175–191. <https://www.jstor.org/stable/40512690> (Accessed 18 Jan 2023).
- Krech, Shepard, III. 1999. *The Ecological Indian: Myth and History*. New York: Norton.
- Lopez, Barry. 2001. *Arctic Dreams: Imagination and Desire in a Northern Landscape*. New York: Vintage.
- Mandeville, François. 2009. *This Is What They Say*. Translated by Ron Scollon. Seattle: University of Washington Press.
- Marsh, James H., and Daniel Panneton. 2008. "Samuel Hearne." In *The Canadian Encyclopedia. Historical Canada*. Last Edited 17 December 2015. <https://www.thecanadianencyclopedia.ca/en/article/samuel-hearne>.
- Martin, Calvin. 1978. *Keepers of the Game: Indian-Animal Relationships and the Fur Trade*. Berkeley: University of California Press.
- Mazzocchi, Fulvio. 2020. "A Deeper Meaning of Sustainability: Insights from Indigenous Knowledge." *The Anthropocene Review* 7 (1): 77–93. doi:10.1177/2053019619898888.
- McGoogan, Ken. 2011. "Foreword." In *A Journey to the Northern Ocean: The Adventures of Samuel Hearne*. Classics West Collection. Victoria: Touchwood. Kindle.
- McGrath, Robin. 1993. "Samuel Hearne and the Inuit Oral Tradition." *Studies in Canadian Literature* 18 (2): 94–109. <https://journals.lib.unb.ca/index.php/SCL/article/view/8186> (Accessed 18 Jan 2023).
- Milligan, Richard, and Tyler McCreary. 2011. "Inscription, Innocence, and Invisibility: Early Contributions to the Discursive Formation of the North in Samuel Hearne's *A Journey to the Northern Ocean*." In *Rethinking the Great White North: Race, Nature and the Historical Geographies of Whiteness in Canada*, edited by Andrew Baldwin, Laura Cameron, and Audrey Kobayashi, 147–168. Vancouver: UBC Press.
- Nelson, Richard K. 1983. *Make Prayers to the Raven: A Koyukon View of the Northern Forest*. Chicago, IL: University of Chicago Press.
- Pennant, Thomas. 1792. *Arctic Zoology*. Vol. 1. 2nd ed. London: Faulder.
- Plumwood, Val. 2002. *Environmental Culture: The Ecological Crisis of Reason*. London: Routledge.
- Pratt, Mary Louise. 2008. *Imperial Eyes: Travel Writing and Transculturation*. 2nd ed. London: Routledge.
- Roberts, Strother. 2007. "The Life and Death of Matonabbee: Fur Trade and Leadership Among the Chipewyan, 1736–1782." *Manitoba History* 55. [http://www.mhs.mb.ca/docs/mb\\_history/55/matonabbee.shtml](http://www.mhs.mb.ca/docs/mb_history/55/matonabbee.shtml).
- Sepie, Amba J. 2017. "More Than Stories, More Than Myths: Animal/Human/Nature(s) in Traditional Ecological Worldviews." *Humanities* 6 (4): 78. doi:10.3390/h6040078.
- Simpson, Leanne Betasamosake. 2021. *A Short History of the Blockade: Giant Beavers, Diplomacy, and Regeneration in Nishnaabewin*. Edmonton: University of Alberta Press.
- Smith, James G. E. 1978. "Economic Uncertainty in an 'Original Affluent Society': Caribou and Caribou Eater Chipewyan Adaptive Strategies." *Arctic Anthropology* 15 (1): 68–88. <https://www.jstor.org/stable/40315920> (Accessed 18 Jan 2023).
- Smith, James G. E. 1987. "The Western Woods Cree: Anthropological Myth and Historical Reality." *American Ethnologist* 14 (3): 434–448. doi:10.1525/ae.1987.14.3.02a00020.

- Smith, David M. 1998. "An Athapaskan Way of Knowing: Chipewyan Ontology." *American Ethnologist* 25 (3): 412–432. doi:10.1525/ae.1998.25.3.412.
- Smith, David M. 2002. "The Flesh and the Word: Stories and Other Gifts of the Animals in Chipewyan Cosmology." *Anthropology and Humanism* 27 (1): 60–79. doi:10.1525/anh.2002.27.1.60.
- Stefánsson, Vilhjálmur. 1921. *The Friendly Arctic: The Story of Five Years in Polar Regions*. New York: The Macmillan Company.
- Usher, Peter J. 2000. "Traditional Ecological Knowledge in Environmental Assessment and Management." *Arctic* 53 (2): 183. <https://www.proquest.com/scholarly-journals/traditional-ecological-knowledgeenvironmental/docview/197663518/se-2> (Accessed 18 Jan 2023).
- Venema, Kathleen. 1998. "Mapping Culture onto Geography: 'Distance from the Fort' in Samuel Hearne's Journal." *Studies in Canadian Literature* 23 (1): 9–31. <https://journals.lib.unb.ca/index.php/SCL/article/view/8271> (Accessed 18 Jan 2023).
- Venema, Kathleen. 2000. "'Under the Protection of a Principal Man': A White Man, the Hero, and His Wives in Samuel Hearne's *Journey*." *Essays on Canadian Writing* 70: 162–190. <https://www.proquest.com/scholarly-journals/under-protectionprincipal-man-white-hero-his/docview/197247488/se-2> (Accessed 18 Jan 2023).
- Wenzel, George W. 2004. "From TEK to IQ: Inuit Qaujimajatuqangit and Inuit Cultural Ecology." *Arctic Anthropology* 41 (2): 238–250. doi:10.1353/arc.2011.0067.