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Breeding Beyond Bodies: Making and “Doing” Cattle

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Abstract

Dairy cows provide a spectacular example of what can be achieved with purposeful breeding of nonhuman animals in terms of increasing production and bodily adaptation to particular production systems. This implies that humans can make nonhuman bodies take whatever form they desire. However, the assumption that breeding outcomes are entirely shaped by humans has been criticized. This article contributes to ongoing discussions of breeds as socially constructed and applies a focus on cattle actions. Within a more-than-human biopower framework, cattle actions and ways of “doing” cattle are integral to both the notion and the future of the breed. This ethnography of breeding Swedish Mountain Cattle provides a detailed account of the mutual subjectification of cattle and farmers within an agricultural context, revealing the scope and limits of cattle agency and how “doing” cattle affects individuals and populations.

Keywords

rare breeds – more-than-human – biopower – cattle agency – ethnography of breeding

Introduction

Breeding nonhuman animals, particularly those on farms, has led to vast changes in their bodies. Bred nonhuman animals are highly molded by human

selection (Derry, 2003). Indeed, what constitutes a breed is shaped by humans and breeds are, in Holloway and Morris's (2014) words, "material-semiotic constructions rather than naturally occurring categories" (p. 11). Further, while humans to some degree "make" cattle, the practice of breeding is not entirely driven by a human desire to create specific animal bodies, as nonhuman animals also shape these processes (see Haraway, 2003; Holloway & Morris, 2014; Derry, 2003). Holloway and Morris (2014) explore this by attending to how nonhuman animals participate in moments of aesthetic evaluation and show how their "livingness, the expressiveness of its movement, its holding itself together and its ineffable sense of 'character'" (p. 14) play an important part in the evaluation.

In this study, we continue the discussions of how nonhuman animals themselves affect breeding by discussing how their actions affect the construction of a breed. To do this, we use a Foucauldian analytical framework of "biopower," applying and developing the more-than-human biopolitics articulated by Holloway and Morris (2012). Through a study of alternative farming practices focusing on sustainable agricultural futures, the breeding of the rare Swedish Mountain Cattle (SMC), we contribute to the emerging field of more-than-human biopower by introducing *lynne*—nonhuman animal ways of "doing" cattle—to further explore agency within this framework. The question driving this study is thus: how can we understand the scope and limits of cattle agency and their breeding implications for individuals and populations?

We consider the bodies of rare-breed cattle as sites where sustainable agriculture is imagined and materialized. SMC is a rare breed with a history predating industrialized agriculture. The cattle are smaller than the modern dairy and beef breeds and are good at finding food in forest pastures. Among SMC farmers—a minority among Swedish cattle farmers—keeping SMC for meat instead of milk has increased, which has led to discussions about what SMC are supposed to be, what they were in the past, and what they should be in the future. Previous literature emphasizes the increased importance of genetic evaluation in cattle farming (Holloway & Morris, 2008, 2012; Lonkila, 2017) and the control over biology offered by new reproduction techniques (Franklin, 2007). We focus our attention beyond bodies, genes, and productivity, toward the importance of cattle actions in constructing a breed—the entanglements of making and "doing" cattle.

Following Derry (2003, 2015), we consider breeding practices in relation to their supportive structures in our analysis. We draw on data collected through an 18-month ethnographic study involving participant observation on SMC farms and at breeding association meetings, as well as interviews with cattle farmers and breeding association members (see Bernard, 2006). On the farms,

participant observation entailed engaging in daily practices such as moving cattle, milking, feeding, and clearing out manure. Cattle were observed among themselves as well as in interactions with humans. Eight farms were selected for studying the three main production focuses in keeping SMC: dairy production (three farms), beef production (three farms), and household production (two farms). The interviews were semi-structured and supported by an interview guide to ensure that all areas of interest were covered (see Bernard, 2006). Questions were centered around the reasons farmers keep SMC, as well as what is most important for them when breeding their own cattle and for the breed at large.

During participant observations, field notes and photos were taken. Interviews were recorded, transcribed, and analyzed thematically using the Nvivo software program, focusing on themes relating to the research questions. All quotes were translated by the authors, and the names of informants were anonymized.

Understanding Agency in More-Than-Human Biopower through “Doing” Cattle

As sites of shaping sustainable agriculture, cattle bodies are engaged in uneven power relations and governed by actors with vested interests. We acknowledge that cattle engaged in agricultural production are ultimately dominated by humans and have, in their confinement within particular production systems, very limited possibilities to act in ways that go against these systems. However, we chose to examine those instances wherein cattle act in ways that have consequences for themselves, the cattle and humans around them, and for the breed at-large. While looks and productivity—bodily features—have often been prioritized over temperament in breeding (Derry, 2003), we examine the importance of *lynne* for understanding the influence of “doing” cattle on individuals and populations.

We use the notion of “doing” cattle in line with other performative accounts of animals “performing,” “doing,” or “becoming” a particular species. Geiger and Hovorka (2015) explore “donkeying” in Botswana through an empirical detailing of “becoming donkey” where they conceptualize the donkey body through elements of subject, subjectivity, and spatiality (p. 1102). In our case, we choose to use “doing” cattle, rather than “performing” cattle, “becoming” cattle, or “cattleing,” to highlight the importance of cattle actions. Further, we see doing cattle as one way of doing species, underscoring the power relations at play when differentiating between bodies. While both humans and cattle

“do” species—for example, both men and women “do” or perform gender (see West & Zimmerman, 1987, and Butler, 1990)—we see cattle as the ones who are “doing” cattle, acting in particular ways, although humans are part of making them who they are.

Foucault’s (2007) concept of biopower describes the lives of individuals and populations as regulated by governing powers. Biopower is the “management of life in the name of the well-being of the population as a vital order and of each of its living subjects” (p. 52; see also Foucault 1990, 2003). It entails controlling entire populations through the technology of power and fostering the lives of individuals and populations. An emerging field of more-than-human biopower scholarship (Asdal, Druglitrø, & Hinchcliffe, 2017) has extended biopolitics beyond the human (see for example, Wolfe, 2013; Lemke, 2015; Nading, 2012; Bierman & Anderson, 2017; Hartigan, 2017).

In particular, researchers investigating the breeding of animals on the farm (farm animals) have shown how biopower, with its focus on the regulation of life and populations, is helpful in understanding breeding practices involving genetic techniques (Holloway & Morris, 2007; Holloway, Morris, Gilna, & Gibbs, 2009) as well as practices of selection and deselection (Holloway, Morris, Gilna, & Gibbs, 2011). Breeding decisions have been better understood as interventions that are part of systems of management and control of individuals and populations (Holloway & Morris, 2008, 2012, 2014). Further, the implications of new milking technology have been critically examined as being active in the subjectification of both farmers and cattle (Holloway, Bear, & Wilkinson, 2014).

Our aim is to further examine the notions of cattle agency and subjectification. We find Holloway and Morris’s (2012) analytical framework of more-than-human biopower particularly useful as a point of departure. Leaning on Rabinow and Rose’s (2006) adaptation of Foucault’s biopower, Holloway and Morris (2012) examine three key axes of biopower: the construction of truths by authorities; the development of interventions to “guide the (re)production” of populations; and subjectification—the “production of individual human subjects” who think and act according to “truths” (p. 7). Statements perceived as truths about farm animals, linked to subjectification such as learning to be a good stock-keeper, are produced by authorities through breeding plans and practices where humans and those animals meet in moments of evaluation and judgment (Holloway & Morris, 2012). These truths then influence interventions in the lives of the nonhuman animals, such as decisions about which individuals to breed. Subjectification draws on the subject as being active and having agency, but also as being controlled by what is considered appropriate within the surrounding environment and, in particular, by authorities.

While cattle cannot clearly be said to reflexively or self-consciously work on their subjectivities, as Holloway et al. (2014) point out, they do interiorize aspects of relations to humans and milking robots that might change their behavior and can in this way be said to be “subjectified” by them. To understand cattle agency, we need to capture this duality of subjectification (agency and self-assertion on the one hand, and the limits of agency and being subjectified by the surrounding environment on the other). In order to do this, we use *lynne* to understand cattle’s agential capacities. *Lynne* is a Swedish word that refers to the way in which cattle act, including their personality, character, mentality, and temperament.

However, *lynne* cannot be reduced to any specific word but speaks to a combination of what kinds of things cattle do, the way that they do it, and their approach to other cattle as well as humans. Further, it should be noted that *lynne* not only refers to how cattle respond to humans’ demands, but equally to how cattle act towards other cattle and what types of choices they make. *Lynne* is, we argue, the way that cattle perform their embodied subjectivities—more than being linked to specific types of actions, it is the way that they “do” cattle in a performative sense. Indeed, Pearson (2015) emphasizes the importance of not equating nonhuman animal agency with resistance towards, or blocking the intentions of, humans. Other animals show agency, Pearson argues, by blocking human agency, but also by allowing it. Following Latour, Pearson (2015) decouples agency and intentionality, formulating agency as influencing how events or histories unfold. In alignment with this, we understand agency as relational in two ways: agency is the link between individuals and the effects of their actions; the effect of actions, as well as individuals’ possibility to act, is shaped by their relations to other actors.

While *lynne* is a way of doing cattle, humans’ normative judgments and prescriptive understandings of it become measures of their control over cattle, in that *lynne* is an important criterion for humans’ punishing or rewarding individual cattle and for breeding the next generation of them. Hartigan’s (2017) “care of the species,” developed from the Foucauldian “care of the self,” is useful here (p. 94). While care of the self refers to humans constituting and reproducing a proper self, care of the species entails a cross-species care where humans act on and sculpt the self of another species—in Hartigan’s case, corn. In our case, humans’ care of the breed, in part, makes the next generation of SMC bodies and *lynne*. While *lynne* is a way for the individual to do cattle, it is shaped at the population level through breeding.

Exploring further the distinction and relation between individual SMC and breed population, we draw support from Foucault. In analyzing cattle agency and its limits, we identify the two Foucauldian scales of biopower: the

individual and the population (Foucault, 1990). We focus on optimization of the capacity of the individual (“anatomopolitics”) and on steering the process of life of populations (“biopolitics”) (Foucault, 1990, p. 139). Foucault (2007) holds that one must become subject in order to become individual, that subjects are subjected within “continuous networks of obedience” and subjectified through the “compulsory extraction of truth” (pp. 239–240). The power relations between individuals, populations, and truths are largely entwined. The two scales, individual and population, become important in the biopower of human–nonhuman relations, as *lynne* affects individuals and populations differently.

Furthermore, we suggest that a population can be seen either as a specific herd or a larger breed. In the case of a herd, doing cattle is collectively enacted in what Burton, Peoples, and Cooper (2012) call “cowshed cultures” (p. 177). They hold that cattle have some aspects of what we see as human culture, such as “developing and maintaining social hierarchies and passing on new behaviors to others” (Burton et al., 2012, p. 177), and consider cattle to be active agents and important actors in the creation of the prevailing cowshed culture. Nonhuman cultures should not, as Hartigan (2017) points out, be expected to be mirror images of human cultures. Stockpersons learn the behavior of the cattle in their care, and according to Burton et al. (2012), the cattle learn the behavior of the stockpersons, who underline the importance of previous experiences and the culture of both humans and cattle. In this way, we see cattle as social actors, as sociality is fundamentally cross-species, and nonhumans and humans alike participate in social relationships (Birke & Thompson, 2018).

Cowshed culture is also shaped by the practices of stockmanship—a gendered term used regardless of the stockperson’s gender (see Burton et al., 2012; Butler & Holloway, 2016). We suggest that stockmanship is always shaped by an iterative interaction, with particular truths that come together in a cattle-specific worldview. Grasseni (2005) writes about farmers’ “‘world-view’ that directs one’s attention and is informed by a standardized and disciplined vision” (p. 35). We argue that this worldview, which includes cattle, comprises a set of constructed truths about cattle and their purpose that align with the farmers’ overall worldview. The vision includes much more than a trained eye—it is a vision of what cattle are supposed to be.

Andersson (2016) suggests the term “horse view”, in alignment with worldview, to denote understandings of the horse in terms of epistemological, ideological, and ethical assumptions that shape horse practices (pp. 108–109). In order to emphasize the more-than-visual way of envisioning cattle, we suggest the corresponding term “cattle view” (Swedish: *kosyn*) for similar understandings of cattle. Reproducing cattle is a continuous process of subjectification

of farmers in accordance with certain constructed truths. In the following, we examine whether a focus on cattle *lynne* and farmers' cattle views can deepen our understanding of how the different levels of biopower—individual, herd, and breed—are linked through cattle agency.

Cattle Lives Shaped by Cowshed Cultures and Cattle Views

Everyday cattle practices and cattle actions are shaped and limited by the production system in which they live. For SMC in commercial dairy production, the day revolves around two milkings. For the commercial dairy farmers included in this study, milking (including cleaning the barn and milking equipment and feeding the cows) takes around three to four hours in the morning and the evening. The cows are handled individually and milked either tied up or in a milking parlor within a loose house. All dairy cattle on all commercial dairy farms included in this study are milked by milking machines. Between milkings, the cattle graze in the summertime and either roam free or are tied up indoors in the winter. Cattle on commercial beef farms are fed in the morning and evening in the winter, and in between they graze outdoors in summer and roam free in loose housing in the winter. Household cows are hand-milked for household milk consumption. The farmers with household cows included in this article became farmers after retirement and have one or two cattle lactating simultaneously, although one farmer has a larger herd. Milking takes around 20 minutes per cow, and for the rest of the day, the cows graze on pasture in the summer and are indoors in the winter.

The everyday practices of the three production systems, with their differing daily routines and human–cattle interaction patterns, lay the foundations for different cowshed cultures. These cowshed cultures are entangled with overlapping, but diverging, cattle views that condition the scope and limits of cattle agency at individual and population levels. However, to understand how *lynne* affects individuals, herds, and breed populations, we first need to understand differences in how cattle views shape farmers' breeding choices: interventions that guide the (re)production of cattle populations. Cattle views build on specific truths (see discussion in Holloway & Morris, 2014) that became apparent in this study when discussing farmers' motivations for keeping SMC and for choosing a particular production system.

For dairy farmers, motives revolved around helping to save the breed, an affinity for the breed because of traditional connotations, and the breed's special physical traits and *lynne* suitable for their purposes. Reasons for choosing dairy production among farmers varied, but all mentioned a love of cattle

and a conviction that SMC cows should be milked, as well as a feeling of keeping up a tradition. When asking whether there was a specific reason he had chosen dairy farming, one farmer simply exclaimed—“Yes, because you milk cows!”—implying that milking cows is the only valid reason for keeping cows. For dairy producers, “good milk” entailed milk quantity as well as quality.

This cattle view was entangled with certain truths in a view of the future where it will be necessary to produce food without fossil fuel. When pondering the changes the future might bring, dairy farmer Kristoffer said, “Then she [the cow] will graze in the forest and fetch the nutrients from the forest and bring them home.” His partner Sara added that “they will be able to eat stuff that humans will not be able to eat ... because they can eat twigs and sticks.” Here, the SMC are framed as generally fitting with such a future due to their capacity to produce milk on whatever fodder that grows around the farm. Breeding for dairy production was also motivated by the firm belief that meat will be a luxury in the future and that species who are efficient in transforming roughage into milk will be essential. This view, linked to sustainable agriculture, excludes breeding for beef. Furthermore, it is self-evident that SMC should be kept in dairy production, and not beef production, in order to cater to human needs in a precarious agricultural future.

However, breeding decisions among the beef farmers interviewed were guided by alternative cattle views. SMC beef farmers predominantly cited helping to save the breed and the small size of the cattle (suitable for fragile grazing land) as motivations for raising SMC, as well as their meat and their good *lynn*. Beef farmers reported that SMC meat is considered particularly tasty and sought after by high-end restaurants:

Then it is actually, it is tasty meat. It is a finer grain than these beef breeds that get a really coarse structure. It [the beef breed carcass] is hung and sure, it gets tender, but it is still really coarse muscle fibers. An SMC is more like chicken or rabbit or pork, it is much more finely structured.

Meat quality as a trait was talked about in terms of the whole breed, not something bred for in individuals. At the individual level, the quantity of meat was more interesting for beef farmers, and one farmer explained: “Yes, I want a bit of hind to them. Some SMC have absolutely no back body and some of them have a bit. And I want those who have a bit.” These SMC are thus bred for meat quantity. Choosing to engage in beef production is a way for these farmers to live a lifestyle close to cattle, but without the financial challenges associated with low milk prices and without the time requirements of milking twice a day.

It should be noted that, while around half of SMC in Sweden (of a total population of around 2,600 females in 2016, according to the breeding plan) are said to be kept in mixed herds of cows and calves and not milked, most of these are kept in herds with less than 20 cattle, and very few SMC farmers engage in commercial beef production. As with SMC dairy farmers, SMC commercial beef farmers' cattle views were tied to truths about sustainable agriculture in a post-fossil fuel future where protein feed would be unavailable. However, these farmers saw the need for meat in such a future, as Hans ponders:

Perhaps the SMC should be a beef producer on meagre pastures in the inland sometime in the future, that's possible. But that she would become some sort of super dairy cow and beat the real breeds, I have a hard time believing that.... And then it's the thing that beef breed cattle need quite a bit of feed and they need protein feed. The SMC, I raise on grazing and milk.

In Hans's view, SMC are ideal for meat production in a post-fossil fuel future. Bosse, on a neighboring farm, was of the same opinion: "They are used to living on finding their fodder out in the forest and rough pastures. In the past, these cows grazed in the forest. And they milk well in relation to their body weight." However, these farmers argued that society will need meat in such a future and will hence need the SMC, who can survive on non-processed fodder, to also be bred for meat. This can be understood as engaging with different truths than dairy farmers.

Like dairy and beef farmers, farmers keeping household cattle connected their views of cattle to a need for more sustainable agriculture. The futures and truths they drew upon to justify rearing SMC featured post-fossil fuel societies where people will need to rely on small-scale production rather than superherds of either dairy or beef cattle. Breeding for both dairy and beef production was seen as important. Linda explained, "Yes, I believe that one should include both, I don't think that one would only strive for one of them, because we will also need meat." This view overlaps with the one presented by the beef farmers, while manifesting in different cowshed cultures.

Anna, who keeps SMC as household cows, believed that "hobby farming" is the solution to increasing the cattle numbers, rather than large-scale dairy production. Anna reflected that many people choose to keep a riding horse and that they could just as easily keep a household cow, as their time is already spent caring for nonhuman animals. "If we could get the old ladies who have to quit riding to get a cow instead," Anna said, "then they'll discover how great it is!" In this way, many people could help keep the population of SMC vital.

However, as milking by hand requires different interactions, breeding for *lynne* and longer teats is seen as crucial by household farmers.

The three cattle views thus overlap in a shared concern for the future of the breed, but the farmers' methods and "care of the breed" diverge. Some dairy farmers stated that while beef farmers can do what they want, they should not claim to be saving the breed if they do not breed for milk. However, some beef farmers claimed that the cattle are still valuable SMC when kept in beef production systems and bred for beef production. Commercial dairy farmers were criticized by some for not keeping the breed in a traditional way, but engaging in mainstream dairy production with a breed that cannot compete with high-producing Holsteins. Commercial dairy farmers, for their part, believed that because they are milking their SMC, they are maintaining traditions and also suggested that breeding for increased milk yield is crucial for the survival of the breed. Others believed that, rather than breeding the SMC into a single-purpose commercial dairy cow, dairy farmers would be better off using conventional breeds and leaving the SMC as a traditional, "undeveloped" breed.

These three overlapping but diverging cattle views of the production systems of dairy, beef, and household cows emerging among SMC farmers are embodied in different kinds of cowshed cultures, affect the everyday lives of cattle, and affect farmers' breeding choices. In a later section, we discuss how these cattle views intersect with *lynne* in ways that have implications for the breed population. First, however, we explore *lynne* further and its implications for the individual and the herd.

Understanding Subjectification and Agency through *Lynne*

Farmers across production systems described good *lynne* similarly. In this section, we discuss *lynne* in more detail to show the scope and limits of cattle agency. As a breed, SMC cattle are dominated by humans, with little possibility to act in contradiction with the production system in which they are used. However, at the individual level, power relations become more complex and cattle show agency in interactions with individual farmers and other cattle. In the following, we focus on the individual level to illustrate how cattle participate in processes of subjectification of both themselves and farmers through their way of doing cattle through *lynne*.

The beef, dairy, and household cow farmers interviewed all stated that the *lynne* of cattle is crucial. This is exemplified by a discussion with household farmer Linda and her husband Vidar:

Interviewer: When you talked about bulls you mentioned that *lynne* is important, do you think that about cows too?

Linda: Yes, yes, that is important.

Vidar: It is absolutely as important for cows if you are going to milk and work with them, morning and evening ...

Interviewer: How should an SMC behave then?

Linda: Well, she should allow me to milk her, she should not try to kick me into the roof! [laughs] I have a few tricks for milking a cow because if they feel that they can't get anywhere they usually give in pretty quick, but if they notice that they get the slightest upper hand, they will use it. It is important to succeed the first few times, because if the cow is allowed to decide, then it is no fun at all.... A horse, he will only kick straight backwards but a cow can reach in all directions....

Lynne in this case intersected with a particular cattle view to shape cowshed culture. Furthermore, this conversation clarifies how *lynne* captures the agency of the individual cow (kicking as an attempt at self-assertion). It also shows how cows, through their *lynne*, are subjectified by farmers into certain ways of doing cattle. On visiting cattle barns with the farmers, they pointed out what *lynne* meant in practice. Walking around Birger and his son Axel's farm, where they keep SMC for beef, they showed what they meant by the ideal *lynne* for a bull. The following is an excerpt from field notes:

We go back into the first pasture, and when the bull comes up to us, Birger shows what he means by good *lynne* for a bull. He walks towards the bull, and when he is a couple of meters away and takes a step directly towards the bull, the bull takes a couple of steps slowly backward. That is exactly what Birger wants him to do—have respect without being afraid. He should back up one step when Birger takes a step forward, but not be afraid and run away, or scrape his hoof in the ground to challenge him. The cows, on the other hand, can come closer and come right up to the humans, but a bull should not do that if one walks towards him in that manner.

In daily negotiations, cattle learn how farmers want them to behave and interiorize, to different degrees, ways of doing cattle that are linked to more or less discomfort in a specific cowshed culture. Behavior that the farmer deems appropriate is encouraged, while inappropriate behavior is discouraged. The following excerpt from field notes describes how cattle and farmers negotiate interactions:

When I was with Sara in the cattle barn, we talked about the cows and what they looked like and how they acted. Two in particular, mother and daughter, were curious and cuddly and came up to us and wanted to sniff us and cuddle. Sara thinks that such behavior [*lynne*] is good, but it can also become a bit too much when the cow wants to be with you and close all the time. Cows that are calm, nice to each other and to humans, and “not noticeable” are good cows and those that get to reproduce. Among the most important things is that they are easy to milk, that they do not quarrel or try to kick when they are in the milking booth, and that they do not kick off the milking machine or quarrel and disturb the other cows. Sara scratched the cows that came up to us, but shoved them away when they pushed too much. When she was milking, she shouted at the cows that kicked the milking device, or [she] shoved at the[ir] kicking leg.

This interspecies communication encourages certain performances of cattle *lynne* and discourages others, leading to cattle internalizing behavior and shaping *lynne*. Importantly, the first part of the excerpt shows how *lynne* refers not only to ideas about compliance and resistance towards humans, but also to cattle's initiative, certain behaviors, and attitudes towards their surroundings. In fact, this could be interpreted as humans resisting cattle cuddles.

However, power relations are certainly uneven, as cattle with “good” *lynne* are allowed to reproduce, while those with exceptionally “bad” *lynne* may be sent to slaughter. The way that individuals in the herd do cattle affects their own future and the future of the breed. The “need” to cull nonhuman animals also reflects the limits of human agency in shaping individual cattle *lynne*. Cattle are, at large, subjectified according to human preference or not allowed to reproduce. Therefore, while Holloway and Morris (2014) argue that seeing the agency, and therefore the “livingness,” of cattle makes it more difficult to deselect individuals, the interaction between Sara and her cattle shows how it can also make it easier to deselect cattle if agency is expressed through bad *lynne*. Again, *lynne* is relationally tied to both cattle and human agency, and is tied to how cattle are subjected to human control.

Moreover, we suggest that subjectification of farmers and cattle goes both ways, so that farmers are also subjectified by cattle. Linda illustrated how she learns appropriate behavior from her cattle as we walked around the barn. She explained that cows let you know if they do not approve of the way you are milking them, and then you have to adjust. She concluded that “it is probably teamwork, we learn from each other” and that the way that humans should act in the cattle barn needs to be learned from the cattle:

If someone comes into the barn and yells and is unruly in their body language, the cattle get very skeptical. People who have an interest in animals, they easily understand the cattle and back away themselves.... But others don't get it, then you have to tell them. You have to adjust to the cattle or it won't work. They are very explicit.

Farmers learn from their cattle to interact in ways that encourage them to display their best version of *lynne*. Hence, it is not only breeding plans and other farmers that sanction farmers' behavior and cattle views, but also cattle themselves. When farmers talk about doing "what works" in the barn, they are indirectly acknowledging cattle as authorities on how things should be done. Thus cattle and human agencies are closely connected—with agency as a relation rather than a property—and together create a cowshed culture and mutually subjectify each other, shaping "proper" behavior.

Breeding Linking Individuals and Populations with Implications for Cattle Agency

Breeding is a way of thinking about and molding a species (Hartigan, 2017). On a population level, SMC breeding is governed by the breeding plan set forth by the breeding association, *Svensk Fjällrasavel*, which can be seen as the most important authority directing what is an "appropriate" SMC. The breeding plan covers details about the cattle's exterior and physical traits, their *lynne*, and their appropriate functions. When it comes to *lynne*, the breeding plan describes what is typical and desirable for SMC:

[A] lively, loving temperament that, together with the good mobility/agility and the good ability to find food, makes the SMC a very suitable milk producer on natural pastures and forest grazing areas in, for example, summer farms or in organic milk production.

Svensk Fjällrasavel, 2016, p. 3

This quote reveals how cattle's *lynne* and functions are central to the truths about the breed's suitability in extensive grazing regimes. Furthermore, the section on breeding goals begins by stating:

The goal for the breeding is to improve those traits that are economically important for the keeper of the animals. Good milk yield ability is thus of the utmost importance in order to assert the breed for the future.

Svensk Fjällrasavel, 2016, p. 3

Here, the SMC breed is constructed as a dairy breed, and its successful reproductive future requires the production of a commercially viable dairy cow. In a later passage, SMC is constructed as a dairy breed based instead on the past:

All animals used in breeding should be kept in a traditional way and be milked. Milk does not need to be delivered to a dairy; the most important is that the animals are used in the same way that has been done for hundreds of years, i.e., being milked and handled. Beef has never been a primary product for the SMC, but a byproduct of dairy production; we have to keep [using the SMC for dairy production] if we are to be able to keep the SMC as the unique cow breed she is.

Svensk Fjällrasavel, 2016, p. 6

The breeding plan advises against keeping SMC as beef cattle. Since 2011, after an increased focus on beef production, the breeding plan states that all dams of bulls included in breeding SMC should be from herds engaged in dairy production (*Svensk Fjällrasavel*, 2016). They have to be milked and registered in the national register for dairy cows (*Svensk Fjällrasavel*, 2016). In addition to having a health certificate regarding testicles or ovaries, they should also have the right heritage, defined as having both a father and maternal grandfather who are approved SMC bulls. In other words, what the cows do is key in defining whether the next generation can be certified SMC.

While cattle can be registered in the association's herdbook without fulfilling these criteria, certification based on the breeding plan qualifies them for national EU rare breed grants, an annual payment for each eligible cow that is made directly to farmers. This breeding plan clearly aligns with only one of the three cattle views observed in this study, but all farmers have to follow it if they want to keep certified SMC and receive the subsidy. Of course, it is still possible for farmers to keep SMC for beef production and access this grant as long as the previous generation was engaged in dairy production. However, they may not use the male offspring from these cows to breed if they are to qualify for an EU rare breed grant for the next generation of cattle.

This means that it is not only the body, genes, or *lynne* of the cattle which define whether they are SMC, but also the activities in which the individual (or their mother) is engaged. What the cattle do during the day and how they interact with humans are central to the making of the breed. Farmers can call their cattle SMC without following the breeding plan, but the plan clearly constitutes an authority shaping the future of the breed as a population and constitutes a biopolitics of breeding through governing cattle practices.

While the breed certification system might seem to be far removed from the accounts of cattle agency in specific cowshed cultures, they are in fact closely entwined. As mentioned in the preceding paragraph, the breeding plan requires breeding from bulls whose mothers are active in dairy production and registered in the national registry in order to be eligible for EU support. Thus, attention has shifted from saving genetic resources or certain phenotypes to cowshed culture. Without milking and registering cows, “we don’t know what we are preserving,” as more than one dairy farmer put it. Beyond the data in the national register (on milk yield, fat content, etc.), the dairy farmers interviewed believed that the practical possibility of milking the cows needs to be preserved. Therefore, their beliefs concern interspecies cowshed cultures rather than simply the production system.

One dairy farmer recollected that, of the approximately 500 cows from dairy herds he had introduced to milking during his 26 years as a farmer, only five had bad *lynne* and had to be sent to slaughter. During that time, he bought 10 SMC calves from beef farms, of whom he had to send eight to slaughter because of bad *lynne*. The cattle who are perceived as having bad *lynne* are not a problem in a beef herd, as they do not interact with humans as much as the dairy cattle do.

This same dairy farmer also happened to be influential in the breeding association, and other influential dairy farmers reported similar experiences. They agreed that the “typical” SMC *lynne* described in the breeding plan needs to be maintained in the Swedish population of SMC. Their response to cattle expressing their subjectivities through individual cattle *lynne* works against breeding SMC for beef.

Talking with influential farmer Johannes a year later revealed further complexity. Despite the changes in the breeding plan in 2011 and some beef farmers leaving the association, Johannes explained that SMC with bad *lynne* are still being kept as beef cattle. At the same time, some small farms cannot afford to register their cattle in the national dairy registry although they milk cattle by hand, and they have trouble getting certification for the EU grant for their offspring. This had been solved in the breeding association by making exceptions, but now a new change is underway. In order to encourage all SMC farmers who milk their cows (not only the more commercial farms) to apply for EU support, a proposal approved by the association meeting in August 2018 lifted the requirement on entering cows into the national register (intended for commercial production).

Instead, the association now accepts other proof that the cow is being milked, such as photographic evidence. This is a step away from privileging milk yield and a step toward prioritizing a certain kind of *lynne* that fits

particular cowshed cultures—highlighting cattle subjectivities and specific ways of doing cattle.

A sub-population of SMC, originating from a few herds not actively bred for milk yield who are smaller and typically kept for household production, was previously exempt from the requirements of registration in the national dairy register. Such farms will now also need to prove that the bull's mother was milked in order to get certification for his offspring. This means that the main authority on SMC breeding is further aligning itself to the cattle view associated with household cattle and still supporting the cattle view tied to commercial dairy farming, but more clearly disassociating itself from beef cattle. Consequently, the actions of individual cattle with bad *lynne* and of beef farmers, both seen as “problem individuals” in the eyes of the influential dairy farmers, are affecting the breeding plan, the national SMC breed population, and the farmer population of the breeding association. The individual, the herd population, and the breed population of the SMC are shaped by an iterative process through cattle agency expressed and limited by doing cattle through *lynne*.

Conclusion

Continuing discussions on farm animals and breeding that situate, contextualize, and go beyond human agency and its material, biological limits, this study examined the scope and limits of nonhuman animal agency in breeding SMC. We have shown how individual cattle act in ways that have implications for themselves, the herd, and the breed population. Cowshed cultures served as sites to observe the biopower nexus at work within the framework of alternative farming for sustainable agricultural futures. In these cultures, diverging cattle views shape implications of cattle agency for both the individual and the population.

With this detailed account of humans' breeding of a rare cattle breed, we have proposed new ways of understanding nonhuman animal agency within a more-than-human biopower framework as adapted by Holloway and Morris (2012). We also extended the analysis of relations of history, power, technology, and markets that Derry (2003) discussed by focusing on cattle breeding beyond bodies and on the entanglements of making and doing cattle.

Further, we have shown how cattle and humans are mutually subjectified by each other, where cattle are sometimes authorities in the subjectification of farmers, and farmers are sometimes authorities in the subjectification of cattle. We have shown how *lynne* captures different elements necessary to

understand subjectification and agency: the ways in which cattle express their subjectivities and do cattle; their efforts to resist domination; the way that cattle take their own initiatives; and how cattle are subjectified by various human-held cattle views that engage specific truths.

While cattle agency expressed through *lynne* affects entire herd and breed populations through human responses in the breeding plan, cattle as a species are subject to human control. Indeed, the power of humans to end the lives of cattle represents the limits of individual cattle agency. However, it also represents farmers' limited agency in shaping individual cattle *lynne*. How this plays out is context-specific, and we emphasize that multispecies agency is relational rather than a property. The breeding of SMC today goes beyond bodies and towards *lynne*, and cattle views prioritizing a certain type of *lynne* shape SMC bodies into milking bodies. Ultimately, it is not only cattle who are bred in these cowshed cultures, but also concepts of sustainable agricultural futures that might shape the development of the breed and agriculture at large.

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