Extending Social Theory to Farm Animals: Addressing Alienation in the Dairy Sector

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Abstract

We extend social theory to farm animals in an attempt to illustrate how non-human animals embedded in social systems can be examined using sociological concepts. Inspired by efforts to include the freedom to express natural behaviour in farm animal welfare standards, we apply Marx’s conception of alienation to dairy cows. We first examine industrial dairy farm conditions and find that these systems result in the distortion of life and the suppression of physical and social needs. We then explore alienation in an alternative production system where cows graze on pasture and choose when to be milked by robotic milking machines. Based on farm visits and interviews with farmers, we find that this alternative system addresses several aspects of alienation found in industrial dairy farms. However, despite the benefits associated with alternative production systems, forms of alienation will persist in all systems where maximising profits remains prioritised over life and wellbeing.

Introduction

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cholars in the social sciences and humanities have explored the role of nonhuman animals in society from a variety of perspectives, focusing on the historically and socially contingent relations between humans and animals in entertainment (Rothfels 2002; Kalof and Taylor 2007), agriculture (Bobrow-Strain 2009; Stănescu 2010; Shukin 2011), science (Arluke 1990; Arluke 1994), companionship scenarios (Irvine 2004; Haraway 2007), and other human (sub)systems and lifeworlds. Human-animal relations have been examined empirically, interpretively, and normatively from perspectives rooted in critical theory (Sanbonmatsu 2011), poststructuralism (Coppin 2003; Haraway 2007; Holloway 2007; Shukin 2011), feminism (Adams 1991), and symbolic interactionism (Jerolmack 2009), among other theoretical and philosophical traditions. However, this work has remained largely marginalised within the social sciences, and within rural sociology, and for the most part nonhuman animals have remained either invisible or seen as part of an abstract wild ‘nature’
We agree with other scholars who recognise that much can be learned about society through investigating relationships with nonhuman animals and that in many ways these animals experience social and environmental change along with humans (Benton 1993; Dickens 1996; Noske 1997; Franklin 1999; Tovey 2003; Buller and Morris 2003; Holloway 2007). We also agree that nonhuman animals deserve more attention in our work and that social theory can be highly relevant to nonhuman animals embedded in human society. In this paper, we extend Marxian theories of alienation to dairy cows, examining the ways in which these domestic animals experience different forms of alienation and exploring how these forms of alienation may be alleviated by alternative agricultural systems.

Social systems influence and shape the lives of nonhuman animals as well as humans. This is especially true of domesticated animals. These animals serve important and diverse roles in society; however, some are given more attention than others. While pet animals receive much human attention and care, most people overlook or ignore the role of nonhuman animals in food production (Franklin 1999). As industrialisation has transformed the lives of farm animals, they have become increasingly isolated and ignored by most of society. If we consider farm animals as a part of society (Tovey 2003), they remain a social group exploited for a single purpose (food), and most people prefer not to contemplate where their food comes from.

Despite tendencies to ignore farm animals, crises related to food safety and exposure to information about factory farm conditions has resulted in rising concern about animal welfare. Some members of society have become very concerned about the lives of farm animals, seeking improvements in animal treatment within the agricultural system, primarily through consumer actions (Lang 2010). Some have become vegetarian or vegan, personally rejecting animal agriculture through marketplace behaviour. Others seek out foods labelled to distinguish superior welfare conditions, such as free-range chickens and pasture-raised beef. More consumers want to imagine their food coming from ‘happy’ animals; able to do what animals are ‘supposed to do’ (Buller and Morris 2003). Policy changes have also occurred, but defining animal welfare remains problematic (Busch 2011; Miele et al. 2011; Vaarst and Alroe 2011). It is not our intention to review farm animal welfare standards in this paper; however, we wish to highlight a shift from a focus on preventing suffering to a focus on specific freedoms (Buller and Morris 2003). These include freedom from discomfort; freedom from hunger and thirst; freedom from fear and distress; freedom from pain, injury, and disease; and freedom to express natural behaviour (EUROPA 2012).

We contend that an increasing focus on freedoms, especially freedom to express natural behaviour, presents an opportunity to further interrogate how Marx’s conception of worker exploitation and alienation applies to farm animals. As stated by Benton (1993, p. 59):

A good deal of the content of Marx’s contrast between a fulfilled or emancipated human life, and a dehumanised, estranged existence can also be applied in an analysis of the conditions imposed by intensive rearing regimes in the case of nonhuman animals.

While some of Marx’s work emphasises a dualism between animals and humans, illustrating opposition, we agree with others that many aspects of his work can be
applied to nonhuman animals based on shared experiences of exploitation (Benton 1993; Perlo 2002; Dickens 2003). We acknowledge that many differences exist between humans and nonhuman animals, whose otherness can largely be attributed to their inability to speak for themselves and significantly alter their environment. However, even Marx recognised that both human and nonhuman animals suffer. Based on Marx’s emphasis on sympathy for the most exploited and lowliest social groups, we can extend Marxist theory to nonhuman animal labourers (Perlo 2002). Farm animals may represent the lowliest members of society, whose entire existence is exploited.

Marx’s notion of alienation seems especially fitting to examine freedoms for farm animal and an animal’s ability to express natural behaviour. We agree with others that farm animals are alienated in many of the same ways as human labourers, as described by Marx (Benton 1993; Dickens 1996; Noske 1997). This includes alienation from the product of their labour, from the production process, from species being, and from relations with other beings (Marx 1978a). Benton (1993, p. 59) argues that it is appropriate to extend Marx’s conception of alienation to nonhumans, ‘who through their “incorporation” into forms of human social life, are subject to directly comparable forms of impoverishment, fragmentation, and distortion in their modes of life’. This especially applies to farm animals, as the industrial food system greatly constrains and distorts the lives of animals involved. While we can extend the concept of alienation, in many ways alienation for the farm animal is more brutal: ‘Livestock animals are in a sense the workers operating in the shadows, an ultra-flexible under proletariat, exploitable and destructible at will’ (Porcher and Schmitt 2012, p. 42). Industrial farm animals never leave the workplace; their existence revolves around exploitation for food production (Noske 1997).

Marxist theory is well-suited to address issues in livestock production for several reasons. Variables central to Marxist theory call attention to aspects of livestock production that are often foreign to traditional literature on farm animals: capital accumulation, exchange value, labour, private property, praxis, and the focus of this paper – alienation. Semantically, of course, one could substitute the term ‘alienation’ with any term one prefers, but the term is meant to denote, in Marxist tradition, the distortion and stunting of needs and capacities due to unfit and exploitative social conditions. More specifically for Marx: the labour process in capitalist societies inhibits the unfolding of latent potentialities and turns the powers and capacities of the labourer against himself or herself. We show that this thesis can be seen clearly in the lives of nonhuman animals and that conceptualising it as such illuminates aspects of livestock production that might otherwise be overlooked. Our application of Marx’s theory of alienation to dairy cows illuminates why human and farm animal workers may have similar material interests, even in cases where they are not conscious of these interests. They share an interest in meeting the needs of living beings before the needs of the economy, rather than exploiting living beings to increase profitability. This normative component might not be reached without the inclusion of Marxist variables. For instance, psychological theses (rather than structural ones) are often formulated in non-Marxist analyses of animal suffering (e.g., people/farmers/corporations ought to be less ‘greedy’). Viewed from a Marxist perspective, one can begin questioning whether or not the basic processes of our current social formation
are antagonistic to farm animal wellbeing, requiring an entirely different social formation if substantive changes are to be made.

In this article we use Marx’s conception of alienation as a tool to examine industrial dairy production as well as alternative practices in the dairy sector. We begin by outlining the four forms of alienation as described by Marx. Then we examine how these forms of alienation can be seen in industrial dairy production, focusing on large confinement dairy farms. We then explore how alternative dairy production systems may address farm animal alienation. We focus on small, pasture-based dairies using robotic milking technology. Our analysis draws on observations and interviews with dairy farmers in the Netherlands and Denmark. Our overall purpose is twofold: (1) to extend Marx’s conception of alienation to dairy cows, and (2) to explore if pasture-based, robotic milking systems can address specific aspects of alienation. This analysis identifies the possible benefits of alternative dairy management systems and also demonstrates how increased attention toward farm animal alienation may contribute to on-going discussions regarding animal welfare in agricultural production systems.

Estranged human labour

In the Economic and Philosophic Manuscripts of 1844, Marx (1978a) outlined his notion of alienation, or estrangement (for classic accounts, see Fromm 1966; Mészáros 1970; Ollman 1976; Marcuse 2005). To begin to conceptualise an animal-specific theory of alienation, it is necessary to first review Marx’s discussion of needs and powers. Natural needs are shared by both humans and nonhuman animals and are often used synonymously with animal function or physical needs (Ollman 1976). These include food, water, light, air, movement, and companionship. Natural powers involve the impulses and abilities to fulfil these needs, and lack of fulfilment will result in suffering. Unique species needs and powers are what distinguish humans from nonhuman animals. Humans have specific needs for creativity, cooperation, and expression. Therefore, species powers include creative production, the ability to transform one’s environment, a consciousness of one’s place in the world, seeing oneself in others, and love (Ollman 1976; Noske 1997). However, under capitalism, the expropriation of the means of production from labour and the institution of private property stunts the development of powers and the fulfilment of needs. Marx offered a sophisticated framework for comprehending the multiple forms of alienation experienced by labourers in a capitalist production system: humans are alienated from their product, productive activity, species being, and fellow humans (Marx 1978a).

Alienation from the product

The first aspect of estranged labour described by Marx relates to the product of labour. A central contradiction of wage labour is that the products fashioned by the workers come to dominate them as an external object and force:

The alienation of the worker in his product means not only that his labour becomes an object, an external existence, but that it exists outside him, independently as something alien
to him, and that it becomes a power of its own confronting him; it means that the life which he has conferred on the object confronts him as something hostile and alien (Marx 1978a, p. 72).

The product of labour becomes a ‘hostile and alien’ force in several ways: workers cannot use the products of labour for their own livelihood, the products of labour belong to an external entity, the worker has no control over what he/she produces nor what becomes of the product, and, most importantly, taking part in production perpetuates and bolsters the same system that enslaves the worker (Ollman 1976). Marx (1978a, p. 71) stated, ‘[t]he worker becomes all the poorer the more wealth he produces ... The worker becomes an ever cheaper commodity the more commodities he creates’. Labourers fashion their own enslavement through coerced commodity production.

Alienation from productive activity

Marx also claimed that the worker’s relation to the labour process was one of ‘self-estrangement’ (Marx 1978a, p. 75). Labour is not a voluntary process where one is free to actualise capacities and to meet needs, but a necessity forced externally upon the worker. Under capitalism, the means of production belong exclusively to capitalists and workers are forced to sell their labour power to survive. Work is not voluntary but coerced. In the process, work – which for Marx should be a self-affirming and creative activity – becomes a despised activity. As Marx (1978a, p. 74) described, the worker ‘does not affirm himself but denies himself, does not feel content but unhappy, does not develop freely his physical and mental energy but mortifies his body and ruins his mind’. The activity that brings products into being simultaneously deforms, stunts, and desskills the creator. Workers must specialise in production, using limited mental and physical abilities and turning him/her into part of a production machine (Ollman 1976). The worker becomes an instrument for an external purpose and ‘experiences himself as an alien’ (Fromm 1955, p. 111).

Alienation from species being

Marx’s concept of ‘species being’ was inherited from Feuerbach. For Marx, ‘species’ denoted potentialities that were uniquely human, and alienation from species being is the process of becoming nonhuman (Ollman 1976). Species being entails relationships with nature and the practice of species life activities. Humans have the ability to creatively shape nature through labour (beyond survival) and to be shaped by nature through self-reflection (Marx 1977). Nature is not only a means of sustenance, humanity’s spiritual life, and a means to realise powers, but a relational process in which humans construct and in turn are constructed by nature. Species being is realised through an active species life, fulfilling innate species needs through the use of species powers. It entails free activities and self-conscious, rational, and universal production. Marx emphasised that humanity produces beyond their immediate needs and can do so in a collaborative fashion. However, under capitalism, powers and needs are stunted and estranged labour turns ‘[m]an’s species being, both nature and his spiritual species property into a being alien to him’ (Marx 1978a, p. 77). External
nature as well as human potentiality is estranged. In essence, everything that makes humanity human becomes nonhuman: ‘man has succeeded in becoming all that he is not’ (Ollman 1976, p. 152).

**Alienation from fellow humans**

The fourth aspect of estranged labour outlined by Marx is alienation from other humans. For Marx, both worker-worker relations and worker-capitalist relations are estranged. Under capitalist social relations, one ‘views the other [worker] in accordance with the standard and the position in which he finds himself as a worker’ (Marx 1978a, p. 77). Other workers are not seen as human. Instead they are viewed as competitors. In addition, relations between workers and capitalists are inherently antagonistic: ‘If the worker’s activity is a torment to him, to another it must be delight and his life’s joy’ (Marx 1978a, p. 78). Both the worker and the capitalist cannot view each other as fellow humans and only see each other through their relations to the production process. Indeed, the capitalist is also alienated as the treatment and exploitation of workers also causes deformity in the capitalist and his role in creation is passive (Ollman 1976).

**Applying alienation to the industrial dairy sector**

In this section we apply Marx’s theory of alienation to dairy cows in industrial agricultural systems. Before continuing, we would like to address a potential criticism. For classically oriented Marxist theorists, applying alienation to nonhumans will conceivably seem crude and erroneous. However, Marx (1978b, p. 168), himself alluded to animal alienation in the **German Ideology**:

> [T]he ‘essence’ of the freshwater fish is the water of a river. But the latter ceases to be the ‘essence’ of the fish and is no longer a suitable medium of existence as soon as the river is made to serve industry, as soon as it is polluted by dyes and other waste products and navigated by steamboats, or as soon as its water is diverted into canals where simple drainage can deprive the fish of its medium of existence.

For Marx, it was impossible to speak of the nature of a fish, and we can assume any animal, without concurrently examining how its nature was stunted and deformed by human activity or how it was alienated by industrial processes. Furthermore, it is important to remember that Marx often pointed to ontological continuity between humans and nonhuman animals when discussing natural powers and needs. This is not an appeal to authority, but merely highlights an overlooked passage to dispel potential concerns regarding a misplaced application of theory. Our aim is neither to misplace theory, nor, more importantly, to trivialise the suffering of animals in the food industry. Instead, we contend that Marx’s theory provides a formidable analytic framework to understand and transform the farm animal’s place in human society.

Of course, the structure of the labour performed by humans and domesticated farm animals is radically different. Most human workers today are wage labourers while farm animal labour is unpaid. Though this fact is important, it does not
independently restrict the extension of Marxist theory. Further, farms are sometimes structured differently from other capitalist enterprises. However, the creation of concentrated animal feeding operations (CAFOs) and increasing concentration in agricultural production (Hendrickson and Heffernan 2007) has made this distinction less and less compelling. Indeed, farms in capitalist societies – perhaps excluding some ‘alternative’ agricultural programmes – are not operating to meet human needs, but instead to accumulate capital. Even ‘family farms’ exist within the structures of a system focused on the accumulation of capital (Friedmann 1978; Reinhardt and Barlett 1989). Although it is customary to romanticise the relationship between the farmer and farm animal, the farmer’s place is increasingly one of a manager running a profit-oriented business. However, exploitative relationships between farmers and farm animals do not necessarily imply a lack of care. Scholars have shown that contradictory human-animal relationships can emerge in which active concern simultaneously exists with exploitation (Convery et al. 2005; Wilkie 2005). While not all farms resemble ‘factory farms’ and human-animal relations surely vary, capitalist logic continues to shape the daily decisions that reinforce exploitative relationships.

An additional important dissimilarity between humans and nonhuman animals from a Marxist perspective, is that humans have the potential to collectively and radically alter human societies in line with class interests. Further, Marx’s theory of human alienation assumes that humanity’s ‘essence’ is the ability to freely create and perfect social life through conscious, interesting, and creative work, but capitalism has stunted and distorted this opportunity. This assumption cannot be directly applied to nonhuman animals without fundamental theoretical and practical problems. These differences between humans and animals are crucial, but none restrict the application of Marx’s theory of alienation to understand the lives of domesticated farm animals and how those lives are shaped by humans and capitalist production.

A dairy cow’s species being

In this section we are using the term ‘species being’ interpretively to describe the unique nature of a dairy cow without anthropogenic restraint, or more simply, to describe the nature of dairy cows when they are free from human exploitation. This is not the classical Marxist definition of what is denoted by the term ‘species,’ which signifies what is uniquely human. Humans are irrefutably unique in many ways, including our ability to transform the world around us. However, we agree with Benton (1993) and Dickens (1996) that it is suitable to recognise the species-specific capacities and needs of nonhuman animals and how an animal’s life-activity (‘species character’) is distorted and stunted under capitalist conditions. In this article we apply species being to cattle, specifically dairy cows. This exercise requires an understanding of what the capacities, needs, and life-activities of cattle, entail.

It is very difficult to conceive of a nonhuman animal not altered by human praxis, especially (and obviously) those domesticated for human use. Cattle have been domesticated for centuries and their genetic make-up and lifestyles have shifted as a result. Like other domesticated animals, the modern dairy cow is in many ways a human creation: the result of centuries of selective breeding, co-evolution, and
human control over biological technologies (biopower) (Holloway and Morris 2008; Shukin 2011). Therefore, examining historic pre-domesticated cattle species life histories and behaviours, is not fitting to help us understand the species being of the modern dairy cow. However, recent studies on wild or semi-wild herds of cattle, that were once domesticated, can provide useful information on how cattle live outside of human control and demonstrate that once-domesticated herds have powers and needs that unfold under relatively free conditions. Marx used the term ‘species being’ specifically for humans to denote the essential character of humanity that can be actualised in altered, non-exploitative conditions. Here, we are extending this concept to the needs and species life of nonhuman animals. The purpose of highlighting the notion of species being and its applications for nonhuman animals is normative: in a different society, the cow could have the potential to be an unalienated animal, free to realise its needs and capacities.

We use information from studies on wild and semi-wild cattle herds in Spain, Italy, Scotland, Mexico, and other locations to explore the species being (inherent needs and capacities) of cattle. These studies focus on herds that were once domesticated, but escaped or were abandoned by humans. Wild cattle herds are usually small, with less than 20 individuals consisting of females, young males, and calves. Studies find long-term social bonds, firm dominance relationships, and family groups with cooperation between female kin in calf rearing (Reinhardt et al. 1986; Lazo 1994). Play, such as mock fighting, is common among herd members and licking represents a social service often performed on more dominant members of the herd (Fagen 1981; Reinhardt et al. 1986). Compared to domesticated herds, wild cattle travel much farther distances per hour and have larger home ranges, utilising diverse habitats to forage for seasonal grasses and woody plants (Hernandez et al. 1999). Studies find that mating occurs seasonally, with roaming bulls finding herds and identifying mature females for copulation (Reinhardt et al. 1986; Lazo 1995). Females have extensive bonds with their calves. After birth, a female may stay away from the rest of the herd for several days to be alone with her calf, and for several months calves stay very close to their mothers (Vitale et al. 1986). Calves often play with their mothers as well as with other calves (Fagen 1981). The calf as well as the mother can instigate suckling, and the act of one calf suckling can cause a chain reaction of other calves suckling simultaneously (Vitale et al. 1986). These studies indicate that a dairy cow’s species being includes: socialisation (including kinship and play), travel, foraging, mating, and rearing calves.

The commodification of the dairy cow

The primary purpose of raising livestock in past social formations was to produce a useful product (use-value), rather than to exclusively create profit (exchange-value), and animals were raised in ways that more closely resembled the environments to which they were adapted (Anthony 2010). Livestock animals’ social behaviour with humans is one of the principle reasons humans chose them for domestication. Benton (1993, p. 61) describes how few species have been successfully domesticated and those that have demonstrate ‘similarities to humans with respect to sociality, behavioural adaptability, and forms of communication’. Farm animals and humans
have a long history of living together and can be said to have co-evolved through reciprocal or symbiotic relationships (Lund and Olsson 2006). However, ‘nowhere is the changed relation between humans and animals in modernity clearer than in transformations in the agricultural industries’ (Franklin 1999, p. 126).

Under capitalism, relationships changed to treat livestock animals as tools for production and as commodities themselves, prioritising exchange-values over use-values (Gunderson, forthcoming; Bobrow-Strain 2009; Van Ausdal 2009; Anthony 2010). According to Dickens (1996, p. 62), ‘[m]odern capitalist societies bring not only people but animals into the circuit of money capital, treating them as inputs to a process of commodity production’. Benton (1993) argues that capitalist animal agriculture results in contradictory pressures: animals are seen as production machines designed to maximise output, but they are also living creatures with specific requirements for survival. When animals become commodities or production devises they are no longer seen as beings with moral status, and to meet the demands of industry they are subjected to conditions that do not match their living requirements (Anthony 2010). To maximise profits, capitalist logic squeezes as much from the animal as possible, giving the minimum attention to basic needs. This push for profit is most obvious in industrial or ‘factory’ farms. In the USA, nearly 60 per cent of dairy cows reside in large confinement dairy farms or CAFOs in which 500 cows or more are housed in an indoor confinement system (United States Department of Agriculture 2010). Industrial farm models have also spread to the EU, however they have faced more resistance and are less common. Overall, livestock production has intensified worldwide, with expectations of more large confinement farms in the future (FAO 2009).

Changes in the dairy sector are tied to structural changes in farm animal production at large. Like all livestock sectors, dairy production has become more mechanised and intensive in the last 50 years. In a capitalist system, the production of cow milk is not to meet human, let alone animal needs, but to maximise profits – to produce exchange values, not use values. Commodification of milk means that profits drive milk production. The need to maximise profits forces producers to take measures to lower costs, including using high energy grain food rather than grass, confinement to restrict motion and save energy for milk production, and the use of pharmaceuticals to enhance the rate of tissue growth and milk production. Under capitalist rationality the existence of the dairy cow is solely for profit-maximisation, which redefines the cow physiologically, behaviourally, and psychologically.

We now turn to specifically analyse the four aspects of alienation as defined by Marx with the industrial dairy cow as the alienated labourer. While the dairy cow may not see herself or her product in a human way and may not desire to or be able to produce as humans do, it is precisely because cattle have been brought into human social formations that we can speak of their alienation due to human praxis. Indeed, to even speak of ‘dairy’ cows is to acknowledge their telos in society (to produce milk for human consumption). Conditions in certain industrial farms may represent some of the most extreme ways in which capitalist logic has been put into practice. We argue that in these cases dairy cows have been estranged in relation to their product, the production process, their species being, and nonhuman animals.
**Alienation from the product**

Like the human worker, the industrial dairy cow’s product is external to her and dominates her. The same process of sustaining her young in natural conditions is the basis for her work in human society. The dairy cow is forced to produce as much milk as possible to increase profits and specialised grain feeding, continual impregnation, pharmaceuticals, and mechanised milking machines are increasingly used to do so. The cow puts her whole life and existence into the product. Milk does not belong to the cow or to her young. Calves are separated from their mother, often directly after birth, and placed into pens (Rushen *et al.* 2008). This can cause a significant amount of stress for the mother and for the calves (Phillips 2002). Female calves will likely become dairy cows themselves and males, because they cannot be used by the dairy industry, are often sold to veal producers (Tyler and Ensminger 2006).

Milk becomes an alien force that is turned against the cow and becomes the foundation for her own brutalisation. The product used to support life in natural conditions slowly degrades the lives of the cows in industrial conditions. As workers, cows cannot use the products of labour for their own livelihoods (i.e., for offspring), the products of labour belong to an external entity, and being forced to participate perpetuates the system. The cow has no choice but to participate in a facet of human society that, after expropriating her milk and young, sells her for slaughter when her production diminishes.

**Alienation from productive activity**

The labour of dairy cows is forced, coercive, and in industrial dairy farms literally ‘mortifies the body’ (Marx 1978a, p. 74). The cow is deskillled in that her breeding, activities, and entire existence revolves around lactation. Therefore, her nature is broken apart: ‘[a]nimals are being treated as disaggregated wholes, only parts of which are dealt with by human beings, primarily for human beings’ (Dickens 1996, p. 63). The dairy cow’s only purpose in existence is to produce milk and create offspring to take her place in the production system. Cows are corralled and sometimes prodded by dairy workers to move to certain areas and to line up for milking. They often stand on concrete floors while waiting up to four hours each day to be milked. Not only are cows’ activities specialised and monotonous for the instrumental pursuit of milk production, but so are the bodies of cows, down to their genetic makeup. They have been transformed through breeding and genetic engineering into something that better fits the industrial farm environment (Anthony 2010). The biological composition of the animal has been modified to maximise yield and longevity under highly intensive conditions. Ultimately, the dairy cow’s life is perpetual self-estrangement: her actions, movements, and genetics have been harnessed to increase production. Like the human worker, the cow becomes ‘a living appendage of the machine’ (Ollman 1976, p. 138).

**Alienation from species being**

Capitalism treats farm animals’ species being as a commodity to be exploited (Dickens 1996). In large, confinement systems the dairy cow is estranged from her
natural habitat, suitable food, and basic life activities, including grazing, mating, and rearing young. Rather than grazing on pasture, the cow is spatially restricted. In confinement systems cows have highly restricted freedom of movement, even in contemporary free stall barns (Tyler and Ensminger 2006). Being forced to stand on concrete for much of their lives can lead to hoof disorders and lameness (Fraser and Broom 1990). Like many industrially farmed animals (Dickens 1996), the dairy cow also loses her natural capacity to seek out and select food. These foods would likely include grasses and woody plants. Instead, she is fed a diet of high-energy grains designed to increase milk production (National Research Council 2001). These ‘unnatural’ foods fed to cattle may be responsible for the rise of foodborne pathogens such as *E. coli* O157:H7 (Tauxe 2002; Dewell *et al.* 2005). Cramped conditions and high starch diets may also cause cows to suffer from disease and infection. This includes mastitis, an udder tissue infection enhanced by grain-based diets and unsanitary housing conditions (Waage *et al.* 1998). However, in the industrial farm, animal health issues are not usually a concern unless they impact production (Dickens 1996).

In industrial farm conditions, the dairy cow is also restricted from mating and rearing her young. Mate selection and intercourse is replaced by artificial insemination with semen from bulls bred to produce high yielding dairy cows. Typically, a cow is impregnated three to five times and then culled when milk production diminishes to the point where her existence is no longer profitable (Rollin 1995). Compared to wild or even grazed dairy cows, cows in confinement systems have a shortened lifespan based on high productive output. Rearing calves is impossible as they are taken away, usually directly after birth. Calves are quickly placed alone in holding pens, warming rooms, or crates. There is no ability for the calf to suckle or play with its mother. Compared to activities witnessed in wild cattle herds, industrial farms have severely constrained the expression of the dairy cow’s species being. In this sense, they have made it impossible to fully be a cow. Several of the basic species capacities and needs of cows (movement, foraging, mating, and rearing calves) are not realised in intensive, capitalist-oriented conditions. Simply, the cow has departed from what it means to be a cow.

**Alienation from fellow animals**

Industrial dairy cows are incapable of participating in much of the social behaviour observed in wild cattle herds. Dairy cows in confinement systems often show signs of aggression, an abnormal behaviour based on observations of kinship and socialisation between members of stable social groups in the wild (Reinhardt *et al.* 1986; Lazo 1994). As discussed above, the relationship between the cow and bull is virtually non-existent and calves are typically removed from their mothers directly following birth. Therefore social interactions are strictly amongst females and are likely stressful due to production and housing conditions.

In addition to estranged relationships with others of her own species, the industrial dairy cow is also estranged from her relationships with humans. Historical analysis depicts a trusting relationship between humans and farm animals, a relationship that was betrayed due to the extreme conditions imposed by capitalist-oriented
management (Palmer 1995, as cited in Tovey 2003). Industrialisation to maximise profits and capture economies of scale has resulted in large-scale operations where farmers cannot know individual cows well. Therefore the ‘quasi-personal elements in the relation between humans and animals in the labour-process’ are severely limited on large industrial farms (Benton 1993, p. 158). Technology in many cases has replaced human labour and constrained interactions between cows and humans (Noske 1997). As stated by Franklin (1999, p. 127), ‘[t]he former relationship between the farmer and the farmed has changed: the microchip and process system has taken over almost all of the caring, monitoring and management of animals to the extent that farmers have become technicians’.

By becoming technicians dedicated solely to increasing production efficiency (Anthony 2010), industrial farmers also experience alienation. Farmers, who were once meant to be the caregivers of farm animals, are constrained in their ability to address welfare issues due to the requirement of maximising production. The farmer thus has to abandon aspects of ‘good husbandry’ that once represented a key component of animal agriculture and source of pride among farmers (Anthony 2010; see Rollin 2008). Farming as a capital-intensive business is much different than subsistence farming or farming for proximate exchange on a small-scale. In these industrial systems, the treatment and exploitation of animals also causes harm to the farmer. Faced with contradictory demands related to maximising production and animal wellbeing, farmers share in the suffering of farm animals (Porcher 2011). Farmers working with animals have been shown to demonstrate specific coping and detachment strategies, to deal with the ambiguities of their job and the tensions between concern and profitability (Wilkie 2005).

Can alternative dairy systems address alienation?

We now examine how alternative systems might address aspects of alienation found in industrial farms, while also answering calls for more empirical research on robotic milking technology and its impacts on human-animal-technology interactions (Holloway 2007). We focus on pasture-based dairies using robotic milking technology in the Netherlands and Denmark. During the spring of 2011, the lead author visited 20 such farms to observe conditions and to interview dairy farmers about their practices. Farmers were identified by agricultural specialists and researchers and through snowball sampling. Herd size ranged from 68–220 cows, and all grazed seasonally on pasture. Most of the farms were conventional (non-organic), with five farms certified organic. Interviews with farmers were based on an interview guide that included questions regarding robotic milking, pasture management, cow behaviour, cow health, and cow and human interactions. Interviews were recorded, transcribed, and qualitatively analysed. We also conducted an extensive literature review on the range of benefits associated with pasture-based and robotic dairy systems.

Small, pasture-based, and robotic operations were chosen for this study because they present a promising configuration to allow more freedoms for dairy cows. Pasture-based dairy production allows cows to roam on available land and consume grass (this is typically combined with supplemental feeding and indoor housing during the night and winter). Robotic milking has been touted as a way to allow dairy
cows more freedom in their daily schedules. In 1992, the Dutch company, Lely, introduced the first milking robot (or automated milking system). Since then, the adoption of robotic technology has increased across Europe, Canada, and the USA, with robots on over 2400 farms worldwide in 2008 (Reinemann 2008).

Almost all farmers interviewed in this study stated that they adopted robotic milking technology to improve their lifestyles: robots allowed them more personal freedom. With robots, farmers are not required to be present during milking and can therefore spend more time with their families and doing other activities. About half of the respondents also claimed that they adopted robots to reduce the need for outside labour. A few respondents shared that they adopted robots because they were no longer able to milk their cows due to back, shoulder, and leg problems. For the most part, these findings match results from other studies in Europe focusing on reasons for robot adoption (Meskens and Mathijs 2002; Meijerling et al. 2004).

For our purposes, we focus on how robotic milking changes the lives of dairy cows and the relationships between farmers and cows. With robotic milking, cows typically are able to choose when and how many times they are milked each day. Previous examination of robotic milking technology by Holloway (2007) suggests that the emancipatory potential of robotic milkers may be limited, but that further empirical study is needed. Combining access to grazing with robotic milking may allow dairy cows more freedom within the production system. We now use the information gathered through our research to investigate if this alternative system (henceforth grazing-robotic system) can address the four forms of alienation discussed above.

Alienation from the product

Our research indicates that alienation from the product is not addressed in grazing-robotic systems. Milk still does not belong to the cow and is not used for her young. In these systems, cows are still quickly separated from their mothers and placed in holding pens. The cow’s existence remains focused on milk production and the calves become commodities themselves upon birth. Even when calves have no value (and are not commodities) they are more likely to be destroyed than kept with their mothers. For example, a Danish dairy farmer could not sell his male Jersey calves for meat, as they require more money to feed than they can be sold for. Therefore, each male calf was culled shortly after birth and the bodies were donated to a soap factory. Under capitalist logic, if the cow’s ‘product’ has no value it is not worth keeping alive. This example illustrates how profit-oriented systems continue to facilitate decision-making that alienates cows from their milk and their young. The cow still has no control over what happens to her products.

Alienation from productive activity

With robotic milking, cows are able to choose when and how often they are milked. Access to the robot in the barn is granted or denied based on automatic gates that identify cows through the microchips in their collars. Cows are granted access to be milked unless they have already been milked too many times that day or too recently,
as determined by the farmer and programmed into the computer software. Cows that produce more milk will likely choose to be milked more often to relieve udder pressure. Cows that do not produce as much milk will likely visit the robot less frequently. As one farmer explained: ‘they are free to roam back and forth to the robot and the only requirement of the cow is that she goes through the robot at least once a day – but most of them do two, three, or four times each day’. Because milking is performed individually, cows are not harassed and herded to line up for milking and are not forced to wait for hours while other cows are milked. Cows can approach the robot at any time of day and can therefore avoid standing in lines.

In most grazing-robotic systems cows can also choose when to leave the barn for pasture. Most systems allow free access to the pasture once the cow has been milked. Automatic gates recognise each cow and allow them to exit the barn, and they can return to the barn whenever they choose. Many farmers reported that while most cows prefer to be on pasture, some cows choose to stay indoors all day. One farmer did not follow a ‘free choice’ system and admitted that he likes more control over his herd. Following his past milking routine, this farmer gathered his herd twice each day to be milked by the robot all at once. This caused the cows to wait for hours while each cow was milked. After milking, all the cows were forced on to the pasture. However, this case represented the exception.

While most systems allowed cows choices whether to be indoors or outdoors and when to be milked, water and food were used to coerce cows to return to the barn and to be milked. In many cases, water was only provided in the barn, thus requiring cows to return to the barn to drink. In addition, high-energy food pellets were released at the robot during milking, providing a reward. Because of the reward, some cows attempted to be milked many times a day. In this system, labour may be less forced, given that cows have choices about when the labour is performed; however, if the labour is not performed (if a cow is not milked at least once each day), the software will alert the farmer and the farmer will find the cow and force her to be milked. In addition, to keep cows moving through the robot a device called ‘the tickler’ delivers a mild electric shock to move cows out of the milking area if they linger too long after milking has ceased. Therefore, the cow is coerced both in (by food) and out (by electric shock) of the milking area.

While labour in industrial confinement farms clearly ‘mortifies the body’ (Marx 1978a, p. 74) of the cow, evidence suggests that health conditions in grazing-robotic systems are much improved. Overall, the milking process demands less from the cow and is much less stressful. As one farmer described, a cow can be milked more often so that ‘it is less intensive for the cows ... and they have better udder and overall health’. While data from studies remains inconclusive (Meijerling et al. 2004), many farmers felt that their cows had less mastitis since the adoption of robots. Several explained how different teats release different volumes of milk and that, with a robot, suction stops individually for each teat when the flow stops, reducing unnecessary suction and teat damage. In addition, the farmers agreed that pasture is better for cows: one participant explained: ‘I think they are a lot healthier, not just physically but mentally as well’. A moist barn environment can cause lesions and infections in the cow hoof. Farmers agreed this is much less common when cows are on pasture. Many also stated that walking on pasture is better for the cows’ legs than spending
time standing in the barn. Grazing-robotic farmers claimed that this combination resulted in lower veterinary bills and longer-living cows. Studies have also shown the health benefits of grazing, including less inflammation in the knees and hocks (Krohn and Munksgaard 1993), reduced incidences of lameness (Phillips 1990), improved gait (Hernandez-Mendo et al. 2007), reduced mastitis (Goldberg et al. 1992; Toledo et al. 2002; Washburn et al. 2002), and reduced teat and skin injuries (Regula et al. 2004).

Overall, grazing-robotic systems partially address the alienation of the cow from the production process. These systems transform labour from a completely forced experience to a voluntary, yet coerced experience. Labour is coerced using access to food and water as coercion devices. The reduced stress of the system reduces physical degradation. Still, the body of the cow has been specialised for the production process. She is still bred for yield and longevity and her existence revolves around milk production.

Alienation from species being

Porcher and Schmitt (2012, p. 58) state that for farm animals ‘work can be positive only if it is connected to the animals’ own world – that is, if the conditions of work can be articulated to the meaning of each species’ particular world: pasture for cows, for cows are ruminants’. Pasture-based systems provide an environment where aspects of the cow’s species being are able to emerge. Cows are able to forage and choose from the available grasses and plants. Although they are not able to cross substantial distances, they can move around within often-vast fenced areas. All farmers interviewed felt that being on pasture was natural for cows and sensed that the cows like to be on pasture. When the cows are released from the barn for the first time each season, they are often excited: they ‘go crazy’ and ‘gallop onto the fields’. Farmers also said that cows seem ‘disappointed’ or ‘sad’ when they are brought in from the pasture. Many farmers stated that cows are supposed to graze, that they are meant to be outside, or that it is best for their physiology: ‘we think it is more natural for the cows to go outside for their health and it is also their nature and they like grazing’.

In a pasture system cows are less estranged from their natural habitat and food. They also can express some of their species life activities such as foraging, movement, and socialising with other females. In this system many would say the cow is more of a cow. However, the cows are still usually fed ‘unnatural’ grains to augment grass and support milk production. In addition, the cows remain estranged from mating and rearing young. In this system, cows are still usually artificially inseminated and their young are removed soon after birth. Sexual intercourse and interactions with their young remain inherent parts of the cow’s species life that have been severely constrained or eliminated.

Alienation from fellow animals

Grazing-robotic systems foster different social dynamics amongst the herd compared to other dairy operations. Confined quarters and group milking events force cows into social situations that often result in aggression. Dairy herds have hierarchies based on
age and time in the herd. Farmers described how grazing-robotic systems reduce social conflicts because it is easier for less dominant cows to avoid ‘bully cows’. Traditional dairy systems herd many cows together for milking and the less dominant cows are pushed aside and must wait hours to be milked. In robotic systems, less dominant cows avoid bullies ‘like avoiding the Hells Angels in a bar’, as expressed by one farmer. Farmers explained that the ability to avoid confrontation reduces stress in the herd. Farmers also reported that although the robot facilitates individual milking, cows in specific social groups will often wait for each other before moving out to the pasture. While group behaviours changed after installing milking robots, farmers agreed that the cows are less stressed socially.

Some have feared that robotic milking will result in animal neglect as the robot takes over the milking activity and farmers are not required to be present: machines replacing human labour can further estrange human-animal relationships (Noske 1997). However, the milking robot does not necessarily further alienate animals and farmers (Porcher and Schmitt 2012). All farmers reported they do not spend less time with their cows, they just spend that time differently. Instead of spending four hours a day milking cows, they spend several hours inspecting and observing the cows and feel they more easily identify problems as they arise. All farmers interviewed reported improved relationships between humans and cows. With the traditional system, humans entered the barn to corral and harass cows until they lined up to be milked. This resulted in defensive reactions from cows (moving away from humans) when someone entered the barn. With robotic milking, most farmers no longer need to corral the animals for milking and relationships have therefore changed: ‘the cows will follow you around ... they know they aren’t going to be chased and it is really fun to watch them interact with people’. The farmers all agreed that the cows are calmer and less stressed by human presence.

Farmers also reported feeling less stressed themselves and having a closer bond with the cows in a grazing-robotic system. Several farmers admitted that they treat their cows much better now: while a farmer will sometimes get angry at a cow during milking, the robot will not. As one farmer stated: ‘a less stressed farmer means less stressed cows’. Illustrating a reciprocal relationship, another farmer stated: ‘when the cows are stressed, so is the farmer’. A healthier and more peaceful herd relieves anxiety and stress for the farmer. The wellbeing of the herd also affects the satisfaction the farmer feels about his/her work: ‘the cows doing well makes the work nicer’. Almost all of the farmers also reported satisfaction associated with seeing cows on pasture, sharing that it was pleasant to see them in their ‘natural’ environment. These farmers took great pride in facilitating an environment they felt was ‘healthy’ and ‘good’ for their cows.

The grazing-robotic system fosters an environment that reduces conflicts between dairy cows and stress between cows and humans. Compared to industrial farm conditions, these relationships seem much improved. However, cow socialisation is still restricted to females with little to no contact with calves and no contact with bulls. While the farmers are less alienated from the cows, they still make decisions that they find to be painful, such as culling male Jersey calves that are too expensive to profitably feed. These decisions are enforced by the on-going capitalist rationality that turns a farm into a business and a cow into a commodity.
Conclusion

Our analysis of grazing-robotic systems reveals that alienation is only partially addressed through the combination of these practices. True alienation from the product can only be addressed if calves are allowed to stay with their mothers and nurse. Alienation from the production process would be better addressed through breeding cows for diverse functions, eliminating coercion using food and water, and further reducing strain on the body. To address alienation from species being and from social relationships with others, males and calves need to be included in the herd. Relationships between cows and humans would likely improve with these changes. Compared to industrial dairy farming, grazing-robotic systems represent a clear improvement and address certain aspects of farm animal alienation. However, they do not eliminate alienation. Alternative systems that further address alienation may exist. For example, in Norway cattle are released in early summer to freely graze in the forests and mountains, returning on their own in the Autumn when grazing and weather conditions make human care more appealing (Lund and Olsson 2006).

Additional analysis of alternative human-livestock communities may help to identify how to more fully address farm animal alienation.

We posit that alienation in animal agriculture represents a critical, yet missing, component of the animal welfare discussion. This is especially true considering the increasing emphasis on freedoms for farm animals, including the freedom to express natural behaviour (EUROPA 2012). We have illustrated how even in systems considered to offer some of the best living conditions for dairy cows, the cows remain alienated. For many involved in food production, taking additional measures to address alienation would seem irrational. For example, while allowing calves to remain with their mothers and nurse may be acceptable on hobby farms, those who operate a farm as a business will likely view this sharing of the product as increasing disease transmission and losing potential profits. This raises the question of whether alienation can be addressed in a capitalist system. We agree with Porcher and Schmitt (2012) that despite three decades of research and work on animal welfare, farm animals have experienced only small improvements. We also agree that alienation and how farm animals perform work must be considered in order to truly improve animal welfare: ‘for humans and for animals, there is work and there is work. There is work that emancipates and work that alienates. The positive or negative effects of work depend on the system of production. Work can heighten an animals’ sensibility and develop their capacities or, on the contrary, exhaust them and cause them suffering’ (Porcher and Schmitt 2012, p. 57, emphasis in original).

Work performed in a profit-maximising animal agriculture system will inevitably cause alienation, exhaustion, and suffering. Therefore addressing animal welfare in a highly-developed capitalist system will continue to entail incremental improvements in living conditions, but will fail to fully eliminate suffering or fully grant freedoms to farm animals.

Although certain freedoms for farm animals may never be attained in a capitalist system, how farmers practice capitalist animal agriculture still matters. For example, grazing-robotic systems offer improved conditions compared to industrial confinement farms. We agree with Dickens (1996) that situations where animals are given
more respect or more rights will result in less alienation. Therefore, restrictions within production systems can improve conditions. There are numerous examples of legislation in the EU and in the USA that have resulted in small, yet meaningful, changes in the lives of farm animals. While it is not within the scope of our article to review animal welfare legislation, we acknowledge that social concern has resulted in small improvements. However, we also acknowledge that the market continually resists these changes, and alternative systems that provide better conditions remain threatened. For example, land prices, land availability, and efforts to maximise economic returns on robotic milking machines have encouraged an increasing number of dairy farmers in the Netherlands to abandon pasture for year-round confinement. Incremental improvements remain vulnerable and animal freedoms may never be fully attained in a system where animals are seen as commodities.

In this article, we extend social theory to farm animals in an attempt to illustrate how animals deeply embedded in social systems can be examined using sociological concepts. Under capitalism, Marx believed that workers are alienated from their product, productive activity, species being, and other humans. We apply this conception of alienation to dairy cows and find that capitalist production regimes result in the distortion of life and the suppression of biological and social needs. However, the alienation of dairy cows also includes a more brutal exploitation involving confinement and physical transformations to maximise production. Despite inherent differences, applying alienation to dairy cows illustrates how both humans and farm animals experience a compromised and often tragic existence under the logic of industrial capitalism. While regulations can and have improved conditions for human and nonhuman workers, in both cases we still see clear signs of exploitation and alienation. Stronger state involvement may continue to result in small improvements, yet these improvements will remain small as long as maximising profits remains prioritised over protecting the freedoms of workers.

While applying social theory to farm animals may seem inappropriate to some scholars, we agree with others that applying social theory to domesticated animals is not only fitting but necessary (Benton 1993; Dickens 1996; Franklin 1999; Tovey 2003): ‘Domestic animals are animals with whom humans enter into stable or routinised relationships over time. We may find it difficult to recognise them as “reflexive actors”, self-conscious and reasoning beings, which is the model for the human in contemporary sociological theorising; but this does not mean there are no grounds for recognising them as part of society’ (Tovey 2003, pp. 210–211).

Nonhuman animals are enrolled in social relationships, therefore, our analysis of society must include them in order to fully understand roles and interactions (Benton 1993). Exploring the social status of farm animals especially reveals important insights relevant to on-going studies on inequality and labour (Tovey 2003). Because domesticated animals are embedded in society, there is much we can learn about social systems from extending our work to include them in social analysis. How we include animals in social analysis remains a largely overlooked issue, yet a critically important one as we continue to break down modernist boundaries between nature/society and animal/human (Latour 1993; Latour 2004).
References


Arluke, A. (1994) ‘We build a better beagle’: fantastic creatures in lab animal ads. *Qualitative Sociology* 17 (2) pp. 143–158


Gunderson, R. (Forthcoming) From cattle to capital: exchange value, animal commodification, and barbarism. *Critical Sociology*


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Alienation in the dairy sector

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