

Dear Agrarian Studies seminar participants,

Thank you for reading this article, which is developed from a section of my book manuscript “Swamps into Wetlands: Crafting Moral Ecology in Turkey.” The book centers on the invention of the concept of the wetland, and its transformation as a site for claims of moral ecology in Turkey. The ethnographic research for the book involved ethnographic field work with rice and buffalo farmers in one of the saturated environments that were recast as a “wetland” in the 1990s.

This article initially featured as a much shorter section in a chapter on the “multispecies” political ecology of the wetland conservation area in the Kızılırmak delta. I had more stories of buffalo biopolitics that could fit in that chapter, and arguments to make that did not fit the narrative arc of the book, and I developed them in this article. Note: The notion of the “moral ecology”, which is central to my book manuscript, does not appear in this article.

I am grateful for any thought, conversation, and connection. I would also like to pose three questions:

- 1) **First, I would be grateful for suggestions as to what you may take from the stories I tell here.** *As it stands, the article needs a sharper articulation of its argument and intervention. As I now see it, I think it centers on how bureaucrats and scientists mobilized the ecological and economic labor of the water buffalo to remediate the devastating effects of modernist agricultural expansion on the marshes. They sought to accomplish this through the same mechanisms that terraformed the delta in the 20th century (population resettlement, subsidies, technocratic governance of farmers livelihoods, a vision of agricultural improvement). As the buffalo population, which had almost disappeared during the expansion of mechanized agriculture from the 1960s, increased once again in the last decade, farmers and buffaloes forged relationships that exceeded the technocratic goals of eco-modernism.*
- 2) **The second question is one of methods and writing.** *At its core, the article is an attempt to demonstrate how one can write ethnography than considers societies as constituted of humans and animals — in ways that do not take animals as proxies for human social order, and that decenter questions of “animal agency.” For me, a productive way to do that has been by focusing on multispecies labor (and care) in their relationship to environment-making. I do not use the term multispecies in the article because I want to avoid using the species as a unit. Instead, I am trying to write about specific individuals and collectivities as separate from, though shaped by, visions of species management. I would be interested in your thoughts, perspectives, and disagreements on this.*
- 3) *I am writing about a neighborhood (mahalle) of about 3000 people, and as many water buffaloes. The families I write about go to the same mosques, weddings, school, tea houses etc., and trace kinship connections to one another, in ways that are also constrained by socioeconomic stratification — their buffaloes graze in the same wet meadows, swim in the same lakes, and are cross-bred. **I would be grateful for suggestions for making the ethnographic narrative appear more connective and for highlighting story-lines that connect the different sections of the article.***

Many thanks again, I look forward to the discussion.

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Living with Buffaloes: Animal Practices and Environmental Change in a Turkish Delta

When Buffaloes Die

Ali was a man in his mid-eighties living in Doğanca, a village of 3000 residents in the lower Kızılırmak Delta, on Turkey's Black Sea Coast. Ali's farm was surrounded by rice and corn fields, a wetland lake, and a small forest. One day in July 2014, Ali telephoned my host Kadir, asking for advice. As we sat in the shade of an oak tree, Ali and his son recounted a tragic accident. The day before, seven water buffaloes from Ali's herd – six adults and a calf – had wandered off, looking for mud to wallow in during the hot summer day. The buffaloes had found a hole in the fence around a drainage canal and waded in its shallow waters, rife with agricultural runoff and slimy algae. They slipped into a deeper pool, where water was pumped into an underground pipe. Sucked in the vortex of the drainage pump, the buffaloes had all drowned.

Ali's quivering while recounting the water buffaloes' tragic death prompted me to consider the ways in which the buffaloes animated farmers' everyday political, economic, and cultural life. For Ali, buffaloes were co-workers, affectionate companions, political subjects, family members, and capital, all at once. His relations with the water buffaloes, like other farmers' in the delta, exceeded the bureaucracies and political economies that governed both farmers and buffaloes. The death of Ali's water buffaloes was emblematic of how, during my fieldwork between 2012 and 2017, farmers in the Kızılırmak Delta were being enrolled in new modalities of water buffalo biopolitics and place-making. Thanks to a subsidies program, water buffalo farming, in decline since the 1960s, had begun to expand once more. Concurrently, the establishment of a wetland conservation area and the expansion of cash crop agriculture on former marshes, pastures, and swamp forests had wrought heightened environmental and political uncertainty for farmers and buffaloes alike.

Kadir promptly recommended a petition (*dilekçe*) to the delta's Irrigation Cooperative, Turkey's National Parks bureau, the State Hydraulic Works, and the provincial Water Buffalo Breeders' Cooperative for monetary compensation. One of Ali's nieces had already penned a letter to the *muhtar* (elected headman) and to the Bureau of Agriculture's municipal office. Kadir offered to type the handwritten note on my laptop. Ali *had to* ask for compensation, Kadir insisted, and so our conversation veered towards the sale price of each animal (between one and five thousand liras), the cost of feeding (too high), and the yearly subsidies farmers received for each buffalo (five hundred liras per head).

Yet these monetary figures could not fully account for the loss Ali and his family experienced, which went beyond a purely economic calculus of the buffaloes' untimely death. In a small semi-industrial family farm, animals like the water buffaloes are *de facto* working members (Paxson 2013), but also become loved companions through farmers' everyday practices of care and expectations of affective reciprocity and mutual recognition (Govindrajan 2018). The accident brought to the fore these relationships, while also raising questions about bureaucratic accountability. In debating responsibility for the death of the water buffaloes, Ali and Kadir were negotiating their positions vis-a-vis the overlapping institutions that have transformed the lower Kızılırmak Delta's swamps and marshes simultaneously into an agricultural landscape and a conservation wetland.

This tragic event also exemplified that buffalo livelihoods unfolded in the particular setting of the agrarian wetland. From the 1930s their ancestors, who were bigger and more numerous, helped the new settlers plow the delta's soggy fields, and fed them with their milk and meat, which was mostly consumed ritually. Today, buffaloes' swimming, grazing, and wallowing maintain the marshes and lakes as a livable habitat for fish, birds, plants, insects, and microorganisms. Agricultural engineers' concern with the buffaloes' exposure to pollutants led to the recent discharge of agricultural runoff away from the wetland lake, which resulted in lower water levels in the summer of 2014, and prompted Ali's buffaloes to seek solace in the deadly drainage canal.

In this article, I argue that the material, economic and political specificity of the delta's wetland-agrarian environments, together with the political economies of buffalo breed development and subsidies in contemporary Turkey, formed, but did not overdetermine, the relationships between farmers like Ali and their buffaloes. Their shared labor was productive of landscapes and, in turn, responded to them. In doing so, I support an anthropological theory and methodology that attend to the ways in which people and animals (here, farmers and buffaloes, as both individuals and as participants in collectives) produce, and are shaped by, specific landscapes (in this case, a Turkish agrarian wetland).

Laura Ogden (2011) has called attention to the territorial practices of wild animals and people that constitute contested swamp landscapes. Expanding this line of questioning, this article analyzes the enrollment of domestic buffaloes in projects of agrarian production in the Kızılırmak Delta, the latest of which cast the buffaloes, at the same time, as ecologic and economic agents, bodies, symbols, and loved ones. In contrast to the confining regimes of animal and human biosecurity at play in massive industrialized farms (Blanchette 2015), delta farmers worried about the shifting effect of wetland conservation and environmental transformations on their and their buffaloes' livelihoods. Scientists claimed the buffaloes as central to the maintenance of wetland's biodiversity. Agricultural engineers sought to change the livelihoods of seasonal grazing and their herd sociality, transforming them into scientifically improved breeds and standard "meat." This process would start much before the slaughterhouse (cf. Pachirat 2011), but in the marshes where the buffaloes were born, and in the farms where they lived, worked, and died. However, the buffaloes, as delta farmers noticed, resisted mechanization, confinement, and depersonalized labor relations.

Thinking of farmers as "living with" buffaloes in Donna Haraway's (2008) terms entails more than matters of life or death. These also include tending to, working, growing, learning, naming, drawing distinctions, and loving.¹ The labor of humans and buffaloes was and remains central to the

delta's environmental transformations. Conversations about the buffaloes also articulated environmental politics, in a moment in which dissenting environmental and political discourse in Turkey was subject to increasing censorship and political persecutions (Adaman et al 2017). The delta's changing environments were enmeshed with reconfigurations of work, gender, and economy, and buffaloes were *participants* in these transformations of place in ways that were more than simply metaphorical but, rather emplaced, and emergent through practice.

From Working Animals to Biodiversity Icons

The everyday lives of people and animals in the Kızılırmak Delta have been shaped by the transformation of the delta's swamps and marshes first, throughout the 20th century, into a densely populated area of cash-crop production, and more recently, starting from the 1990s, into a conservation area. After the founding of the Turkish Republic in 1923, the lower delta was characterized by swamp forests, marshes, and lagoons, used seasonally by hunters, fishers, and herders. The Pontic Greek and Armenian populations of the region had been forcibly displaced or killed, their houses, schools, churches, cemeteries razed. In the 1930s, new landlords acquired large sections of land in the lower delta. They hired shepherds to graze sheep and water buffaloes, moving to high pastures in the summers, when the delta was ridden with malaria-carrying mosquitoes. Over time, landlords established permanent farms, and their field hands acquired smaller plots of land around the larger estates. The lower delta's marshes and swamps also became sites to resettle Muslim populations from the Balkans after the 1923 founding of the Republic of Turkey. In the 1950s, many peasants from the Eastern Black Sea mountains also came to the delta, often following a relative's lead. Many left again in search for urban employment (Scaramelli 2018).

Ali's water buffalos are of the Anatolian breed of the domestic water buffalo, *Bubalus bubalis* (Ermetin 2017, Selçuk 2012, Yılmaz et al. 2012). The Turkish word for buffalo is *manda*, but in the

Kızılırmak Delta, farmers call buffaloes *kömiş*, and their calves *balak*, or refer to them as *mal* (meaning property, cattle, or goods). *Bubalus bubalis*, the river buffalo, was domesticated from the Indian wild buffalo *Bubalus arnee* 4-5,000 years ago (Nagarajan et al. 2015) or 6300 years ago (Mingala et al. 2017): strong, flexible, and able to swim, water buffaloes could work in watery fields and rice paddies. The river water buffalo was brought to the Near East around 2600 years ago (Mingala et al. 2017), and expanded in the Mediterranean around the 12th century. Differently from the Southeast Asian swamp buffalo, domesticated around 4000 years ago, which is bigger, and used prevalently as a draft animal (Zhang et al. 2016), the Indian and European river buffalo breeds were bred for both draft work and dairy (Dohner 2001; Mikhail 2014).

Humans and buffaloes continue to co-evolve.² We can think about buffalo farmers in the delta as continuing to adapt to the needs, predispositions, and desires of the water buffaloes. Farmers are also tied to commodity markets, state subsidies, regulations, household dynamics, and sentimental attachments to the buffaloes. The delta's farmers make meaning through and with water buffaloes in intimate and idiosyncratic ways: for instance, by extending idioms of kinship, and recognizing personality traits in individual buffaloes. However, it would be mistaken to connect ancient domestication directly to contemporary symbiotic relations without accounting for the complex histories separating these moments.

In the last fifty years, the centrality of the Kızılırmak Delta's water buffaloes has receded and reemerged, displaced by new technologies and land use. In our conversations, older farmers recounted irrigating seasonal crops with river water, plowing with water buffaloes and horses. But Ali had been the first farmer trained as a tractor operator in Doğanca (then called Girne), in the wake of Turkey's purchase of American-made tractors with Marshall Plan funds (Karpat 1960; Kirişci 2008). The projects of state-led agricultural development and scientific breeding, one in which subsistence peasants would become capitalist farmers, had long been central to Turkey's vision of nation-building

(Kaçar 2010). Turkey's agriculture became capital-intensive, tied to the demands of national markets (Pamuk 2008). In the 1980s, irrigation infrastructure paved the way for rice cultivation in the delta. Wet meadows and swamps were remade into agricultural fields. However, dams built on the Kızılırmak River reduced the nutrient content of the delta's waters. Incentivized by subsidies and credit, delta farmers grew reliant on agricultural chemicals. Rendered marginal by new technologies and economies, the population of water buffaloes in the delta decreased from about 30,000 in the 1960s, to less than 3,000 in the 1990s (Ayan 2014). This paralleled their wider decline in Turkey, from more than one million in 1960, to less than half a million in 1990, and 172,181 in 2018 (Ermetin 2017; Gıda, Tarım ve Hayvancılık Bakanlığı 2018).³

In the 1980s, the lower delta was also transformed into a nature conservation area (Scaramelli 2018), concurrently to the international raise of the wetland as an object of environmental protection and science (Matthews 1993). Conservationists worked to list the delta as an internationally protected wetland in 1998; a visitors' center, management plan, and application as a UNESCO World Heritage Site followed. Scientists' attestation of abundant biodiversity framed the delta as a valuable ecology. Even though they are domestic farm animals, buffaloes are now also portrayed as part and parcel of the delta's *natural* landscapes (eg. Selçuk 2012). Debates over the conservation area's management implicated the lives and well-being of other animals, alongside people, and water buffaloes were front and center of these transformations.

How do buffaloes make place? Between April and October, they graze in the lower delta's wet meadows and shallow lakes, roaming between the wetland conservation area and villages' fields and pastures. Farmers guide their buffalos back to the barn at sundown, or leave the animals outside, occasionally checking on the location of the herd. Some buffaloes remain indoors in the barn, while others are taken to graze outside in the roadside pastures and nearby forests, and still others are left to roam in the delta's common pastures throughout the summer. There, they join herds of mostly-

feral horses, the descendants of horses abandoned for tractors and cars. All the delta's buffaloes are owned by farmers' households, and family members share responsibilities for various tasks of buffalo care-taking. These tasks differ greatly across family farms, but women tend to take charge of the milking and grooming, and men of providing dry feed, veterinary care, and accounting. But the buffaloes' lives and deaths are also regulated by the bureaucratic directives of the breeders' cooperative and by the local agriculture department, as well as by changing subsidy regimes and markets.

Buffalo Love

The prominence of water buffaloes in the farmers' lives was not primordial, but the result of recent advocacy. In 2008, a Turkish environmental NGO initiated a project called "Water Buffalo Love" (*Manda Sevdası*), drawing on United Nations funding and partnering with a local university, the provincial government, and the regional Department of Agriculture. NGO scientists argued that the conservation of the delta's biodiversity depended upon maintaining the "largest population of naturally existing water buffaloes in Turkey in the delta" (UNDP 2009). Theirs was an ecological theory of practice: in the wet meadows, water buffaloes create feeding grounds for herons, terns, and shorebirds. In the deeper marshes, they dig pools, in which they rest and cool off, and provide open areas for waterfowl birds, keeping the reeds at bay (Özesmi 1999).

Scientists associated with Water Buffalo Love envisioned a landscape in which water buffaloes sustained farmers' livelihood, while also maintaining the wetland's biodiversity. They described the water buffaloes' eating, stomping, and defecating as central to the maintenance of wetland ecosystems. To incentivize buffalo farming, the project supported the commercial production of buffalo cheese, cream, and yogurt. It aimed to bring the farmers "back" to the buffalo, and away from intensive agriculture (UNDP 2008; 2009). The project's "awareness-raising" activities portrayed farmers as both responsible for cultural and biological loss and key actors in the natural and cultural revitalization of

the delta.

A newspaper article quoted a project manager emphasizing the importance of scientific knowledge about buffalo farming—conjuring up a bucolic past and subsequent fall. Up until recently, he claimed, farmers’ children still grew up with buffaloes, riding them on sliding on their bodies to play, and weeding the rice fields by hand. Then, they discovered agricultural pesticides. “Buffaloes started dying. Without the buffaloes, the lakes became shallow and filled with reeds, fish died [...] The swamp forest now looks like a scene from a horror movie.” Farmers abandoned their buffaloes in the delta, and buffalo yogurt and cream were forgotten. This loss could be reversed only by teaching best practices in buffalo milk production, and the creation of a cooperative which would provide subsidies, credit, and infrastructure for raising the buffaloes and marketing their products. Delta farmers, he contended, must be taught the latest in herd development and hygiene (Arna 2008). The article rewrote buffaloes’ and farmers’ political and environmental histories into a narrative of a lost pastoral world, and outlined a clear path towards progress and growth. This narrative, which underwrote countless articles, project reports, and public presentations, construed water buffaloes and their farmers simultaneously as unmodern others and relics of bygone agrarian relations, couched in the idiom of “love” which inspired the name of the project.⁴

Water Buffalo Love succeeded in establishing a cooperative of breeders—it was this cooperative to whom farmers in Doğanca looked for their subsidies, and from whom Kadir had insisted that compensation for dead buffaloes should flow. The cooperative, headed by an elected delta farmer, was staffed by agricultural engineers from other regions.⁵ In 2018, the cooperative subsidized 3000 buffaloes and 676 calves, one fifth of the buffaloes in Samsun province, in 111 farms (Samsun İl Gıda Tarım ve Hayvancılık Müdürlüğü 2018). While Buffalo Love foregrounded agricultural engineers and scientists as authoritative experts, it made buffaloes and farmers into subjects of new bovine biopolitics. Biopolitics is a mode of political power that harnesses and

organizes the biological functions of individuals and populations to render them productive (Foucault 1978); anthropologists have recently extended this analytic to analysis of non-humans (Blanchette 2015; Lowe 2004; Nading 2012; Pandian 2008; Paxson 2008; Porter 2012). A *bovine biopolitics*, accordingly, is the harnessing of water buffaloes as ecological and economic agents to transform the delta's agrarian landscapes, farmers, and farmers-buffalo relations. It uses buffaloes to reconcile the seemingly contradictory imperatives of conservation and development, drawing upon international funding and NGO work to re-assert the power of state institutions in arbitrating agrarian transformations.

Bovine biopolitics looks varyingly to pasts and futures. For example, scientific attempts to rewild the Netherlands with "back-bred" aurochs (Lorimer and Driessen 2013), or Hindu nationalists' efforts to outlaw cattle slaughter in India (Dave 2014) are bovine biopolitics leveraging cattle to re-vision relationships between place, capital, and history. In contrast to both of these antediluvian visions, the Turkish Water Buffalo Love experts made a future-oriented and modernizing argument, connecting the ecological value of the buffaloes' practices to the economic value of scientifically improved husbandry. Buffalo biopolitics folds ecological notions of landscape health into development imperatives, transforming landscapes into productive ecologies, and economic practices into landscape-making. In the process, however, project experts disregarded farmers' knowledge and their assessments of environmental change, their aspirations, and local power relations.

The bovine biopolitics of the delta were never entirely coherent: the water buffaloes did not become "boundary objects," adaptable to opposing viewpoints (Griesemer and Star 1989). NGO scientists' visions of interspecies landscape-making contrasted with the cooperative's program of buffalo development. Agricultural engineers discouraged water buffaloes grazing in the delta's pastures altogether: one of them expressed to me his concern that the delta had not yet undergone a "grazing capacity assessment." Despite divergent visions of the economic, ecological, and sociological roles

played by the water buffaloes, bureaucrats and scientists all agreed that the water buffaloes were going to be key to the delta's future—without asking whether the farmers themselves envisioned water buffalos as central to their social mobility.

The “Water Buffalo Festival” I attended in May 2015 exemplified the institutional promotion of water buffalo breeding. It also reinstated the power of landowners as holders of breedwealth: a valuation of livestock instantiated in the genetic capacity of individual animals to reproduce a specific breed (Franklin 1997; Ritvo 1995). The festival, organized by the Department of Agriculture, the Municipality, and the Provincial Government, was a new institutional appropriation of older spring celebrations that also marked buffaloes' release in the delta's pastures and the first harvest. At the festival's opening ceremony, the mayor rose to the makeshift podium and declared that “if we succeed in increasing the water buffalo population and the quality of the breed, the delta villagers will be prosperous, Bafra will be prosperous, and our Turkish nation will thrive.” The largest farm owners were then invited to sit on stage, in front of a small tribune of farmers, businessmen, scientists, and the odd anthropologist. The farmers were asked to pledge money to the cooperative, each outbidding the others in turn. Though women do much of the buffalo work only men were on stage. The farmer who pledged the highest donation –thousands of liras – was crowned *manda ağası*, Lord of the Water Buffaloes. Economic development was metaphorically domesticated as social capital, one that, distinctly from money, benefits the whole community (Comaroff and Comaroff 1990). At the same time, the symbolic crowning foreshadowed how larger landowners would be the ones benefiting from the new bovine biopolitics.

An elderly couple, Alaattin and Cemile, were among the few small-scale farmers at the pageant. They brought a calf, carefully washed, brushed, and decorated with strings of blue, red, and yellow beads. Alaattin won a prize for the calf, and another for “good husbandry;” he proudly hung the plaques on the kitchen wall. The prizes owed to Alaattin's compliance with the cooperative's

regulatory demands. On a few occasions, he had shown me his meticulous book-keeping. Yet, many other farmers did not keep the consistent and accurate records of milk production that the breeders' cooperative demanded.

In 2014, sitting in their small office, cooperative engineers told me they were working on breed improvement, which involved importing bulls and bulls' seed from Italy. But farmers used neighbors' or their own bulls, and also let their buffaloes reproduce freely in the wetlands during the summer. The buffaloes, allegedly, were becoming smaller and producing less milk. "These practices are leading to the degradation of race" a cooperative engineer told me, using a word (*ırk*), which might refer to both breed or human race. Fear for the degradation of the race in the Turkish context builds on a repertoire of racialized ethno-nationalism predicated on the unity of blood of Turkishness, potentially corrupted by Greek, Armenian, Kurdish, and others' "seed" (Delaney 1995; White 2013). In this case, however, the potential for corruption was not from putative outsiders, but from within.

However, Alaattin and other farmers saw the low milk production as connected to diet, health, and lifestyle, rather than genotypes. Grazing in the delta was good for the buffaloes, many farmers explained to me. While feeding them indoors in the summer simplified the work of care, even the largest landowners had to purchase expensive supplemental feed and hay. Delta farmers – particularly smallholders – often pointed out that the reduction of the delta's pastures as agricultural fields had expanded reduced and fragmented grazing space. The conservation area, where agricultural production was prohibited, had thus become an important space for grazing.⁶ Water buffalo practices did not merely generate new kinds of environmental claim-making and politics: the life and work of specific water buffaloes, in turn, produced new ecological and social relations in the delta, transformed its landscapes, and were shaped by them.

Bovine Familiarity

The recruitment of buffaloes into visions of development and biodiversity did not reduce them to abstract capital and organisms. Complex relations of work, intimacy, and mutual care endured in the subsidized farms. On a spring morning in 2015, after breakfast, Cemile cajoled Yıldız – a three-year-old water buffalo – into coming out of the barn. Cemile gestured for me to hide behind a quince tree, out from Yıldız’s sight. Seeing the tractor in the yard, Yıldız stomped her legs and made a quick run for the barn, only to be halted by Cemile, standing at the door with arm on her hip and a short plastic cane in the other. Within minutes, Cemile had pushed Yıldız out of the barn, and Alaattin, secured her behind the tractor with a rope. I took a seat next to Alaattin and we drove on the gravel road towards the Toprak estate, one of the biggest in the delta. Yıldız dragged her hoofs, and meandered off the road. Alaattin drove on relentlessly. At the farmhouse, I chatted with the Toprak women, as we hoed their garden and transplanted leeks seedlings. As we worked, Alaattin walked Yıldız to the bull, caged in a barbed-wire fence. How did Cemile and Alaattin know Yıldız was in heat, I asked them afterwards, and how did they know that she would like the bull? “We just know (*biliyoruz işte*),” Cemile responded, shrugging.

At first, I thought the day’s events were a clear example of everyday patronage relations in the village, whereby farmers could obtain resources and support from larger landlords in exchange for political loyalty and labor (Sayarı 2014). But Yıldız is not just a mirror that reflects preexisting social and power dynamics. She has a distinct personality, a life history, predispositions, and a sentient body—Alaattin and Cemile would agree with me here. In the mornings, while I helped Cemile carry hay and feed to the buffaloes, Yıldız would turn her head towards me whenever I peeked in the barn. One day, Cemile taught me how to milk Yıldız. She made me wear her daughter’s soiled work clothes and a used headscarf, so that Yıldız would recognize me as familiar presence, she explained, articulating what we might call a sensorial theory of human-buffalo familiarity.⁷ Upon my attempt at squeezing her udder, Yıldız flayed her tail and kicked me, throwing me off the stool. Cemile caressed

her neck to calm her down. The following day, Yıldız did not jerk away when I brushed her fur, caked in mud and manure, and she let me milk her until my hands painfully cramped up. As Cemile continued the work, milk started flowing again, gushing in the metal bucket Cemile held between her legs. Her bodily responses to my handling made me feel uneasy, my neck muscles tense, and hands shaky. I had to build a relationship of trust, one that was emplaced, bodily, and built on my very brief experience with bovines. Through these situated and relational expressions of power and agency, I began to appreciate the material bond between Cemile and Yıldız, one that allowed them to work together – until Yıldız would age out of milk production and be sent to the slaughterhouse.

How did Cemile and Alaattin care for and work with the water buffaloes? The couple acquired a small herd in 2008 through the new subsidies program. Each buffalo was registered with the breeders' cooperative, and farmers retained a booklet listing each animal's medical record, pedigree, and milk productivity. But the farmers never referred to the buffaloes using their four-digit numbers. Female buffaloes were given individual names, like *Yıldız* (star), *Topaz* (topaz stone), *Elmas* (diamond), and *Güllübahar* (rose spring). Male buffaloes had names too, such as *Osman*, and *Ramazan*—even though they were sent to slaughter when they reached their adult weight. They would respond to their names, for instance, by turning their head towards Cemile, or coming towards her if she was calling them over.⁸ In 2014, a very small young calf would roam in the courtyard while Alaattin and I mixed hay and silage outside the shed and Cemile milked the buffaloes in the barn. The couple and their daughter would call him over, lovingly grab his ears, pet his belly, and rub his muddy head and back, and feed him from the bottle. As with other calves, they would call him affectionately *oğlum* (my son) and *yavrum* (my little one). One day I called him “*küçük çocuk*” (little child), and the calf promptly trotted towards me. From then, he was renamed *Küçük Çocuk*, until he was butchered eight months later.

Naming practices did not reveal that buffaloes “become” kin, nor did farmers articulate concerns of human kinship in their dealings with buffaloes (contra Tambiah 1969). I suggest that

buffalo naming practices extended kinship metaphorically from humans to buffalo collectivities, channeling their multiple relationships. For the farmers, relationships with the buffaloes are contradictory: as scholars have noted with regards to other animal relationships (Berger 1991; Paxson 2013; van Dooren 2014), they were at once intimate and detached, economically driven and infused with love, personal and embedded in markets and bureaucracies. If agency is relational – in the sense of existing within relations of power and inequality (Ortner 2006: 139) – it is also scalar. Affection and friendships flourishing between specific farmers and buffaloes would give way to structural demands: like those of sustaining the farm, the pious imperative of donating cattle, providing meat to guests and at holidays, and social mobility. By referring to the buffaloes with names and kinship terms, then, Alaattin and Cemile articulated the contradictions emerging from their simultaneous work of tending to and killing buffaloes, reciprocal care, affection, and recognition, and a life that endures the contingency of death.

Classifications of Buffalo Care

While Alaattin and Cemile could arrange to bring Yıldız to the Topraks' bull, it would be improbable that their children would marry into the wealthier Topraks.⁹ This large family of landowners and jewelers sought to intermarry with other wealthy families, while Cemile's and Alaattin's children had all married smallholders. The Topraks, were polite but cold towards Alaattin and Cemile, who were rarely included in their social events. The Toprak women found Alaattin and Cemile to be stern, reserved, and socially awkward, they told me one day. "They do nothing but work, even as their health is deteriorating," remarked Pempe, a Toprak in her forties. One night, Pempe telephoned me as I sat with Alaattin and Cemile in their kitchen, sipping watered-down tea. Alaattin grabbed my phone and shouted in the receiver not to call "his child" at such inappropriate hours. Alaattin then decided I was not to visit neighbors' houses without them, as he was responsible for me

(*bana emanet*). We eventually negotiated a compromise, which involved my moving to the family home of Alaattin's nephew, Kadir. "Patriarchal power dynamics within the collectivities we work alongside operate on our bodies in disciplining ways" (Berry et al. 2017: 539).

Word reached the Toprak's. One day, over tea and cake, the Toprak women lambasted the behavior of the couple: the "ignorant (*cahil*)" farmers had treated me, a "European doctorate student," as strictly as they treated their own daughters. "They look after her the way they look after their water buffalo calves," Pempe remarked, laughing. In the joke, they were implicitly articulating their own ability to "properly" interact with my gendered, classed, and racialized positioning as a Southern European, non-Turkish, female, unmarried, affiliated with foreign and Turkish universities. The Topraks did not take issue with the ways in which the couple cared for their buffaloes or daughters, but questioned with the way they cared for me *like* a buffalo or a farmer's daughter (as if, the Toprak joked, they were unable to distinguish between daughters, buffaloes, and foreign guests). At stake were also varied kinds of relationalities emerging around my own work in Doğanca. In this case, different interpretations of my positionality helped to mark class distinctions amongst my hosts (see Walley 2002). The Topraks did not expect me to partake in their joke. They appeared relieved when I responded with unequivocal words of affection for my hosts, and they commended me for my respect and loyalty. In contrast, Cemile and her daughter told me the Toprak women were lazy and spoiled, and their daughters didn't set foot in the buffalo barn, again reversing their own positionality as smallholders and recipients of disability benefits against the Toprak's wealth, with a moral claim about buffalo work.

The Value of Bovine Work

As I carried the packaged creams and eggs and milk to the back of the truck, Avni's wife gave a torrent of instructions delineating where, when, and to whom the goods should be delivered. The

cream had to be first, before it got too warm. Also, their daughter-in-law had a dentist appointment, and she herself had to be dropped off at and then picked up from a women's prayer group. Avni, a farmer in his fifties, was irritated. He much preferred a neat list of products and customers to a breathless list of complicated instructions. On market days Doğanca farmers drove to the town of Bafra, dropping off dairy products to different houses and offices. They repurposed yogurt vats and soda bottles and delivered the goods to a pre-established network of buyers. Cemile and Alaattin got to the market early in the morning and crouched over a piece of fabric. Their customers would come and pick up their advance orders. Other products, such as milk and eggs, would be on open sale, and were often purchased by a middleman.

Avni often complained about his daughter-in-law's repulsion to the buffaloes. She refused to even step inside the barn. She would have preferred to move to Bafra with her husband, but Avni expected them to take over the farm's management. "She needs to understand that our wealth – her nice clothes and furniture – come from the blood and milk of these buffaloes," Avni told me once. Sharon Hutchinson reported that with new labor markets in urban Sudan, novel categories of value had emerged to regulate the conversion of different kinds of money into different kinds of cattle (Hutchinson 1996).¹⁰ For Avni, the conversion of buffaloes into cash contributed to their family's comfort, but also created moral obligations to partake in buffalo work. And every year, Avni's wife donated part of the family herd to a religious foundation, following the Islamic tenet of sharing wealth. One might wonder if there were conflicts around water buffaloes' commensurability with other kinds of capital. Amongst Lesotho farmers, cattle constituted a special kind of property, valued for benefitting others and augmenting the owner's social standing. While cash could be converted into cattle, cattle could not be sold at will (Ferguson 1985). In Doğanca, by contrast, the subsidy scheme constrained the sale and butchering of the buffalo cows, reshaping the moral economy of cattle (cf. Comaroff and Comaroff 1990; Jeske 2016). Decisions on when to sell the buffaloes generally did not

generate conflict: bulls, no longer useful for their draft power, were butchered as soon as they reached their adult weight. Yet the mundane work required to care for the buffaloes was a source of frequent contestation: many women talked to me about their relentless work in the barn.

Buffalo labor generated divergent values. In tending to the buffaloes, men would often recall their carefree childhood shepherding of muddy buffalo herds in the marshes. But for women, buffaloes were part of the relentless work demanded of them as daughters and brides, including ongoing daily obligation to clean, feed, milk, and tend to the buffaloes. Newly-wed women were praised if they demonstrated skill with the water buffaloes, and many young women aspiring to state employment refused to set foot in the barns. Village schoolteachers complained to me of the “awful” buffalo stench seeping through the school’s gates. A few of the wealthiest households hired laborers to work in the barn and in the milk room, and to assist the landlords’ wives, daughters, and daughters-in-law with household chores of cooking and cleaning. Avni hired an Afghan shepherd to tend to the buffaloes, and a Georgian woman to clean and cook in the house, but his wife did most of the milking by hand, even as the shepherd forcefully used an electric pump on some buffaloes. Cemile also continued milking by hand, and she envisioned eventually selling the herd.

One day, Pempe asked me if in my next trip abroad I would bring her some outdoor waterproof clothing. “The kind you use in the mountains,” she specified. She explained that she wanted to keep dry while milking the buffaloes during the rainy, snowy, and muddy winter months. I smiled at the thought of repurposing mountaineering gear to the barn work. In drawing a connection between her daily work and my leisurely hobby through a shared bodily experience, Pempe was, again, articulating a class distinction: differently from Cemile, she had the economic means to alleviate the discomfort of milking work and herding the buffaloes in the marshes: though clothing, hired workers, and, in the future, new breeds of buffaloes who would comply to the new automated systems.

Conclusion: Delta Invaders

In this article, I invite an anthropology attentive to the political ecology of interspecies landscape-making, for humans communities include non-human animals in varying roles, and vice versa. Anthropologists have recently emphasized the importance of attending to animal practices and histories. For example, a Haitian man's claim that aid has rendered him a dog articulated his critique of humanitarianism beyond the metaphorical: European colonists had long deployed dogs to hunt and kill indigenous people and runaway slaves. Political histories of animal practices mattered (Beckett 2017). Similarly, among Uttarakhand's mountain villagers, concerns with monkeys, whom residents suspect had been relocated from the plains, were amplified by worries of plains-people acquiring mountain land (Govindrajan 2015). Attending to animal practices and histories reveals specific and varied connections amongst humans and animals (Wanderer 2015).¹¹ In this article, I have extended these anthropological analyses on other animals to questions of interspecies landscape-making and work in the delta.

Debates about the practices of wetland animals like water buffaloes emerged from assessments of the *environmental and economic changes* that animals produce as they inhabit wetland areas, assessments that relied upon normative understandings of wetlands. At stake are not only the values assigned to particular animals, but also shifting enactments of place. I have argued that confronting rapid environmental changes and the effects of expanding agroeconomies in the wetland, farmers and scientists, and state officials advanced contrasting understandings of wetland livelihoods and futures. These were scripted through invocations of animal livelihoods and practices as a proxy for environmental politics.

The water buffalo was only one of such animals. For example, on another visit, Ali's son showed us blurry pictures of jackals he had taken with his phone. Jackals, foxes, and wild boars, once common in the lower delta, had disappeared, he explained. This might have been after farmers had

cut down the swamp forest and transformed it into cash-crop fields and pastures, Ali suggested. But recently the jackals had returned. Maybe, he speculated, National Parks staff had reintroduced jackals to counter the rapidly-growing rabbit population. A species of carp that recently started proliferating in the lower delta's lakes might have been willingly introduced by state officials, Kadir added. The name of the fish, *Israil sazani*, Israeli carp (Persian carp in English) helped fuel a wider conspiracy about foreign powers' threats. However, rural delta residents more often wondered whether rapid changes in wildlife populations resulted from the secretive actions of known political actors and state agencies. Heightened preoccupations with wildlife invasion often reflect communities' worries about people taking advantage of resources at times of rapid economic and political change (Govindrajan 2015; Subramaniam 2001; Vitebsky 2006). The return of old species and the arrival of new ones in an environment that was itself rapidly changing added complexity to the (already fraught) deeming certain animals as local (*yereŀ*), foreign (*yabancı*), or invasive (*istilacı*).

For farmers, water buffaloes (and jackals, carp, and other animals) were political subjects and active agents of place-making, and companions of everyday life and work in the delta. Humans are an “interspecies collaborative project” (Bird-Rose 2010: 11), and we can think of “symbiopolitics” as the politics that govern relations between living creatures (Helmreich 2009: 15). Far from having been rendered marginal by wetland drainage and tractors, water buffaloes have been enrolled in the new work of maintaining wetland ecologies and of creating new commodities with a delta *terroir*, meeting the urban Turkish middle-class desire for consuming local (*yereŀ*), organic (*organic*), and traditional (*geleneksel*) foods.

Changing delta landscapes and agrarian-conservation have continued transforming the bodies of the buffaloes, their sociality, livelihood, and their capacities for place-making. Scientists' and bureaucrats' water buffalo biopolitics privileged certain symbiotic relationships between buffalo grazing and certain wetland habitats, or between farming and the economy. At the same time these

visions elided farmers' relations to their water buffaloes and their shared histories of landscape-making inflected by gender norms and class. For farmers, water buffaloes were a source of secure and state-led agricultural support, in an era of rural depopulation and economic uncertainty. And yet, buffaloes remained, to the farmers, familiar loved ones and co-workers, and individuals with personalities and predispositions.

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¹ These are not encounters between buffaloes and humans as general types, as species boundaries are themselves shifting and contested (Dupré 2006; Yates-Doerr 2015; Ritvo 1989). The *specificity* of farmer-buffalo relations, and the material landscapes in which they unfolded, defies generalizations of species categories.

² When humans began domesticating animals (starting with the dog 12,000 years ago) they were also, in turn, being domesticated (Scott 2011). The domestication of animals and plants was generative of new spatial and temporal organization of work; it fundamentally transformed human biology and livelihood (McNeill and McNeill 2003; Vitebsky 2006; Scott 2011).

³ The decline of the water buffalo population in Turkey was at odds with the worldwide increase in the same period, from over eighty-three million in 1960, to over 140 million water buffaloes in 1990 (Ermetin 2017).

⁴ In 2016, the provincial department of agriculture began a new project, “happy buffaloes, hopeful farmers” (*mutlu mandalar, umutlu çiftçiler*), aimed at modernizing buffalo farms, improving the quality and quantity of milk, and creating a local brand for buffalo products.

⁵ Delta farmers critiqued the cooperative’s leadership. The president, they alleged, had purchased a

cooling tank and a refrigerated van for his own benefit.

⁶ Farmers remained concerned that grazing would be restricted or prohibited altogether in the conservation area.

⁷ Following earlier critiques of the concepts of kinship (Schneider 1984) and biology (Haraway 1996), anthropologists turned to analysis of relatedness (Carsten 1995; Delaney 1995; Franklin and McKinnon 2001; Strathern 1992; Yanagisako and Delaney 1995). Relations between humans and other animals became central to kinship-making practices (eg. Charles 2014; Cormier 2003; Govindrajana 2018). Here, however, I emphasize that articulations of human kinship are used to describe human-buffalo relations, which Turkish farmers would not see as ones of actual kinship.

⁸ Anthropological inquiry of the ways in which people communicate with other animals is longstanding. In this journal, for instance, geologist Carrington Bolton (1897) published a series of articles examining world-wide variations in the language people use to communicate with domestic animals.

⁹ On the politics of marriage and kinship in rural Turkey, see Delaney 1991, Kandiyoti 1987, Hart 2007, Önder 2008.

¹⁰ Anthropologies of African livestock have often centered on exchange and conversion, positing cattle as a mediator of kinship, desire, and social power, an extension of personhood and gender, and a historically shifting and contested form of capital (Comaroff and Comaroff 1990; Hoag 2018; Hutchinson 1996; Jeske 2016).

¹¹ See also Bird-Rose 2011.