PROVOCATION

Toward a Theory of Nonhuman Species-Being

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Abstract This provocation asks what it could mean to recuperate the concept of species-being from its anthropocentric origins and expand it beyond the human by placing an emergent nonhuman labor literature in dialogue with recent rearticulations of Marx's work on alienation. There is increasing interest in different modes of nonhuman labor, recognizing how animals are put to work to produce value for capitalism. This provocation advances these debates by asking: If nonhuman animals can be recognized as laboring, and as alienated laborers, can they, like humans, be alienated not just from the activities and products of their labor, but from their species-being? What would it mean to recognize forms of nonhuman species-being in which animals engage in world-making practices on their own terms? Could this reify the bounded notion of species or encourage a recourse to nature as a moral authority? And at a time of significant anthropogenic environmental transformation, are some modes of nonhuman species-being permanently foreclosed? This article explores these questions, tentatively working toward a theory of nonhuman species-being, considering its possibilities and political affordances.

Keywords species-being, nonhuman labor, alienation, animal geographies, flourishing

Honeybees, their hives shipped across the United States on the backs of trucks, are put to work pollinating the fields of monocrop plantations.[1] Broiler chickens, confined to industrial units across the globe, are accumulating flesh set to be stripped from their bodies.[2] Wild lions are guided to enact a carnal labor for audiences, their behavioral dispositions shaped to meet the desires and commodifiable moments of the tourist encounter in India.[3]

1. Kosek, "Industrial Materials."
2. Beldo, "Metabolic Labor"; Wadiwel, "Chicken Harvesting Machine."
3. Barua, "Nonhuman Labour, Encounter Value, Spectacular Accumulation."

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Not only can these animals be understood as performing labor and working, but we suggest that they can and should be recognized as alienated laborers. While ideas of alienation have been applied to nonhuman labor, alienation from species-being has been neglected due to its humanist framing.[4] A translation of the German term *Gattungswesen*, species-being (or species-essence or species generics), was one of Karl Marx's four dimensions of alienation and drawn from the work of the religious philosopher Ludwig Feuerbach.[5] For Marx, taken at its most basic, species-being is the "ensemble of the social relations."[6] Consequently species-being transcends the individual and speaks both to what humanity is and what it has the potential to collectively achieve through unalienated labor. Its realization is through labor that intentionally transforms the world, and thereby enables the development and flourishing of humanity as a species.[7] Importantly, here, we contend that species-being does not have to refer to a singular human nature but recognizes humans as having a "social character" that adapts to different social structures.[8] Therefore there is a nonessentialism at the heart of species-being in that it speaks to humanity's capacity for continual change, adaptation and transformation, albeit a capacity itself that is transhistorical and essential.[9] The term attempts to understand the very "essence of humanity" and is, broadly, the foundation of Marx's communism, integral to questions of emancipation and the overcoming of alienation.[10]

We argue that species-being can be recuperated beyond the human, and doing so enhances understandings of both alienation and of nonhuman labor. We contend that rather than being at odds with ideas of alienation and species-being, it is through nonhumans, particularly animals, that we can most fully grasp what alienation means and how capital shapes social life, estranging us from our species-being. By understanding the worlds we humans make for nonhuman animals, we comprehend alienation in its totality, including our own, that experienced by the human. We see this proposition as illuminating both for understanding human relationships to capitalism and for understanding the relationship of other forms of life to capital. Thus, it both contributes to and moves beyond present idioms through which we conceive of the harm capital wreaks on nonhuman life: exploitation, suffering, and captivity. In grappling with the concept of species-being, we recognize the danger of slipping into homogenizing universalisms; however, in this analysis of alienation and liberation we seek to excavate, rather than conceal, the power inequities that striate the categories of human and nonhuman. Further, instead of using the human as a point of departure, we ask: What if the notion of nonhuman species-being was rooted in the alterity and distinction of nonhumans from humans, in a manner that appreciated nonhuman difference both along and outside of

4. Benton, *Natural Relations*; Harvey, "Marxism, Metaphors, and Ecological Politics."
5. Foster and Clark, "Marx and Alienated Speciesism," 8; Marx, *Economic and Philosophical Manuscripts*.
6. Marx, *German Ideology*, 122.
7. Held, "Marx via Feuerbach," 146.
8. Wartenberg, "'Species-Being' and 'Human Nature,'" 94.
9. Dyer-Witheford, "1844/2004/2044."
10. Held, "Marx via Feuerbach," 146; Czank, "On the Origin of Species-Being," 321.

species lines? What can be gained from attempting to apprehend the lifeworlds of nonhumans on their own terms?

We tentatively work toward a theory of nonhuman species-being by putting two relatively distinct literatures into dialogue: (1) recent empirical and theoretical work on nonhuman labor and (2) work in political theory concerned with the philosophy of species-being and its relevance for understanding nonhuman worlds. Although there has been some crossover, these two fields are yet to be placed into explicit conversation.[11] Such a project endows us with two affordances. First, it hints at questions of what the "good life" could mean for our fellow earthly beings, not only their survival but their flourishing beyond the grip of capital and its reformist recuperation of bigger cages and less death. Second, it offers a means to bring forth the shared material interests of alienated human and nonhuman life, while demanding space for nonhumans to engage in their own world-making practices and produce their own use values in their species interest, rather than centering ours and those of other humans.

This provocation focuses primarily on nonhuman animals but tries to signal, where appropriate, why thinking with plants (and on occasion, fungi) would be different, and why they demand distinctive theoretical approaches and novel conclusions.[12] In doing so, we do not wish to occlude the nonhuman world beyond animals, but for the purposes of this initial provocation our explorations remain knowingly limited. Our article begins with a discussion of extant work on nonhuman labor and on alienation and species-being before considering what might be gleaned from marrying the two in a theory of nonhuman species-being. It then explores four challenges to such a project, followed by an elucidation of its political affordances.

Nonhuman Labor

There is a burgeoning academic interest in different modes of nonhuman labor that recognizes how animals, plants, and fungi are put to work to produce value for capitalism. Such literature challenges the apparent anthropocentricism of Marx's thought and his understanding of labor and work (two terms that are used largely interchangeably).[13] Marx, some contend, argued that humans are unique in their ability to carry out conscious life-activity with intention.[14] This is storied by Marx in his famous comparison between the bee and the human architect: even the worst human architect mentally envisions their construction prior to building, while the bee does not. It is, for Marx, precisely through such intentionality that humans are set apart from all that is nonhuman.[15]

11. Bachour, "Alienation and Animal Labour"; Johnson, "At the Limits of Species Being"; Stuart, Schewe, and Gunderson, "Extending Social Theory."

12. Lawrence, "Listening to Plants."

13. For applications of Hannah Arendt's distinctions between the drudgery of labor and the free worker's control of production, see Lorimer, *Probiotic Planet*, 210; Battistoni, "Labor of Life?"

14. Kallis and Swyngedouw, "Do Bees Produce Value?"

15. For alternative interpretations see Ingold, "Architect and the Bee"; Hurn, "Animals as Producers, Consumers, and Consumed."

However, literature from a Marxist perspective has suggested that nature plays a central role in processes of capital accumulation, with capitalism itself understood as an ecological regime.[16] As such, we might understand nonhumans as doing labor without collapsing distinctions between the nonhuman and the human, and while being attentive to what is distinctive about nonhuman labor itself.[17]

Drawing on a diverse intellectual lineage, this literature expands ideas of both what labor is and who a laborer can be. Anthropologist Les Beldo and political theorist Dinesh Wadiwel describe the bodily *metabolic* labor of chickens, their growing of flesh and production of eggs.[18] Labor studies scholar Kendra Coulter suggests the term *ecosocial reproduction* to describe the ecological labor necessary to renew ecosystems, commonly described through the figure of the beaver constructing dams and creating wetlands, or the bee and its contribution to pollination.[19] Similarly, political theorist Allyssa Battistoni critiques the notion of natural capital not through recourse to the intrinsic value of nature but through the recognition that the labor of reproducing livable conditions is not exclusively human.[20] It is instead what Battistoni describes as hybrid labor, a term that does not counterpose human and nonhuman labor but attends to the many multispecies labors enacted to produce natures, whereas companion animals and those kept captive for entertainment have been identified as performing affective labor.[21] Finally, geographer James Palmer proposes that the metabolic labor of plants, via photosynthesis and carbon sequestration, might be considered its own distinct form, noteworthy in the management of forests as "natural solutions" to climate change, premised on the constant growth of trees.[22]

In elucidating varied modes of labor and their relationship to capital, much of this research draws upon concepts from Marxist-feminist theorizations of social reproduction.[23] Theorizations of work from this perspective have demonstrated how the category of labor, and understandings of what work is, is itself a site of political contestation. These critical theories of social reproduction have sought to understand the relationship of often unpaid work to processes of accumulation, expounding questions of who or what work serves, epitomized in struggles against housework and the family.[24] Notably, the structural similarities between gendered divisions of labor and the exploitation of nonhuman labor have been elaborated by sociologist Maria Mies, who understood

16. Moore, *Capitalism in the Web of Life*.

17. Wadiwel, "Chicken Harvesting Machine."

18. Beldo, "Metabolic Labor."

19. Barua, "Animating Capital"; Coulter, *Animals, Work, and the Promise of Interspecies Solidarity*; Lorimer, *Probiotic Planet*.

20. Battistoni, "Bringing in the Work of Nature."

21. Barua, "Animating Capital," 656.

22. Palmer, "Putting Forests to Work?," 142.

23. Fraser, "Behind Marx's Hidden Abode."

24. Dalla Costa and James, *Power of Women*.

colonies, women, and nature as three hidden and undervalued realms undergirding capital accumulation.[25]

Critical to debates within the nonhuman labor literature are questions of intentionality and the subjective experience of work. Sociologist Jocelyne Porcher frames nonhuman animal labor in terms of an intersubjective exchange and a collective task, engaged in by humans and nonhumans, emphasizing that working animals need to be recognized for their work. Here, work is not solely a human endeavor but must by definition involve humans and intentionally meet human needs.[26] Challenging this approach, geographer Marion Ernwein, thinking with plants, questions the role of intentionality as a characteristic distinguishing reproductive and productive work. For Ernwein, work doesn't need to be experienced as work to be work. An emphasis purely on the intersubjective qualities of work can inhibit a structural understanding of the social relations of work.[27] For Ernwein, we might escape labor as a subjective question by understanding nonhuman labor, and in particular plant labor, as relational, thereby extricating ourselves from questions of intentionality.[28] Such an approach resonates with the work of Barua, for whom the distinction between reproduction and production breaks down.[29] Intentionality, as such, is "immanent in the labour process" and not necessarily aligned with the intentions of humans imposed on an external nature.[30] Such an approach reshapes our understanding of labor, highlighting its porosity: that it is not the outcome of one individual or being; rather it is both human and nonhuman.[31]

Alienation and Species-Being

Analysis of nonhuman labor has—in the shadow of Marxist feminism—troubled the distinctions between productive and reproductive labor, challenged the relationship between intentionality and work, and highlighted the centrality of nonhumans to capitalist value accumulation. Such analyses also raise questions of nonhuman alienation, which, as argued by philosopher Omar Bachour, are critical to comprehending "animal oppression" under capitalism.[32] In his *Economic and Philosophical Manuscripts*, Marx identifies four dimensions of estranged labor: the worker's alienation from the products of their labor, from the activity of labor, from other human beings, and from species-being.[33] The first three forms have been readily applied in the context of nonhuman labor, for instance,

25. Barua, "Animating Capital," 654; Mies, *Patriarchy and Capital Accumulation on a World Scale*. Further analogies and continuities between these realms have been unpicked by others, including Battistoni and Barca. See Barca, "Ecologies of Labour"; Barca, *Forces of Reproduction*; Battistoni, "Bringing in the Work of Nature."

26. Porcher, *Ethics of Animal Labor*, 307.

27. Ernwein, "Plant Labour," 117.

28. Ernwein, "Plant Labour."

29. Barua, "Nonhuman Labour, Encounter Value, Spectacular Accumulation," 283.

30. Barua, "Nonhuman Labour, Encounter Value, Spectacular Accumulation," 280.

31. Barua, "Nonhuman Labour, Encounter Value, Spectacular Accumulation," 282.

32. Bachour, "Alienation and Animal Labour," 166.

33. Marx, *Economic and Philosophical Manuscripts*.

with the case of dairy cows and the appropriation of milk and the coercive subsumption of all bodily activity toward ceaseless and economically optimized gestation and lactation.[34] We contend that nonhuman labor can present a particularly acute form of alienation, as animals become alienated from their own flesh.[35]

Meanwhile, the third form, social alienation from others of one's own kind, can be seen both in the species-based solitude experienced by many domestic and exotic pets performing affectual labor as well as in the experience of captive animals used to violently discipline and curtail the actions of their wild counterparts.[36] An example rife with symbolism can be found in Ursula Münster's description of a captive working bull elephant used to mediate human-wildlife conflicts in Wayanad, Kerala, which, without commands from its mahout, autonomously grasps its own chains to beat back a fellow of its own species, punishing a free-ranging crop-raiding elephant.[37]

What would it mean to recognize nonhumans put to work as alienated not just from the activities and products of their labor and from others but also from their species-being? As Bachour notes, this final dimension of alienation presents an ongoing theoretical obstacle due to the complexity and, at points, the opacity of the term *species-being* and its ensconcement within Marx's reported humanism.[38] Species-being has been interpreted as fundamentally and unapologetically anthropocentric, with its humanist mode rendering it "literally unthinkable" in relation to the nonhuman.[39] This is both challenging and apposite due to the way in which species-being was defined by Marx in opposition to animal nature. While animal productive activity is acknowledged by Marx, it is imagined to be purely in the service of the individual animal's life and their physical existence, rather than the universal species-life—a sociality that stretches between individuals. Species-being has been framed in terms of "conscious life activity," which also therefore raises ongoing questions of animal consciousness, as well as the relationship between instinct and intention.[40] Bachour argues that within Marx's teleological framework, the animal is also associated with the most historically regressive point of human existence and consequently is denied the possibility of historical transcendence.[41] Here, animals are denied their places as historical subjects, which is critical for this provocation's later questions of nonhuman species-being's political affordances, and at odds with attempts to grapple with the multispecies coproduction of our livable world.[42]

34. Noske, *Beyond Boundaries*; Stuart, Schewe, and Gunderson, "Extending Social Theory."
35. Dubeau, "Reclaiming Species-Being," 192.
36. Collard, *Animal Traffic*.
37. Münster, "Working for the Forest."
38. Bachour, "Alienation and Animal Labour," 120; Dubeau, "Reclaiming Species-Being."
39. Benton, *Natural Relations*, 59; Harvey, "Marxism, Metaphors, and Ecological Politics."
40. Roelvink, "Rethinking Species-Being."
41. Bachour, "Alienation and Animal Labour," 126.
42. Battistoni, "Bringing in the Work of Nature."

According to Bachour's recent analysis, a nonanthropocentric recuperation of species-being is challenging, given that species-being presumes a human/animal binary that precludes recognition of nonhuman agency or flourishing.[43] Our contention, by contrast, is that rather than species-being acting as an obstacle to an understanding of animal alienation, it is through animals that we can develop our conceptual grasp of both alienation and species-being. Thus, we resist the temptation to discard species-being with Marx's and Marxist speciesism.

Attempts have been made to take species-being in a multispecies direction. Barbara Noske for instance identifies animal alienation from species-being in the context of industrialized farming but treats species-being as an overarching category, encompassing productive activity and relations to nature and to others of its kind, rather than unpicking what is qualitatively distinctive about this mode of alienation as we strive to do in this piece.[44] Meanwhile geographer Elizabeth Johnson recognizes species-being as our capacity to transform our collective development and the conditions of our existence, and how this work of transformation has always been more-than-human.[45] Drawing upon the example of biosensing, Johnson highlights how animal labor contributes to the general intellect, thus understanding human species-being as the product of an interspecies endeavor. Meanwhile for Dubeau, the concept, recuperated as an anti-speciesist framework, recognizes mutual interspecies interdependence toward collective flourishing.[46] Similarly, geographer Gerda Roelvink frames species-being in terms of striving toward better ways of living with others and forms of dignified human life.[47] Roelvink builds on Betrell Ollman's relational critique of Marx, rejecting the hard line between "natural powers" and "species powers," instead recognizing how the latter builds on the former, and how both are deeply socially and ecologically embedded.

Consequently, we contend that in addition to the troubling of labor as a fundamental human activity, there is also a parallel troubling of humanist theories of species-being that we seek to further and that is logically entwined, given the centrality of the action of labor to the notion of species-being. We align with cultural theorist Nick Dyer-Witheford's project of "cannibalizing" the idea of species-being: exploring ways in which it might be adapted and repurposed for a nonhuman context.[48] We deliberately borrow Dyer-Witheford's perhaps unlikely metaphor of cannibalizing, as it invokes the consumption of flesh that enables the realization of the value derived from metabolic labor, but it also suggests a simultaneous affirmation and perversion of species boundaries, as that which morally distinguishes the cannibal from the everyday carnist. As part of this cannibalizing project we explore the ambiguities of the term *species* within the formulation

43. Bachour, "Alienation and Animal Labour," 116.
44. Noske, *Beyond Boundaries*, 20.
45. Johnson, "At the Limits of Species Being."
46. Dubeau, "Reclaiming Species-Being," 188.
47. Roelvink, "Rethinking Species-Being."
48. Dyer-Witheford, "1844/2004/2044."

"species-being" itself, concentrating on species not as a synonym for humanity but as suggesting a categorical system in which other living beings are also rendered relevant and visible. In particular we note that many of the existing more-than-human rethinkings of species-being to some extent still pivot on the human, in terms of either the figure who is actively trying to live better with others or whose knowledge is contributed to.[49] Instead, what affordances could a theory of nonhuman species-being bring—one that actively centers the labor animals perform for their own flourishing—and what would be its limitations?

Toward a Theory of Nonhuman Species-being

Instead of using the human as a point of departure, we gesture toward a notion of nonhuman species-being rooted in the alterity and distinction of nonhumans from humans, attempting to apprehend the lifeworlds of nonhumans on their own terms.

Sociologists Diana Stuart, Rebecca Schewe, and Ryan Gunderson have made some inroads into this project with respect to dairy cows.[50] They reject claims that Marx proposed an absolute dualism between humans and animals, contending that he used such distinctions metaphorically and highlighting continuities between the two with respect to "animal functions."[51] Yet they still insist upon some forms of human exceptionalism with regard to humans alone possessing "species powers," such as being able to significantly alter their environment and engage in conscious free creation or self-reflection.[52] Therefore, their work also seems to "cannibalize" the notion of species-being, as they repurpose it in a nonhuman context as referring to "the capacities, needs, and life-activities of cattle" free from human restraint or exploitation.[53] For them, under capitalism "the cow has departed from what it means to be a cow," through the stymying of foraging, mating, and rearing behaviors, again returning to the idea of alienation as specific to capitalist social relations.[54]

If we follow this theorization of nonhuman species-being what are the implications? First, in focusing on matters of restraint and exploitation Stuart and colleagues leave open the possibility of an unalienated mode of nonhuman labor that still actively benefits humans. This aligns with Porcher's arguments that animals—in the context of the small-scale farm—can find pleasure and meaning through their work with humans.[55] However, sociologists Eva Giraud and Greg Hollin's work on care in a "utopic" beagle breeding colony cautions against such a conclusion.[56] They highlight how, in attending

49. Roelvink, "Rethinking Species-Being"; Johnson, "At the Limits of Species Being"; Dubeau, "Reclaiming Species-Being."

50. Stuart, Schewe, and Gunderson, "Extending Social Theory."

51. Gunderson, "Marx's Comments."

52. Stuart, Schewe, and Gunderson, "Extending Social Theory."

53. Stuart, Schewe, and Gunderson, "Extending Social Theory," 207.

54. Stuart, Schewe, and Gunderson, "Extending Social Theory," 211.

55. Porcher, *Ethics of Animal Labor*.

56. Giraud and Hollin, "Care, Laboratory Beagles, and Affective Utopia."

to these intimate relations of care, we can lose sight of these places and the relationships they forge as necessarily instrumental. In this case, the human technician's care for dogs realized the production of beagles—animal models for medical research—that were compliant for animal experimentation and acquiescent to its standardization.[57] Thus human caring labor and nonhuman metabolic and affective labor are enrolled into regimes of animal testing. At certain moments in the commodity chain, dogs might be understood to be happy, or at least compliant, but their future is foreclosed by the experimentation of the laboratory.

While Stuart and colleagues' analysis is useful for highlighting animal suffering, we hope to think through nonhuman species-being more positively and expansively. Dubeau gestures toward such an approach, postulating that "humans use their species powers in a human fashion just like orcas or wolves fashion their species powers in constructing their personalities in the pursuit of flourishing."[58] In this, environmental humanities scholar Thom van Dooren's concept of "flight ways" is instructive. Van Dooren's bringing together of intergenerational knowledge, progressive transformation, and a relation between the individual and the species resonates with the concept of species-being, allowing us to think of the flight ways of albatrosses as the ensemble of social and biological relations.[59] Understanding species-being through van Dooren's work, we can comprehend plastic waste as not only causing the death of individual albatross—who mistake discarded petroleum-based objects as food—and thus edging the species closer to extinction, but as potentially operating so to sever the albatross from their albatross species-being: disrupting acts of familial care through which the birds are reproduced. This concept of flight ways—trajectories of evolutionary and cultural transformation—also helps to counter an understanding of animals as ahistorical, and instead aligns with emerging work on the temporalities of nonhuman labor, recognizing nonhumans as not only laboring and transforming their environments but, in doing so, shaping the reckoning and passage of time.[60]

Whereas plastic dissembles albatross species-being, elsewhere, others are working to put animals back together. Geographer Rosemary Collard writes of the work of a wildlife rehabilitation center as a place of animal dealienation.[61] The center deployed "misanthropic" practices—such as spraying animals, ignoring them, avoiding touch, and setting off firecrackers—to deliberately encourage a fear of humans. This work—care—which can be violent, is enacted to decommodify animals so that they might be released into the wild as autonomous creatures, what we understand as human workers' attempts to break these animals' alienation from their species-being. Here wildness

57. Clark, "Labourers or Lab Tools?"
58. Dubeau, "Reclaiming Species-Being," 204.
59. Van Dooren, *Flight Ways*.
60. Brice, "Vegetal Labour."
61. Collard, "Putting Animals Back Together."

entails animals living independently of humans and evading the risk of future capture—and their consequent recommodification. Thinking with van Dooren's and Collard's work through the framing of species-being takes us beyond explicit sites of (highly formalized) animal work (the field, the farm, the abattoir) and instead incorporates the broader formulation of labor explored by more-than-human geography, a cartography more attentive to capital's many guises.

Conceptual Challenges

However, such an attempt to reformulate species-being from a nonanthropocentric perspective presents fresh challenges. Here we examine four major fault lines fracturing the concept of nonhuman species-being: problems with species, problems with nature/being, problems with the alterity of the nonhuman, and finally problems with the flourishing that nonhuman species-being could entail.

1. Problems with Species

First, there is the danger that an emphasis on species-being that embraces a form of "species differentia" reifies the concept of species itself.[62] This problem emerges first because taxonomic classification, through which species come to be known and from which human-nonhuman relationships flow, is complex, and species can be defined in multiple ways.[63] Geographer Aurora Fredriksen considers how attempts to conserve native Scottish wildcat genes interrupt the wild autonomy of hybrid wildcats themselves, cats who are not concerned with the purity of future generations.[64] It is a concern imposed on them by conservationists troubled with the preservation of the species, a species seemingly knowable only to the human, and only particular humans—with the Scottish wildcat remarkably difficult to distinguish from the feral feline. This also brings us back to the familiar conservation ethics quandary of the needs of the individual versus the species, a quandary that is perhaps implicit in Marx's opposition between individual life activity and species-life.[65]

As Bachour notes, an emphasis on species difference could also obscure forms of interspecies cooperation and mutual flourishing. Indeed, Marx's conception of humanity's species-being appears to be partially rooted in a presumed refusal of interspecies exchange on the behalf of nonhumans. Marx argues that it is unique to humans that the "need on the part of one can be satisfied by the product of another and vice versa," and that "it does not happen elsewhere—that elephants produce for tigers, or animals for other animals . . . a hive of bees comprises at bottom only one bee, and they all produce the same thing."[66] Maybe elephants do not literally produce for tigers, but if we turn to ideas of symbiogenesis or keystone species or ecosocial reproduction or hybrid

62. Bachour, "Alienation and Animal Labour," 129.
63. Heise, "Lost Dogs, Last Birds, and Listed Species."
64. Fredriksen, "Of Wildcats and Wild Cats."
65. Van Dooren, *Flight Ways*; Palmer, *Ethical Debates*.
66. Marx, *Grundrisse*, 243.

labor—or even anarchist geographer Peter Kropotkin's *mutual aid*—then we can start to appreciate planetary life itself as a product of universal, unalienated multispecies endeavors.[67] Species-being rests upon a blurring of scales between one and many, speaking to a fulfillment of the individual that can only be achieved through the collective and thereby resonating with understandings of labor as an inherently porous, hybrid, and more-than-human undertaking.

2. Problems with Being (Nature)

Nonhuman species-being present challenges not only in terms of species but also in terms of being or essence, and its recourse to ideas of nature, if it is defined in relation to being free from anthropogenic restraint. As Bachour notes, this ignores human interventions that have improved animal existence and modes of being that have adapted to human conditions.[68] Again, as with the wildcats, we return to questions of conservation ethics and purity. Does this suggest there is no species-being for synanthropic species such as the cellar beetle, *Blaps mucronate*, which is dependent on crumbs dropped between human floorboards and risks extinctions due to shifts in architectural fashion?[69] Do wild, domestic, and opportunistic species demand different relational ethics?[70] And can one assume that freedom from anthropogenic restraint will necessarily conclude with flourishing, or as with many wildlife rehabilitation centers, do some animals face a choice between security in captivity or risking death in freedom?[71]

This identification of species-being in relation to the natural presents not just empirical but also theoretical challenges in terms of the reification of a pure unchanging "Nature." There is a danger that this understanding of nonhuman species-being both reinscribes a human/nature binary and potentially encourages a recourse to the natural as a timeless apolitical moral authority. This is at odds with certain strands of contemporary feminist thought that we also take inspiration from, such as Helen Hester's and Laboria Cuboniks's xenofeminism, a philosophy that is in antagonism with some expressions of ecofeminism and is explicitly antinaturalist in the sense that it rejects a (gender) essentialism rooted in concepts of purity and the natural and instead envisions nature as a site of contestation, experiment, and intervention.[72]

A centering of the human-free natural also encourages a potential nostalgia for a pre-anthropogenic or indeed pre-Anthropocenic way of being. This suggests a staticity

67. Battistoni, "Bringing in the Work of Nature"; Coulter, *Animals, Work, and the Promise of Interspecies Solidarity*; Haraway, *Staying with the Trouble*; Kropotkin, *Mutual Aid*; Lorimer, *Probiotic Planet*.

68. Bachour, "Alienation and Animal Labour."

69. Jones, *House Guests, House Pests*.

70. Donaldson and Kymlicka, *Zoopolis*.

71. Palmer, *Ethical Debates*.

72. However, the heterogeneity of ecofeminist thought should be acknowledged, as far from conflating women with nature, many ecofeminists seek to instead highlight the structures of domination that conflate the two and in turn devalue both. See Cuboniks, *Xenofeminist Manifesto*; Hester, *Xenofeminism*.

that is at odds with the fundamental dimensions of Marx's species-being, for as Dyer-Witheford frames it, humanity's species-being's "only essence is the capacity for transformation."[73] To bring this back to the nonhuman, Dyer-Witheford's interpretation suggests species' flourishing is tied to a process of emergence, becoming, and transformation, rather than a return to pristine past forms. This resonates with work that, inspired by anthropologist Isabelle Stenger's vision of cosmopolitics, demands an openness to new experimental forms of wildlife emerging in anthropogenic environments and even potentially segues with the anticipation of new natures that are emerging in a "charming Anthropocene."[74] Yet there is also some uneasiness with the potential ontological flattening of such approaches and their corresponding depoliticization.[75] Penny Howard and Andreas Malm recognize that such relational approaches obfuscate the planetary damage wrought by some humans by collapsing human/nonhuman distinctions, and thereby impede attempts to confront capital—and its alienation.[76]

Could the resolution lie in ideas of wildness and autonomy? Wadiwel, drawing on Jack Halberstam, considers a queer conception of wildness. In the face of work regimes and technologies of control—such as the chicken harvesting machine—chickens, although domesticated, remain in this context wild. They "press against, disrupt, and leak value from even the most apparently complete and relentless models of authoritarian subordination that we can devise."[77] Their wildness betrays the attempted totalizing control of animal agriculture. Here, wildness is not a recourse to a pristine nature, apart from the human, but an evocation of the animals' species-being. This articulates a politicized reimagination of wildness, partly echoed by Andreas Malm in his consideration of the relationship between wild places and liberation, explored through the cases of maroon societies and anti-fascist partisans.[78] Attempts to escape the grasp of binaries, without becoming ignorant of materiality, have been forwarded by anthropologists Juno Salazar Parreñas and Rosemary Collard, in their respective conceptualizations and consideration of nonhuman autonomy.[79] For Collard, relational autonomy means "having 'a life of one's own' while acknowledging how that life of one's own is indelibly relational."[80] Animals, Collard writes, "should be able to produce and use what they need, for themselves, to work and care for themselves and their communities."[81]

It is about "*freedom in one's socio-ecological reproduction*."[82] This also resonates with Noske's analysis of animal alienation, with a key dimension being the animal's loss of

73. Dyer-Witheford, "1844/2004/2044," 7–8.

74. Buck, "On the Possibilities of a Charming Anthropocene"; Hinchliffe et al., "Urban Wild Things"; Lorimer, *Wildlife in the Anthropocene*.

75. Giraud, *What Comes after Entanglement*?

76. Howard, "Anthropology of Human-Environment Relations"; Malm, "In Wildness Is the Liberation."

77. Wadiwel, "Chicken Harvesting Machine," 528.

78. Malm, "In Wildness Is the Liberation."

79. Salazar Parreñas, *Decolonizing Extinction*; Collard, *Animal Traffic*.

80. Collard, *Animal Traffic*, 130.

81. Collard, *Animal Traffic*, 131.

82. Collard, *Animal Traffic*, 131; italics in original.

control over its own subsistence cycles—one that we contend could be repaired through this mode of freedom.[83] The nonhuman, here, is understood not within an ahistorical nature, to which we should regress, but as beings whose "wildness" offers cracks through which we might peer when thinking toward a conceptualization of animals that have their own relations, desires, and needs.[84] Such approaches to autonomy might help us understand what it means to flourish when thinking toward a theory of nonhuman species-being.

3. Problems with Nonhuman Alterity

A third challenge lies in the unknowability of nonhuman species-being. If we contend that species-being is more than a fetishization of or recourse to ideas of the natural, rejects both anthropocentricism and anthropomorphism, and is rooted in the alterity of animals' world-making practices, then we must recognize that it can never be fully known to us. This becomes even more acute if the concept of nonhuman species-being is expanded to encompass plants, as the alterity of plants is a key point of contention within vegetal geography and critical plant studies.[85] This challenge also reflects wider debates regarding the limitations of accessing nonhuman perspectives and their worlds.[86] However, in relation to the nonhuman labor literature, it specifically resonates with attempts to grapple with the subjective experience and meaning of work for animals, and to recognize what is distinctive rather than just analogous about animal labor.[87]

However, this known unknown does not have to be a barrier to recognizing nonhuman species-being. As Dubeau argues, "Just because I do not have the lived experience of an orca and cannot understand what it's like to be an orca doesn't mean that an orca doesn't experience life in a significant way both for itself and other species it is entangled with."[88] Moreover an acceptance of the partiality of our knowledge potentially creates more space to think about nonhuman labor outside of its direct relation to the human. Noske's work argues for a mode of nonhuman consciousness with respect to alienation and labor that is not on our terms, claiming that animals' "consciousness is likely to pertain to their *own* societies of which humans may or may not be a part."[89] Such questions are also notable in Elizabeth Barron and Jaqueline Hess's considerations of the work Earth Others do for one another, in their case the interdependences of fungi, and their challenge to the nonhuman "*servicing* of human needs."[90]

83. Noske, *Beyond Boundaries*.

84. Wadiwel, "Chicken Harvesting Machine"; Collard, *Animal Traffic*, 131.

85. Lawrence, "Listening to Plants."

86. Hartigan, "Plants as Ethnographic Subjects"; Lorimer, Hodgetts, and Barua, "Animals' Atmospheres"; Gibbs, "Animal Geographies I."

87. Porcher, *Ethics of Animal Labor*; Wadiwel, "Chicken Harvesting Machine."

88. Dubeau, "Reclaiming Species-Being," 203.

89. Noske, *Beyond Boundaries*.

90. Barron and Hess, "Non-Human Labour," 164.

4. Problems with Flourishing

Finally, not only are there issues with how we define and recognize the potential for nonhuman species-being, but there is also a question of whether this sort of flourishing is even possible. Or are some creatures irrevocably estranged from their species-being? Beldo's and Wadiwel's respective works on industrial chicken farming are instructive on this point.[91] We can read Beldo's work as an example of embodied alienation: the broiler chickens are estranged from their metabolic labor, but that labor is also inescapable due to the transformation of their bodies to be amenable to the needs of industrial food production. The chickens are doubly confined, both by the farm and the limitations of their own bodies. Perhaps, drawing upon Giraud and Hollin,[92] we can see these broiler chickens as those whose futures are already foreclosed by actions taken generations before through their breeding. In his theory of metabolic labor, Beldo describes an excess that is in addition to human labor and establishes the chicken as irreducible to an object or a machine. It is this irreducible excess that puts chickens to work and forecloses their future. Beldo ends with a call not for abolition but for the simple hope that their lives could be less wretched, a far cry from the realization of species-being.

But perhaps in that irreducible excess we can still see the hope for a way of being that is not purely alienated? Wadiwel's critical engagement with Beldo's writing is also generative, centering chicken acts of resistance, such as struggling against their capture, that are countered through the development of more elaborate technologies, such as the chicken harvesting machine, a monstrous vacuum-like device. In these attempts at survival—these (albeit unsuccessful) resistances to slaughter—we can envision resistances to alienation.[93] Yet thinking from a critical disability studies perspective reminds us that estrangement is contingent upon specific social relations. Whereas on the farm, animals are ensured "intensive and joyless work," when rescued to a sanctuary, "they are able to perform the self-labor necessary to sustain their sense of well-being and biological repair."[94] There might be foreclosure, but as critical disability studies remind us, dis/ability to flourish is socially determined—context matters. The farm is disabling, while the sanctuary can be a place of flourishing, where the animal is not set to be alienated from their excess and is able to care for the self, alongside others.

This conceptual challenge, while weighty, does not undermine a theory of nonhuman species-being in its totality. Returning to Marx's definition of species-being in opposition to the figure of the animal, Marx explicitly states that "the animal is immediately one with its life activity. It does not distinguish itself from it. It is *its life activity*."[95] This synonymity between the animal's actions in the world and individual life

91. Beldo, "Metabolic Labor"; Wadiwel, "Chicken Harvesting Machine."

92. Giraud and Hollin, "Care, Laboratory Beagles, and Affective Utopia."

93. For Dave, it is precisely in such resistances that we can know something as work. It is work because it is refused ("Kamadhenu's Last Stand"). See also Hribal, "'Animals Are Part of the Working Class.'"

94. Somers and Soldatic, "Productive Bodies," 39.

95. Marx, *Economic and Philosophical Manuscripts*, 113.

activity (as opposed to species-being) is what forestalls a recognition of nonhuman alienation, and thereby the possibility of nonhuman species-being. Yet in Beldo's account two critical things occur: First, through the act of metabolic labor the chicken cannot be distinguished from its accumulation of value.[96] Second this metabolic labor actively undermines its own physical existence, as it grows at a rate that renders it only partially covered by feathers (with feather-growth often superseded by the growth of flesh), rasping for breath, and unable to hold its own weight. The chicken becomes exemplary of alienated labor: not only does a humanist Marxism deny it the possibility of species-being, but its very body conspires against its individual life activity. Marx notes that under a state of capitalist alienation the workers feel only (falsely) human when engaging their animal natures or natural powers (sexual reproduction and basic bodily sustenance), as opposed to their truly human species powers (aesthetic, intellectual, and artistic pleasures). Yet here the chicken is denied even the solace of its animal nature. This suggests a new reading of Marx's claim that "what is animal becomes human and what human becomes animal,"[97] as the chicken becomes so thoroughly anthropogenically transformed that it is denied species powers and natural powers, and is thus de-animalized.[98] As such, we contend that rather than being at odds with ideas of alienation and species-being, it is through animals that we can most fully grasp alienation and the loss of species-being. Through the worlds we make for nonhuman animals, we see our own alienation in all its complexity.

Political Affordances

In light of these challenges, what is to be gained from a theory of nonhuman species-being? What is politically at stake?

First, a theory of nonhuman species-being exceeds concerns with animal welfare and animal suffering and instead raises the question of the good life, but one situated within a critique of capitalist social relations. We can again return to Bachour's instructive troubling of Marx's humanism. Bachour contends that the limitations of species-being are that Marx's presentation of animals as having purely instinctual needs precludes a distinction between "mere existence and thriving, or living well."[99] By contrast Porcher envisions the good life as a kind of liberation through work, one that includes access to nature, work that respects bodily rhythms, and the social relations with humans

96. Similarly, Noske argues that a parallel between women's reproductive labor and nonhuman labor is that there is no time nor space outside of work, as she contends that "while for the male home and work are separate, and for the female work is in the home as well, animal 'workers' cannot 'go home' at all" (*Beyond Boundaries*, 17).

97. Marx, *Economic and Philosophical Manuscripts*, 111.

98. A term echoed by Noske who describes how industrial farming leads to an extreme specialization of labor in which the totality of the animal is subordinate to the performance of one skill, be it egg-laying or growing flesh (*Beyond Boundaries*).

99. Bachour, "Alienation and Animal Labour," 117.

and others of their own species.[100] However, such a vision seemingly remains foreclosed by the context of the farm and the gaze and desire of the human. If, through our more-than-human cannibalizing, the notion of nonhuman species-being can gesture toward a sense of thriving but without valuing labor in purely human terms, it can therefore bring recent development in Marxist political theory and the nonhuman labor literature in line with extant concerns for multispecies flourishing.[101] This has been hinted at by Ted Benton, who describes nonhuman species-being in terms of a species-specific mode of flourishing—"essential powers" and forms of "species-life"—that go beyond the conditions for survival.[102] Yet for this concept to be fleshed out, it is necessary to put these ideas in dialogue with the empirical work occurring within the fields of multispecies ethnography and more-than-human geography, the first steps of which we have attempted here.

Second, through emphasizing the potential for purposeful activity beyond capital accumulation, resistance to alienation, and the production of use values rather than exchange values, a theory of nonhuman species-being suggests a means of recognizing nonhuman laborers without naturalizing labor itself.[103] It has the capacity to highlight the shared material interests of exploited human and nonhuman workers—questions considered more broadly by Marxist-feminists Barca and Salleh.[104] It also resists the tendency to reduce all activities to labor in ways that marginalize creatures that do not work in service to human interests or that overlook actions less aligned to work than to play.[105] A focus on nonhuman species-being also avoids simply proclaiming animal morality and value through work or a demand for wages or recompense, instead allying with demands for a postwork future that does not just entail the end of human work but the negation of work itself.[106] We recognize and support calls to unify union struggles with concerns for nonhumans but contend that, in light of the transformations of work as a whole, existing trade union infrastructure is unlikely to meet the needs of planetary liberation.[107] Akin to Collard's "wild life politics," the concept of nonhuman species-being politicizes animal lives, recognizes species as transforming over time rather than as static, and demands space for nonhumans to engage in their own world-making practices and produce their own use values in their species interest, rather than centering ours.[108] This is akin to circulating questions of labor and production elsewhere, such as a

100. Porcher, *Ethics of Animal Labor*.

101. Swanson, Tsing, and Bubandt, *Arts of Living*.

102. Benton, *Natural Relations*, 47.

103. Besky and Blanchette, "Introduction."

104. Ernwein, "Plant Labour"; Barca, "Ecologies of Labour"; Salleh, "From Metabolic Rift to 'Metabolic Value.'"

105. Lorimer, *Probiotic Planet*.

106. Battistoni, "Bringing in the Work of Nature"; Battistoni, "Labor of Life?"; Besky and Blanchette, "Introduction"; Porcher, *Ethics of Animal Labor*; Dave, "Kamadhenu's Last Stand."

107. Ernwein, "Plant Labour."

108. Collard, *Animal Traffic*.

revival in the concept of family abolition, spurred by Lewis and Weeks.[109] As Lewis notes, family abolition might be rephrased as not just a rejection but also an invitation to consider that *another family is possible*, a provocation to rethink how human social reproduction could be drastically different.

Allured by what recent writing on nonhuman labor could mean for more liberatory nonhuman worlds, we have sought to bring two bodies of literature in this area into more explicit conversation: (1) political theory and (2) empirical work developing understandings of how nonhumans work in historical and contemporary contexts. This provocation has raised a number of fault lines as well as possibilities for what thinking toward a nonhuman theory of species-being might afford nonhumans themselves. Our efforts do not demand a singular theory of nonhuman species-being but aim to expand the political potential of species-being as a conceptual framework beyond a solely human focus. In our movement toward a theory of nonhuman species-being, we hope others will join us on this journey, fashioning other understandings that complement our primary focus on the animal. Such interventions are sorely needed at a moment when cascading ecological catastrophe threatens the lives of nonhuman creatures and may further tear them from their species-being.

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References

Bachour, Omar. "Alienation and Animal Labour." In *Animal Labour: A New Frontier of Interspecies Justice?*, edited by Charlotte Blattner, Kendra Coulter, and Will Kymlicka, 116–38. Oxford: Oxford University Press, 2019.

Barca, Stefania. "Ecologies of Labour: An Environmental Humanities Approach." In *Through the Working Class: Ecology and Society Investigated Through the Lens of Labour*, edited by Silvio Cristiano, 29–38. Venezia: Edizioni C'Foscari, 2018.

109. Lewis, *Full Surrogacy Now*; Weeks, "Abolition of the Family."

Barca, Stefania. *Forces of Reproduction: Notes for a Counter-Hegemonic Anthropocene*. Cambridge: Cambridge University Press, 2020.

Barron, Elizabeth, and Jaqueline Hess. "Non-Human Labour: The Work of Earth Others." In *The Handbook of Diverse Economies*, edited by J. Gibson-Graham and Kelly Dombroski, 163–69. Cheltenham: Edward Elgar Publishing, 2020. https://www.elgaronline.com/view/edcoll/9781788119955/9781788119955.00026.xml.

Barua, Maan. "Animating Capital: Work, Commodities, Circulation." *Progress in Human Geography* 43, no. 4 (2019): 650–69. https://doi.org/10.1177/0309132518819057.

Barua, Maan. "Nonhuman Labour, Encounter Value, Spectacular Accumulation: The Geographies of a Lively Commodity." *Transactions of the Institute of British Geographers* 42, no. 2 (2017): 274–88. https://doi.org/10.1111/tran.12170.

Battistoni, Alyssa. "Bringing in the Work of Nature: From Natural Capital to Hybrid Labor." *Political Theory* 45, no. 1 (2017): 5–31. https://doi.org/10.1177/0090591716638389.

Battistoni, Alyssa. "Labor of Life? Theorizing Labor with and against Nature." Presentation at "Beyond Survival: Eco-Feminist Imaginings in Precarious Times," University of Pennsylvania, February 26, 2021. YouTube video, 01:32:42. https://www.youtube.com/watch?v=NJYamkVoQgA.

Beldo, Les. "Metabolic Labor: Broiler Chickens and the Exploitation of Vitality." *Environmental Humanities* 9, no. 1 (2017): 108–28. https://doi.org/10.1215/22011919-3829154.

Benton, Ted. *Natural Relations: Ecology, Animal Rights, and Social Justice*. London: Verso, 1993.

Besky, Sarah, and Alex Blanchette. "Introduction: The Fragility of Work." In *How Nature Works: Rethinking Labor on a Troubled Planet*, 1–22. Santa Fe: School for Advanced Research Press, 2019.

Brice, Jeremy. "Vegetal Labour and the Measure of Value: Reckoning Time and Producing Worth in Capitalist Viticulture." In *The Work That Plants Do: Life, Labour, and the Future of Vegetal Economies*, edited by Marion Ernwein, Franklin Ginn, and James Palmer, 123–48. Bielefeld: Transcript, 2021.

Buck, Holly Jean. "On the Possibilities of a Charming Anthropocene." *Annals of the Association of American Geographers* 105, no. 2 (2015): 369–77. https://doi.org/10.1080/00045608.2014.973005.

Clark, Jonathan. "Labourers or Lab Tools? Rethinking the Role of Lab Animals in Clinical Trial." In *The Rise of Critical Animal Studies: From the Margins to the Centre*, edited by Nick Taylor and Richard Twine, 139–64. Abingdon, UK: Routledge, 2014.

Collard, Rosemary-Claire. *Animal Traffic: Lively Capital in the Global Exotic Pet Trade*. Durham, NC: Duke University Press, 2020.

Collard, Rosemary-Claire. "Putting Animals Back Together, Taking Commodities Apart." *Annals of the Association of American Geographers* 104, no. 1 (2014): 151–65. https://doi.org/10.1080/00045608.2013.847750.

Coulter, Kendra. *Animals, Work, and the Promise of Interspecies Solidarity*. London: Palgrave Macmillan, 2016.

Cuboniks, Laboria. *The Xenofeminist Manifesto: A Politics for Alienation*. London: Verso, 2018.

Czank, James M. "On the Origin of Species-Being: Marx Redefined." *Rethinking Marxism* 24, no. 2 (2012): 316–23. https://doi.org/10.1080/08935696.2012.657459.

Dalla Costa, Mariarosa, and Selma James. *The Power of Women and the Subversion of the Community*. 3rd ed. Bristol, UK: Falling Wall Press, 1975.

Dave, Naisargi N. "Kamadhenu's Last Stand: On Animal Refusal to Work." In *How Nature Works: Rethinking Labor on a Troubled Planet*, edited by Sarah Besky and Alex Blanchette, 211–24. Santa Fe: School for Advanced Research Press, 2019.

Donaldson, Sue, and Will Kymlicka. *Zoopolis: A Political Theory of Animal Rights*. Oxford: Oxford University Press, 2011.

Dubeau, Mathieu. "Reclaiming Species-Being: Toward an Interspecies Historical Materialism." *Rethinking Marxism* 30, no. 2 (2018): 186–207. https://doi.org/10.1080/08935696.2018.1502307.

Dyer-Witheford, Nick. "1844/2004/2044: The Return of Species-Being." *Historical Materialism* 12, no. 4 (2004): 1–23. https://doi.org/10.1163/1569206043505130.

Ernwein, Marion. "Plant Labour in the Ecological Regime of Urban Maintenance: Reproduction, Collaboration, Uneven Relations." In *The Work That Plants Do: Life, Labour, and the Future of Vegetal Economies*, edited by Marion Ernwein, Franklin Ginn, and James Palmer, 105–22. Bielefeld, Germany: Transcript, 2021.

Foster, John Bellamy, and Brett Clark. "Marx and Alienated Speciesism." *Monthly Review* 70, no. 7 (2018): 1–20. https://doi.org/10.14452/MR-070-07-2018-11_1.

Fraser, Nancy. "Behind Marx's Hidden Abode." *New Left Review*, no. 86 (2014): 55–72.

Fredriksen, Aurora. "Of Wildcats and Wild Cats: Troubling Species-Based Conservation in the Anthropocene." *Environment and Planning D: Society and Space* 34, no. 4 (2016): 689–705. https://doi.org/10.1177/0263775815623539.

Gibbs, Leah M. "Animal Geographies I: Hearing the Cry and Extending Beyond." *Progress in Human Geography* 44, no. 4 (2020): 769–77. https://doi.org/10.1177/0309132519863483.

Giraud, Eva. *What Comes after Entanglement? Activism, Anthropocentrism, and an Ethics of Exclusion*. Durham, NC: Duke University Press, 2019.

Giraud, Eva, and Gregory Hollin. "Care, Laboratory Beagles, and Affective Utopia." *Theory, Culture, and Society* 33, no. 4 (2016): 27–49. https://doi.org/10.1177/0263276415619685.

Gunderson, Ryan. "Marx's Comments on Animal Welfare." *Rethinking Marxism* 23, no. 4 (2011): 543–48. https://doi.org/10.1080/08935696.2011.605286.

Haraway, Donna. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham, NC: Duke University Press, 2016.

Hartigan, John. "Plants as Ethnographic Subjects." *Anthropology Today* 35, no. 2 (2019): 1–2. https://doi.org/10.1111/1467-8322.12491.

Harvey, David. "Marxism, Metaphors, and Ecological Politics." *Monthly Review* 49, no. 11 (1998): 17–31.

Heise, Ursula K. "Lost Dogs, Last Birds, and Listed Species: Cultures of Extinction." *Configurations* 18, no. 1 (2010): 49–72. https://doi.org/10.1353/con.2010.0007.

Held, Jacob M. "Marx via Feuerbach: Species-Being Revisited." *Idealistic Studies* 39, no. 1 (2009): 137–48. https://doi.org/10.5840/idstudies2009391/319.

Hester, Helen. *Xenofeminism*. Cambridge: Polity Press, 2018.

Hinchliffe, Steve, Matthew B Kearnes, Monica Degen, and Sarah Whatmore. "Urban Wild Things: A Cosmopolitical Experiment." *Environment and Planning D: Society and Space* 23, no. 5 (2005): 643–58. https://doi.org/10.1068/d351t.

Howard, Penny McCall. "The Anthropology of Human-Environment Relations." *Focaal* 2018, no. 82 (2018): 64–79. https://doi.org/10.3167/fcl.2018.820105.

Hribal, Jason. "'Animals Are Part of the Working Class': A Challenge to Labor History." *Labor History* 44, no. 4 (2003): 435–53. https://doi.org/10.1080/0023656032000170069.

Hurn, Samantha. "Animals as Producers, Consumers, and Consumed: The Complexities of Trans-Species Sustenance in a Multi-Faith Community." *Ethnos* 82, no. 2 (2017): 213–31. https://doi.org/10.1080/00141844.2015.1107611.

Ingold, Tim. "The Architect and the Bee: Reflections on the Work of Animals and Men." *Man* 18, no. 1 (1983): 1. https://doi.org/10.2307/2801762.

Johnson, Elizabeth R. "At the Limits of Species Being: Sensing the Anthropocene." *South Atlantic Quarterly* 116, no. 2 (2017): 275–92. https://doi.org/10.1215/00382876-3829401.

Jones, Richard. *House Guests, House Pests: A Natural History of Animals in the Home*. London: Bloomsbury, 2015.

Kallis, Giorgos, and Erik Swyngedouw. "Do Bees Produce Value? A Conversation Between an Ecological Economist and a Marxist Geographer." *Capitalism Nature Socialism* 29, no. 3 (2018): 36–50. https://doi.org/10.1080/10455752.2017.1315830.

Kosek, Jake. "Industrial Materials: Labor, Landscapes, and the Industrial Honeybee." In *How Nature Works: Rethinking Labor on a Troubled Planet*, edited by Sarah Besky and Alex Blanchette, 147–70. Santa Fe, NM: School for Advanced Research Press, 2019.

Kropotkin, Peter. *Mutual Aid: A Factor of Evolution*. London: Freedom Press, 1998.

Lawrence, Anna M. "Listening to Plants: Conversations between Critical Plant Studies and Vegetal Geography." *Progress in Human Geography* 46, no. 2 (2022): 629–51. https://doi.org/10.1177/03091325211062167.

Lewis, Sophie. *Full Surrogacy Now: Feminism against Family*. London: Verso, 2019.

Lorimer, Jamie. *The Probiotic Planet: Using Life to Manage Life*. London: University of Minnesota Press, 2020.

Lorimer, Jamie. *Wildlife in the Anthropocene: Conservation after Nature*. London: University of Minnesota Press, 2015.

Lorimer, Jamie, Timothy Hodgetts, and Maan Barua. "Animals' Atmospheres." *Progress in Human Geography* 43, no. 1 (2019): 26–45. https://doi.org/10.1177/0309132517731254.

Malm, Andreas. "In Wildness Is the Liberation of the World: On Maroon Ecology and Partisan Nature." *Historical Materialism* 26, no. 3 (2018): 3–37. https://doi.org/10.1163/1569206X-26031610.

Marx, Karl. *Economic and Philosophical Manuscripts of 1844*. London: Lawrence and Wishart, 1964.

Marx, Karl. *The German Ideology: Part One with Selections from Parts Two and Three and Supplementary Texts*. London: Lawrence and Wishart, 2004.

Marx, Karl. *Grundrisse*. Translated by Martin Nicolaus. London: Penguin Books, 1993.

Mies, Maria. *Patriarchy and Capital Accumulation on a World Scale: Women in the International Division of Labour*. London: Zed, 1986.

Moore, Jason. *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. London: Verso, 2015.

Münster, Ursula. "Working for the Forest: The Ambivalent Intimacies of Human-Elephant Collaboration in South Indian Wildlife Conservation." *Ethnos* 81, no. 3 (2016): 425–47. https://doi.org/10.1080/00141844.2014.969292.

Noske, Barbara. *Beyond Boundaries: Humans and Animals*. Montreal: Black Rose, 1997.

Palmer, Alexandra. *Ethical Debates in Orangutan Conservation*. Routledge: London, 2020.

Palmer, James. "Putting Forests to Work? Enrolling Vegetal Labor in the Socioecological Fix of Bioenergy Resource Making." *Annals of the American Association of Geographers* 111, no. 1 (2021): 141–56. https://doi.org/10.1080/24694452.2020.1749022.

Porcher, Jocelyne. *The Ethics of Animal Labor*. London: Palgrave Macmillan, 2017.

Roelvink, Gerda. "Rethinking Species-Being in the Anthropocene." *Rethinking Marxism* 25, no. 1 (2013): 52–69. https://doi.org/10.1080/08935696.2012.654700.

Salazar Parreñas, Juno. *Decolonizing Extinction: The Work of Care in Orangutan Rehabilitation*. Durham, NC: Duke University Press, 2018.

Salleh, Ariel. "From Metabolic Rift to 'Metabolic Value': Reflections on Environmental Sociology and the Alternative Globalization Movement." *Organization and Environment* 23, no. 2 (2010): 205–19. https://doi.org/10.1177/1086026610372134.

Somers, Kelly, and Karen Soldatic. "Productive Bodies: How Neoliberalism Makes and Unmakes Disability in Human and Non-Human Animals." In *Disability and Animality: Crip Perspectives in Critical Animal Studies*, edited by Kelly Struthers Montford, Stephanie Jenkins, and Chloë Taylor, 35–56. Abingdon: Routledge, 2020.

Stuart, Diana, Rebecca L. Schewe, and Ryan Gunderson. "Extending Social Theory to Farm Animals: Addressing Alienation in the Dairy Sector." *Sociologia Ruralis* 53, no. 2 (2013): 201–22. https://doi.org/10.1111/soru.12005.

Swanson, Heather, Anna Tsing, and Nils Bubandt, eds. *Arts of Living on a Dying Planet*. London: University of Minnesota Press, 2017.

van Dooren, Thom. *Flight Ways: Life and Loss at the Edge of Extinction*. New York: Columbia University Press, 2014.

Wadiwel, Dinesh. "Chicken Harvesting Machine." *South Atlantic Quarterly* 117, no. 3 (2018): 527–49. https://doi.org/10.1215/00382876-6942135.

Wartenberg, Thomas E. "'Species-Being' and 'Human Nature' in Marx." *Human Studies* 5, no. 2 (1982): 77–95.

Weeks, Kathi. "Abolition of the Family: The Most Infamous Feminist Proposal." *Feminist Theory* (2021). https://doi.org/10.1177/14647001211015841.