

## Critical meat studies

This annotated bibliography was inspired by a provoking article by the political ecologist Paul Robbins who used the example of a Concentrated Animal Feeding Operation (CAFO) that produces milk in the United States to explore how political ecology could relate to degrowth and socialist ecomodernism. After considering energy, labor, and technology, the author asks, “**Is there anything good about this Anthropocene dairy machine?**”

The objective of this list is not to answer the previous question but rather to present different bodies of literature that engage critically with industrial agriculture and, in many cases, specifically with industrial meat. Thus, the Annotated Bibliography presents literature from political ecology and economy that contains arguments against the industrialized meat sector. The reading provides multiple views on the *grain-oilseed-livestock complex* (Weis, 2013), including degrowth, agrarian and environmental justice, and commodification of animals.

The different sections of the Annotated Bibliography represent a snapshot of the diverse approaches against agribusiness. The list shows the similarities among the theoretical approaches, but it also reveals the differences, sometimes nuanced, as well as the possibilities for constructing theoretical bridges. Overall, the texts addressed questions and topics that are close to political ecology: whose knowledge counts, who decides, who wins, who loses, and why under the expansion of industrial livestock.

The first section aims to introduce political ecologies of meat. This section raises relevant questions and topics regarding the meat industry that will be addressed by most of the readings. The following sections correspond to the different topics. They combine theoretical readings and, when possible, examples and case studies of how each theoretical body or framework has addressed the meat industry. It is important to mention that even when there is a lot of information on agribusiness and some about extensive agriculture, few pieces address industrialized meat.

After finishing the list, I hope that each reader can think about the question **Is there anything good about meat factories?** taking into consideration the multiple consequences of the meat industry.

## Political ecologies of meat

- 1) Emel, J., & Neo, H. (Eds.). (2015). *Political ecologies of meat*. Routledge, Taylor & Francis Group.

This book explains what the political ecologies of meat are and why this new trend of analysis is relevant under a paradoxical context in which there is a growing interest regarding animal sentience and at the same time the expansion of the intensification of livestock.

As we know, political ecology argues that ecology is political and has, for many years, focused on the analysis of how human lives have been impacted by accumulation. In doing so, it criticized big, standardized and corporate science revalidating local knowledge, focusing on justice, questioning power, and describing the uneven distribution of benefits and negative impacts amongst different stakeholders and different geographies. However, until recently, political ecology focused on humans and disregarded animals.

One of the key differences between political ecology and the political ecology of meat is how this theoretical body has now incorporated the non-human animal in the context of growing academic interest in the animal question. This can be addressed by studying the bioeconomy of the meat industry, defined as the capture of biological material of animal bodies to produce value within an economy that modifies life. By adding the animal question, the study of the meat industry to multiple and diverse actors, including animals. By thinking through political ecology, the different authors of the book reflect on the global trade of meat concerning accumulation, the impacts of the industry, the injustices of the system, and the governance of the industry. The questions and analysis of this book are still relevant today with the deepening of the expansion of factory farming.

- 2) Robbins, P. (2020). Is less more ... or is more less? Scaling the political ecologies of the future. *Political Geography*, 76, 102018.  
<https://doi.org/10.1016/j.polgeo.2019.04.010>

The main objective of this article is to discuss, from a critical approach, progressive environmental futures and imaginaries. Specifically, the author explores socialist ecomodernism and degrowth, two emancipatory projects with different views regarding technology, scale, and limits to growth. To discuss the differences and similarities among them, and to argue that there is a need for geographically situated analysis, the author uses as an example a dairy Concentrated Animal Feeding Operation (CAFO) in the United States.

The article analyzes this industrialized facility from the view of political ecology, specifically in a context of *abundant energy and scarce labor*. Although the author recognizes the mainstream political ecology critique regarding CAFOs -including negative impacts such as overproduction, exploitation of immigrant force, and environmental issues- he suggests a possible alternative view. He argues that the “cyborg affair” between machines and laboring cows, complemented by biodigesters, has benefited the owners of the few remaining CAFOs in the region. In this sense, technology and economies of scale have allowed the owner of the studied CAFO to have what peasants aim for -security, autonomy, and freedom from drudgery- and even created a new peasantry. Based on this example, the author raises a relevant question for those studying industrializing meat and dairy production: **“Is there anything good about this Anthropocene dairy machine?”** (p. 2). And, will a good Anthropocene have small family operations or CAFOs in a contradiction-filled economy?

After describing and criticizing degrowth and socialist ecomodernism, the author concludes that although there is an agreement that the current environmental crises are linked to accumulation (in other words, the *Capitalocene*), there is a need to critically approach utopian and dystopian

discourses. In the conclusion, he goes back to the CAFO and summarizes the view of ecomodernists defending the system as sustainable and of those who argue that technology has gone amok.

## Degrowth and meat

- 3) **Gómez-Baggethun, E. (2020). More is more: Scaling political ecology within limits to growth. *Political Geography*, 76, 102095.**  
<https://doi.org/10.1016/j.polgeo.2019.102095>

In this paper Gómez-Baggethun comments on Robbins' (2020) piece on socialist ecomodernism and degrowth (previously summarized) from a degrowth perspective. In doing so, he attends many of Robbins' critics of the degrowth movement and theory including: 1) the argument that the limits to growth and scarcity are social constructs while degrowth argues for recognizing them, 2) degrowth's negative view regarding technology, and 3) the possibility that "more is less" in the sense that more production with the right technology can be more sustainable.

In his response, Gómez-Baggethun argues that for political ecologists analyzing the *growth-technology-environment nexus* degrowth presents a better utopia than ecomodernist approaches, even if socialist, as the latter reinforces the current status quo. Gómez-Baggethun's arguments against sustainable growth and green growth are useful for understanding current meat production. He introduces a different perspective of the economy (not based on growth) but rather one that focuses on how the economy depends on the ecosystems as resources and sinks of waste. A perspective that is also used by environmental ecologists (see Martínez-Alier 2023 in this Annotated Bibliography in the section on environmental justice) to criticize agribusiness.

Although the paper is useful for understanding degrowth's views regarding limits and growth, in contrast to the article it reacts to, it hardly refers to CAFOs. Nevertheless, Gómez-Baggethun does mention that Robbins' view of a CAFO deserves a closer inspection as he seems to confuse efficiency and scale (Kallis, 2015). Therefore, even if Robbins argues that CAFOs are efficient as they might pollute less per unit of production, they produce more output than small farms and therefore pollute more. To conclude, the author underlines how **more is more**, and how ecological economics and degrowth defend limits to growth and social justice over technological solutions.

- 4) **Gerber, J.-F. (2020). Degrowth and critical agrarian studies. *The Journal of Peasant Studies*, 47(2), 235–264.** <https://doi.org/10.1080/03066150.2019.1695601>

This article discusses the possibility of combining critical agrarian studies with degrowth. By proposing the category "agrarian degrowth" Gerber explores the main questions and elements of both bodies of thinking and how to bring the agrarian question and the degrowth question closer together. To do so, the author first describes both theoretical bodies and then proposes some relevant questions that could be answered better by combining both approaches: 1) What are the effects of growth on rural areas? 2) Who benefits? 3) What are the alternatives? According to the

author, critical agrarian studies discuss how capitalist growth impacts the rural space and the possibilities for alternatives, while degrowth questions economic growth when discussing the rural spaces might idealize peasant economies and dismiss many of their complexities. To make his argument stronger he integrates key elements of both approaches such as rootedness within limits (Weil), balances of reproduction (Chayanov), democratic decentralization (Kumarappa), social metabolism (Georgescu-Roegen), and the exploration of the possible alliances between environmental movements and degrowth (Joan Martínez-Alier).

Although the article does not discuss meat directly and instead focuses on agriculture in the broader sense, it is relevant for the discussions on the resistance against the meat industry for multiple reasons. First, it synthesizes the difference between critical agrarian studies and degrowth. Second, it presents key elements for thinking about scale, technology, and alternatives to agrarian growth. Third, it adds value by recognizing the difficulties of joining both movements. In doing so, it also describes the possible tensions regarding food sovereignty and degrowth.

- 5) **Gertenbach, L., Lamla, J., & Laser, S. (2021). Eating ourselves out of industrial excess? Degrowth, multi-species conviviality and the micro-politics of cultured meat. *Anthropological Theory*, 21(3), 386–408. <https://doi.org/10.1177/1463499620981544>**

This article discusses cultivated meat by analyzing its fictional, material, and socio-political dimensions. Cultivated meat is usually framed as a solution to the environmental problems of meat production and as an alternative to change the current human relations with animals. Therefore, the narratives related to cultivated meat directly address two elements of Degrowth's theory: the possibility of degrowth and conviviality. Nevertheless, the dimensions of cultivated meat are more complex.

To describe this complexity, the authors propose that degrowth takes into consideration Science and Technology Studies (STS) and human-animal studies. The article first describes degrowth and conviviality. It then introduces a notion of conviviality that goes beyond promoting a different relationship of humans with technology to discuss food and the relations of humans with other species (multi-species conviviality). Based on this notion, the authors describe cultivated meat from different points of view. They argue that the current model represents a technological solutionism that is ending the links between humans and animals and in doing so depoliticizing conviviality. The article is useful for those studying industrial meat because provides important elements that could be useful for the current and future debate on cultivated meat as a solution to CAFOs.

## Agrarian and environmental justice and meat

- 6) **Martínez-Alier, J. (2023). 21: Agrarian justice and human ecology. In *Land, Water, Air and Freedom: The Making of World Movements for Environmental Justice*. Edward Elgar Publishing. <https://doi.org/10.4337/9781035312771>**

This article proposes a third approach in addition to the views of ecomodernists and degrowth to the expansion of CAFOs (and agribusiness): environmental justice. By analyzing socio-environmental conflicts, including those of CAFOs, the author aims to combine ecological and social elements to the debate as well as environmental and agrarian justice to answer the agrarian and socioecological questions. In doing so, he claims a metabolic view over agriculture, which defines it as a system of conversion of sun energy and other inputs into kcal content of crops and other products, is more useful.

In the debate over CAFOs, Martinez-Alier argues that CAFOs raise multiple new questions to the agrarian questions (on land ownership and tenure, and peasantry), including those related to animal suffering and meat consumption, the impacts of animal concentration, and those related to waste recycling. Questions that could be responded to through a food regime approach. By describing resistances in France and Spain, he concludes that the environmental conflicts related to CAFOs are not NIMBY (not in my backyard) problems but rather not in anyone's backyard conflicts due to the pollution of the industry to wide areas. However, he also observes that there is still not a global movement against industrial meat. At the end of the chapter, he concludes that socioenvironmental conflicts related to agriculture raise questions regarding land, water, and air. Thus, these conflicts are related to the freedom (using Sen's approach of development as freedom) to use land, water, and clean air. This new approach suggested multiple new questions about who resists, how, and what are they defending.

- 7) **Schneider, M. (2014). Developing the meat grab. *The Journal of Peasant Studies*, 41(4), 613–633. <https://doi.org/10.1080/03066150.2014.918959>**

Land grabbing is a concept that is used to describe the transnational land transactions that take place due to the large-scale production, mostly of food and biofuels. Through time, the concept evolved and expanded its reach to explain multiple pressures over land and water, including other forms of extractivism. Although land grabbing is vastly used to describe extensive husbandry and the production of crops (soy and corn) that could be used for industrial meat, land grabbing until recently was not used to describe the negative consequences of CAFOs. CAFOs are usually depicted as intensive and not extensive industries as they concentrate production of meat in closed spaces using less space. This article challenges this notion and introduces the concept of the meat grab to encourage those studying land grabbing to increasingly take into consideration industrial meat.

*Meat grabbing* describes the phenomena of land deals that are made for producing industrial meat. Meat grabs enclose three elements: 1) negative impacts on food security, 2) environmental

injustices, and 3) changes in the relationship of people with agroecosystems. All of these negative consequences should be accounted for when discussing the impacts of the industry. To do so, **Schneider** proposes an *accounting harm* approach that goes beyond specific CAFO facilities and considers the scale of the dispossession -for instance, accounting for soil and water pollution- of the industry on rural people and environments. In other words, he proposes to consider how CAFOs impact land, water, and livelihoods negatively in the process of production. This form of accounting harm considers not only the scale of the land deal but also the degradation of surrounding environments through an extended temporality.

**8) McKay, B. M., Alonso Fradejas, A., & Ezquerro-Cañete, A. (Eds.). (2021). *Agrarian extractivism in Latin America*. Routledge, Taylor & Francis Group.**

The introduction to this book compiling articles regarding agrarian extractivism in Latin America is useful because it identifies and summarizes the main characteristics of agrarian extractivism, an umbrella concept that is also useful for understanding meat. Extractivism is a theory used to describe a mode of appropriation that organizes natural resources in a way that entails an uneven distribution of the gains and negative impacts of the ecological and economic exchange. Agrarian extractivism usually refers to the dominant agriculture model of large-scale intensive, usually monocrops, production for export. For agrarian extractivism, the authors identify seven key aspects that will contribute to the understanding of the phenomena: 1) the commodities particularities, 2) labor dynamics and changes (could increase or decrease labor demand), 3) property dynamics, 4) flow of capital, 5) flows of knowledge, 6) flows of energy and materials, and 7) territorial restructuring, a factor that is understood based on the others. These key aspects reflect the multiple consequences of the dominant agricultural model, including extractive relations with humans and non-human nature.

Although none of the chapters of the book discuss meat or animal agriculture, the book acknowledges that the definition of agrarian extractivism is not one as there are multiple forms of extractive agriculture and invites us to think about other commodities. Therefore, this approach could be used to understand industrialized meat in the region.

## Commodification of animals

**9) Neo, H., & Emel, J. (2017). *Geographies of Meat: Politics, economy and culture*. Taylor & Francis.**

The introduction to this book is particularly useful for understanding meat production and consumption. As the authors argue, the detachment of animals from humans and nature via commodification is reflected in the ways we currently produce meat, especially in industrial meat production. Through a triad conceptual framework of political ecology, critical animal geographies, and biopolitics they describe the spread, limits, and alternatives to factory farming. The proposed framework analyzes consumption and production as reinforcing each other.

Factory or intensified farming is to be understood by its main characteristic: commodification. Commodification is the consequence of various political and economic processes analyzed under political economy. The changes in the relations of human and non-human animals are mediated by ethics and values, most of which are obscuring food animals as sentient beings. Finally, institutions, such as governments, agri-food conglomerates, and development banks, among others, influence commodification. This commodification takes place in a market economy that is political and a context in which structural changes have pushed for the meatification of diets. These socio/political changes interact with sociocultural norms. Through biopower, the authors propose to understand the struggles over the meaning of animal bodies by connecting societal discourses with everyday practices. Finally, the authors offer relation ethics to reframe the debate by ending with the producer/consumer divide.

To think about factory farming in terms of the commodification of animals can prove to be a useful approach. This process reduces sentient beings into economic value ignoring all relationships between animals and people. Therefore, as part of the solution to industrial farming, the link must be reestablished.

**10) Stuart, D., & Gunderson, R. (2020). Nonhuman Animals as Fictitious Commodities: Exploitation and Consequences in Industrial Agriculture. *Society & Animals*, 28(3), 291–310. <https://doi.org/10.1163/15685306-12341507>**

This article aims to explain that animals (specifically farm animals) are fictitious commodities. For Polanyi, fictitious commodities (such as land and labor) are those that are treated by the market as real commodities when they are not created by the market. In this sense, the current industrial meat complex treats animals -mostly farm animals- as fictitious commodities whose exploitation and attempt to make them true commodities have environmental and health risks. Thus, given the multiple contradictions of factory farming, “treating animals as commodities will continue to produce undesirable public health, ecological, and animal welfare outcomes” (Stuart & Gunderson, 2020, p. 292).

In other words, the attempt for the real subsumption of animals has led to the second contradiction of capitalism that is shown in multiple diseases such as bovine spongiform encephalopathy (mad cow disease), E. coli bacteria, and antibiotic resistance. In this sense, ignoring the biological requirements of animals or attempting to use technology to override the limits of commodifying farm animals, leads to multiple consequences that put industrialized meat at risk.

In addition, following Polanyi’s double movement theory, the article mentions that as a response to the treatment animals receive for generating profit, counter-movements are aiming for their protection. The paper also describes how animals that produce eggs and milk are workers super-exploited and therefore super alienated from their labor. In this sense, these animals, do not benefit from their products, they are forced to work, and they are separated from the environment and their life activities. The paper is useful because it invites us to use Marxist theory to understand factory farms.

**11) Barua, M (2019) Animating capital: Work, commodities, circulation. Progress in Human Geography 43: 650–669.**

This paper, focusing on relational economics, eco-Marxism, feminist, posthuman geographies, and animal life, argues that human labor is only part of the story and aims to discuss animal labor from three approaches: animal work, animating commodity, and the circulation of animals. Regarding the concept of **animal work**, animals become workers through an active history of exploitation. Animal labor can be divided into metabolic, ecological, and affective labors.

Regarding commodities, for Barua animals are both workers and commodities. Nevertheless, animal commodities are a special type of commodity as they are interactive and sentient. These lively commodities are active participants in the fabric of economic processes and the value of the commodity lies in their status as living beings and animal work. Thinking of commodification allows us to examine politics to understand why particular bodies become lively capital.

The article also opens a methodology that allows us to understand the social and material dimensions of animal commodities in relationship with people through commodity biographies. *Commodity biographies* point towards the commodification of animals and how animals resist the capture of life. These biographies allow us to see commodification, decommodification, and recommodification.

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