# **Title Page**

# Paper title

Disconnection & Demonisation: COVID-19 shows why we need to stop commodifying *all* animals

## **Author:**

Paula Arcari
Leverhulme Early Career Fellow
Centre for Human Animal Studies
Department of Social Sciences
CE011, Creative Edge Building
Edge Hill University
St Helens Road
Ormskirk
L39 4QP
UK

E: arcarip@edgehill.ac.uk

Disconnection & Demonisation: COVID-19 shows why we need to stop commodifying *all* animals

Keywords: COVID-19; Animals; Capitalism; Commodification; Animal-industrial-complex

#### **Abstract**

For many thousands of people worldwide, the COVID-19 pandemic is providing painful proof of the inadequacies and failings of a profit-based capitalist world economy. Blame for the emergence of the virus is being directed at the wildlife trade and wet markets located especially in China and Southeast Asia. This reflects a disconnect from the broader relations and practices that contribute to increased human-wildlife interactions and increased risks of viral transmission, and contributes to the demonization of practices deemed 'other'. To avoid future, perhaps worse, risks to global health, the common foundations and interdependencies between animal uses need to be recognised. This in turn requires challenging the systemic exploitation of all animals commodified under the animal industrial complex - as food, entertainment, fashion, research, and companionship. This paper focuses on these two points: 1. The commodification of animals under current capitalism, and 2. The connections between animal uses. It aims to underscore the importance of an integrated understanding of all our practices as being both with and in nature, not apart from it, and encourage a holistic, as opposed to fragmented, approach to ending the exploitation of all animals. Safe, sustainable, and equitable societies will only be achieved through an integrated worldview that organizes nature based on the inherent value of life and not its expendability.

### Introduction

For many thousands of people worldwide, the COVID-19 pandemic is providing painful proof of the inadequacies and failings of a profit-based capitalist world economy. However, thousands of commodified animals<sup>1</sup> – among them those used for entertainment, sport, research, and companionship, as well as for food - are equally if not more vulnerable under this system because they have no legal status and few, if any, protections.

Most of these animals, suddenly stripped of value as the industries for which they were bred or captured are deemed non-essential, are not being given much thought. Certainly wild animals have become a topic of mainstream media, but the trade in these animals is being portrayed as though it is a discrete, easily identifiable set of activities, disconnected from all other uses of animals. This is a grave oversimplification for three reasons. First, it elides the interconnected and co-constitutive nature of all practices involving animals. Second, it ignores how these practices are shaped by, and shape, unequal distributions of power based especially on 'race', ethnicity, class, religion, and gender. Finally, it deflects attention from other practices in which western nations are heavily invested, and which play an active role in shaping the conditions that make crises like this not just likely but increasingly probable.

One of the consequences of this power-inflected discourse around COVID-19 has been the demonization of China and other parts of Southeast Asia and Africa for their practices involving the farming, trade, and live sale of wildlife. However, before continuing to point the finger, it is important to appreciate that this crisis is a result of our treatment of all animals, and nature in general, as commodities. Any response that does not recognise this

<sup>&</sup>lt;sup>1</sup> For readability, I use the term 'animal(s)' throughout in place of nonhuman animals.

common foundation and the interdependencies between animal uses will leave humans vulnerable to further, perhaps worse, health risks, and continue to consign millions of animals to precarious lives lived (often just for moments) on a knife-edge of value. This paper focuses on these two points: 1. The commodification of animals under current capitalism, and 2. The connections between animal uses. It aims to underscore the importance of an integrated understanding of all our practices as being both with and in nature, not apart from it, and encourage a holistic, as opposed to fragmented, approach to ending the exploitation of all animals.

## Animals, capitalism, and COVID-19

Animals are part of vast, globally connected industries that commodify their bodies not only for food, but also fashion, entertainment, research, and companionship. Together, these industries and the practices that constitute them comprise the animal-industrial-complex (Noske, 1989). This is defined by Twine (2012: 23) as:

[...] a partly opaque and multiple set of networks and relationships between the corporate (agricultural) sector, governments, and public and private science. With economic, cultural, social and affective dimensions it encompasses an extensive range of practices, technologies, images, identities and markets.

As Twine outlines, the notion of industrial complexes is not new, but its application to the political economy surrounding animals offers a way to conceive both the scope and scale of this economy, and arguably provides a more stark demonstration of the abstract, pitiless logics of capitalism. And while critiquing the treatment of animals under capitalism constitutes an already extensive body of literature (for example, Adams, 1997; Barua, 2016; Collard, 2020; Collard and Dempsey, 2013; Gillespie and Lopez, 2015; Nibert, 2017; Shukin, 2009; Torres, 2007; Twine, 2010; Wadiwel, 2015), these perspectives are largely confined to critical animals studies (CAS) and have yet to penetrate related disciplines to any significant degree, or more mainstream discourses. Hence, in a special issue devoted to the socioeconomic impacts of a virus associated with the wildlife trade, it is worth reiterating some of the fundamental arguments.

With profit being their primary motive, animal-based industries rely on an ongoing supply of cheap, expendable labour that can be conceived as both physical and metabolic (Wadiwel, 2018) – meaning the appropriation (and enhancement) of animals' physical and biological nature in the service of producing viable commodities with exchange value. Whether this value derives from their edibility, wearability, speed, strength, size, genetic attributes, docility, ferocity, beauty, cuteness, friendliness, submissiveness, or any number of marketable qualities, it is the increasing 'production' of these sellable qualities that is important, not the animals as individuals. In this sense, their life's labour is directed primarily if not wholly at satisfying human 'needs' in the most optimally efficient way. In fact, as Wadiwel explains, the expenditure or 'leakage' of labour directed elsewhere, beyond that needed for basic survival, is conceived as resistance to the extraction of maximum value and is minimized and redirected towards increased production as much as possible - by limiting mobility, controlling nutrition and circadian rhythms, and shortening life. Often this equation is pushed too far and compromises profit. These lives are expendable, but only after maximum value has been harvested. It can be a fine line for capitalist logic – investing just enough in your labouring bodies to optimise profit without losing their compliance.

Marx explained how over time this balance has been achieved with regard to human labour. It is now generally accepted that productive humans need sufficient time to eat, sleep, and

ideally also play. Not accounting for this time can compromise labour output and even lead to resistance, which is bad for profits. The machine runs more smoothly if it minimises the risks of its labour revolting – through either incapacity or refusal to work. Healthy, happy, and willing enough bodies are good for capitalism. This is the theory behind Marx's working day, subsequently enshrined in national laws in response to the 8-hour or short-time, movement. Though imperfect and not always effective, unions and various human rights laws exist to safeguard the human body from being (excessively) exploited. However, this balance and 'care' in the provision of life's basics is very precarious, being largely dependent on there being a demand for labour. When this demand dries up in societies that have drifted inevitably towards insecure and zero hour contracts - which now account for more than 60% of the world's employed population (ILO, 2018) - continuing to care for these human lives makes no financial sense.

The consequences of this are currently being measured in dramatic increases in evictions, homelessness, food poverty, and domestic abuse. However, these consequences are not equally distributed. In England and Wales, black, Asian and minority ethnic (BAME) workers are a third more likely to be in insecure work (TUC, 2017). This systemic inequality is part of the reason why BAME people in the UK and elsewhere represent a disproportionate number of those who become critically ill and/or die after contracting COVID-19. Capitalism is not the only ideology at play here.

It is no coincidence that most labour-related laws and safeguards are directed at protecting bodies that are variously non-white, non-western, female, young, differently abled or otherwise minoritised. Compared to the pinnacle of humanity – the white, western, adult male – these bodies are united by "their citizenship of the space of the Other or the 'subhuman'" (Ko, 2017: 89). In capitalism's thirst for cheap labour, they are also the most vulnerable, illustrating why patriarchy, supremacism, colonialism, and capitalism make such perfect bedfellows. Considered closer to 'nature', the appropriation of these bodies as a replaceable natural resource for physical, reproductive, and emotional labour, is naturalized - they have historically been determined to be both biologically and cognitively inferior to the western, white, (i.e. cultured) adult male and therefore naturally oriented to their assigned role in the system. The nature/culture binary as articulated by ecofeminist scholars (for example Karen Warren, Carolyn Merchant, Val Plumwood) can thus be seen as the toxic fount from which all oppressions draw their sustenance, and from which capitalism gains its direction. Jason Moore further argues that, while initially helpful, it is the persistent conceptual deployment of this duality that is now limiting our capacity to develop the radically alternate language, methods, and narratives necessary to move beyond capitalism (2015: 4-5).

However, humans are not the only, or the largest, source of 'subhuman' labour for the capitalist machine. As human property with no legal status and limited capacity for revolt or resistance (Hribal, 2010), animals are permanent 'sub-humans' in this equation. Even more so as nature and all its bounties (meaning gifts or rewards) is further conflated with 'Mother' – Mother Earth, Mother Nature, and including certain animals and nations as mothers (Gaard, 2004; Gray, 1979; Narayanan, 2019) - effecting a doubling-up of exploitability under the constitution of the objectified mother as perpetually available, self-sacrificing, and inexhaustible. Hence, for commodified animals tasked with producing value as cheaply as possible, the toll this takes on them as individuals is of little consequence when more can be readily produced or 'gifted' to replace them. Eating and sleeping may be accepted as minimum requirements, but often not much else.

Examples of this ruthless accounting abound in animal farming: the use of hormones and selective breeding to accelerate growth and production resulting in chickens and pigs whose legs are unable to support their weight, turkeys too big to procreate naturally, 'dairy' cows unable to walk due to excessive milk production, and chickens who lay so many eggs that they are 'spent' after just two years (Taylor, 2017). In other industries too, qualities are aggressively pursued in quantities: dogs are bred to enhance features that become detrimental to their health and limit their capacity to live freely or live at all; racehorses are bred for speed and light bones making them prone to often fatal injuries; exotic animals are bred to maintain a supply of cute, profitable babies. Many failures accompany these efforts to push the edge of value as far as it will go – those that don't make the grade or are so severely compromised they are unable to live for long. Even more ruthless is the routinized ending of lives that immediately have more use value dead – male chicks, male calves, wastage associated with racing industries (horses and dogs), and surplus genetic 'stock' associated with captive breeding programmes and zoos.

The labour costs borne by all these animals and many more demonstrate the logical consequences of an unchecked profit-motive, and foreground the subservience to and potential expendability of all life under the law of capital growth. It is this expendability that is especially foregrounded by the pandemic as the primary uses for animals that made it through the initial brutal accounting to become visual entertainment, sport, research subjects, and companions, have been suspended or dissolved. And as many humans are experiencing, left with no other value, and no intrinsic value or rights, investments in their daily maintenance can no longer be justified. But unlike humans, many face the prospect of legalised extermination.

Some zoos are coming to terms with the possibility of having to kill some 'if not all' of their animals (BBC, 2020d), feed some of their animals to others (BBC, 2020c), or shut down permanently (Hawkins and Lazell, 2020). This is in addition to the thousands of healthy animals that zoos cull every year due to being unwanted surplus or to maintain genetic integrity. As Sam Threadgill of Freedom for Animals (UK) explains, "without breeding and maintaining stocks of captive animals for people to look at, the animals wouldn't be in this even more dire situation" (personal communication).

Racehorses and greyhounds are already at high risk in industries that rely on large numbers of animals being born to make them financially viable, with consequent over-supply and high annual 'wastage'. With racing suspended, UK advocacy organisations are anticipating a spike in welfare issues and potential widespread culling. After the 2008–2009 financial crisis, the number of racehorses sent to abattoirs in Britain and Ireland doubled (Doward, 2012) and the IMF predicts that the COVID-19 recession will be "far worse" (Rappeport and Smialek, 2020).

There are also hundreds of thousands of animals that are part of struggling tourist operations (for example elephants in Thailand (Alberts, 2020)); millions of laboratory animals who have become surplus to requirements and face mass culling (Scott-Reid, 2020; Grimm, 2020); and many thousands more in rescue centres which are struggling through lack of funds, have had to suspend intake, or are facing closure (BBC, 2020b; BBC, 2020a; Kelner, 2020). While there are reports of increased adoptions, charities warn of the consequences for these animals post-pandemic when people regain their social/work lives (Udale-Smith, 2020), and there are reports of increased numbers of pets being abandoned (Parry, 2020).

COVID-19 may be highlighting the vulnerability of these animals' lives, but it is merely the exacerbation of an already tenuous existence. Commodified animals are always at risk of not matching up to what is required of them to be considered of value, and also of shifting values. However, when the system of exchange as a whole is shaken, they face the possibility of mass extermination simply because the services they provide are no longer a priority or are considered a risk to humans.

Cases of extreme cruelty, abuse, and suffering within these industries are often exposed, but highlighting these alone can create the impression that they just need to be cleaned up and better regulated. Yet however 'loved' and well cared for some of these animals may be, securing a return on investment is the rationale behind their existence and all the practices of breeding, 'breaking', training, coercion, control, and killing this existence entails. They are objects in human lives, not subjects of their own.

Interestingly, compared to those animals affected economically by the pandemic, it seems that traded wildlife have so far been less affected, with reportedly little long term change expected in local markets (Knowles and Boyle, 2020). This has not been the case with previous pandemics. Millions of pigs have been part of a mass cull in response to the 2019 swine flu outbreak (van der Zee, 2019). Repeated outbreaks of avian flu prompt frequent mass cullings totalling millions of birds (Jutzi and Domenech, 2006). And in the UK, over 4 million cows were destroyed during the BSE crisis in the early 1990s, while a decade later, over 10 million were incinerated in response to an outbreak of foot-and-mouth disease (Newkey-Burden, 2018). Thousands more are killed in the UK every year due to TB (see www.tbfreeengland.co.uk).

Some, though not all of these viruses are thought to originate in wild animals. But the origins are typically not easy to pinpoint, with humans often playing a role in the 'reassortment' of the virus as it evolves in complex, non-linear ways (Gibbs et al., 2009; Mena et al., 2016). The 2009 strain of swine flu has been described as a 'quadruple reassortment' involving both North American and Eurasian virus strains circulating between pigs, humans, and birds, and facilitated especially by the concentration of animals on farms, especially CAFOs or concentrated animal feeding operations (Hospital, 2016; Mena et al., 2016; Schmidt, 2009). It is estimated that over 280,000 deaths resulted from this outbreak, with 51% of those located in Africa and Southeast Asia (Roos, 2012). To date, COVID-19 is associated with 220,000 deaths.

This highlights the ongoing fallacy of our insistence on viewing nature as separate from humans, whose component parts can be conceived of and used as discrete entities. Rather, to paraphrase Moore (2015: 3), nature is us, it is inside us and around us. "Humans make environments and environments make humans — and human organization". Capitalism is above all "a way of organizing nature" (ibid: 2). Our uses of animals are therefore united by thinking that is both ideologically (capitalism) and ontologically (the nature/culture binary) misguided. Of more immediate significance, they are also united on a practical level. For capitalism, supremacism, colonialism, patriarchy, and human exceptionalism exist only in action (Foucault, 1980: 89). They describe relational forces that are exercised through everyday actions or practices and it is through these performances that systemic power relations are constantly reproduced and reinforced. My final section therefore focuses on the co-constitutive practices that constitute and maintain the animal industrial complex.

### **Connections between animal uses**

Many scientists, among them the eminent conservation biologist Thomas Lovejoy, continue to single out the "illegal wildlife trade" and especially wildlife markets and wet markets in south Asia and Africa (Weston, 2020). Indeed, over 200 groups and individuals, most associated with animal advocacy and conservation (including the Born Free Foundation and the Jane Goodall Institute), have called for a ban on wildlife markets (Wiggins, 2020). However, this over-simplistic account, inflected with supremacism, tows the traditional line during a crisis of this sort (ie. one that affects western nations) of placing blame elsewhere, drawing a dividing line between 'them' and 'us', and ignoring the more complex roots of a problem in which the west and its practices are directly implicated. As van Uhm notes in relation to the illegal wildlife trade, "the Western focus is considered to be too much on African and Southeast Asian source countries, without a critical reflection on their own market" (2016: 260).

A more culturally balanced view on the current pandemic recognises that China's peasant farmers have been forced on to more marginal lands due to the increasing domination of animal farming by large-scale industrial interests (Spinney, 2020b). Many of these interests have also taken over the most lucrative markets for wild animals, so that small-scale farmers have to turn to more exotic species to make money. At the same time, and reflecting the global trend, the production and consumption of meat especially from cows, pigs, and chickens, continues to increase in China, and is part of a thriving import and export trade with the US, Australia, New Zealand, the UK and other countries.

Powerful elites, tourists, and pet owners/collectors contribute to maintaining a market for exotic wildlife (Actman, 2019; Belicia and Islam, 2018; TRAFFIC, 2008). Much of this is entirely legal and provides the infrastructures and networks on which the illegal trade piggybacks. Increased contact with exotic species and increased opportunities for viral spillover cannot be pinned solely on 'the illegal wildlife trade' as some easily identifiable entity, or on wet markets. Even more so since the terminology around wild vs farmed animals is not reflective of shifting and unstable practices, just as animals bred for entertainment may become meat, or animals bred for companionship can become research subjects. Categories are not as neat in reality as in theory.

As noted, practices involving wildlife have been blamed for previous virus outbreaks believed to have originated in Southeast Asia. Most articles refer to the role of population growth (Bell et al., 2004), human encroachment (Johnson et al., 2020), and increased food production in increasing deforestation and thus human-wildlife interactions. However, looking at this in more detail, rampant reforestation in Southeast Asia is linked primarily to overseas demand for timber, the production of industrial export crops including coffee, rubber, and palm oil, the spread of agriculture, and large-scale infrastructure projects (Drollette, 2013). A 2014 report on forest conversion identifies commercial agriculture as an important driver of deforestation in nearly all tropical countries and implicates developed nations and multilateral institutions like the World Bank in directly and indirectly financing these activities (Lawson, 2014). And while it may not be the leading cause of deforestation in some areas of Southeast Asia, animal agriculture is given a free pass as it is in most discussions concerned with habitat loss and biodiversity. Consider the vilification of cats, both domestic and feral, deer, brumbies in Australia, and other animals perceived as threats to animal agriculture, including badgers, dingoes, feral dogs, coyotes, wolves and others.

Indeed, the demonization of the wildlife trade and wildlife markets as a result of this pandemic is stark compared to the decades long damage to environments, climate, and health wrought by animal agriculture, which is recognized by key organizations as one of, if

not the, leading cause of habitat loss (IPBES, 2019; Steinfeld et al., 2006). That the animal-industrial complex is so directly implicated in the Covid-19 pandemic and the climate crisis, with myriad animals being substantial victims of both, only emphasises the cycles of violence that result from capitalist commodification, and the ideologies of exceptionalism that justify them.

An equally, if not more deadly virus could just as easily evolve from other farming practices involving domesticated animals, fish, or even insects. However, it is the production and consumption of wild animals by 'other' people that is considered problematic and unethical here. If westernised nations are going to blame COVID-19 on the illegal wildlife trade, wildlife markets and the demand for bushmeat, they also need to consider their own role in the organization of nature. Ongoing demand for timber, coffee, and meat, and for wildlife as entertainment, sport, food, and pets, help justify continuing deforestation on a massive scale that dwarfs the impact of small-scale peasant farmers trying to eke out a marginalised livelihood from farming animals that, just like cows, pigs, chickens and other 'food' animals, are legally designated as natural resources.

There can be no dividing lines when trying to unpack the workings and impacts of the animal industrial complex, and there is no-one place to properly assign blame. Along with the pet industry, the majority of trafficked live wild animals are destined for the zoo trade (UNODC, 2016: 74). Indeed the two are closely entwined. Animals are laundered to appear legal, including fraudulent claims of captive breeding (WWF, n.d.). Zoos, scientific/conservation, and commercial breeding establishments, both legal and illegal, can provide these laundering services, or zoos may buy the animals directly (Barnett and Wasley, 2004). Trafficked animals seized by regulatory bodies may also end up in zoos, a system of rehoming that is known to be abused by traffickers (Sollund, 2019). Captive breeding of wild animals is undertaken not only by accredited zoos, but also private zoos and collectors who may sell them as pets, tourist attractions, for hunting, and to other zoos.

Zoos come in all shapes and sizes, and most are not accredited – only 10% are accredited in the US according to the Association of Zoos and Aquariums. Besides the exotic and wild, a range of animals may end up in different kinds of zoos, including 'farm' animals and even greyhounds (Lewis, 2017). Others may be used to feed captive zoo animals. Copenhagen Zoo feeds horses, rabbits, calves, goats and even zebra to their lions (BBC, 2017), as do zoos in the US (Haynes, 2007). Thoroughbred horses also end up in the meat trade for human consumption, many prematurely killed as 'wastage' due to poor performance, injury, or loss of value for breeding. Greyhounds bred for racing face similar fates, and also enter overseas meat markets after being sold on for racing and/or breeding. Greyhounds, along with other dogs, cats, horses, rabbits, rats, monkeys, and other wild animals are also used as research subjects. A small number of these animals may be fortunate enough to be rescued and find a home in a shelter or sanctuary, some of which are supported by associated industries. However, these cannot always provide for their future and they may be killed if a permanent home cannot be found.

Breeding of any animals contributes to this cycle of shifting, dissipating, and lost value. But this is just one of several mechanisms that are fundamental to the exploitation and oppression of animals across the entirety of the animal industrial complex. Others include coercion, control, containment, separation and isolation (from social and cultural bonds – Rose's 'double death' (2004) - and especially between mother and offspring), training, trade, and of course killing. These mechanisms unite systems of nonhuman and human oppression, further emphasizing their multidimensionality (Ko, 2019).

In response to the current pandemic, evolutionary biologist Rob Wallace said, "We can blame the object – the virus, the cultural practice – but causality extends out into the relationships between people and ecology" (Spinney, 2020a). The war against animals (Wadiwel, 2015) thus becomes a war against ourselves. We lose when it makes us sick. We lose when it destroys the air, the water, ecosystems, and the climate. And we lose when livelihoods disappear. But most of all, animals lose, in their billions. Addressing the costs to nonhuman life of the animal industrial complex should not depend on there being larger human costs. That is capitalist accounting, and this ideology has constructed a false consciousness that we are struggling to extract ourselves from – one that makes it very difficult for most people to imagine any other way of organizing our societies, and of relating to each and every 'other'.

My observations are not new. Many writers and scholars over the years have been explaining why we need to think differently about our economies, among them Arundhati Roy (2014), Naomi Klein (2014), and David Harvey (2014). Even the UN recognises that the writing is on the wall for capitalism (Ahmed, 2018). I am also not an economist or a political scientist and so cannot articulate what an economy not based on profit that does not exploit animals or any 'others' would look like, or how to get there. But again, many skilled and experienced scholars and experts are addressing these very questions (Shantz and Macdonald, 2013; Albert, 2014; Wall, 2015; Kaufman, 2012; Hahnel and Wright, 2016).

In sum, and returning to the key points of this paper, the COVID-19 pandemic emphasises everything that is wrong with capitalism, the exploitation of animals, and a fragmented approach to problems. Stopping the wildlife trade and shutting down wet markets is not a solution. As I have shown, the animal industrial complex is composed not only of mutually dependent and co-constitutive practices, but also shared techniques, materials, and infrastructures that encompass their own sets of practices and involve extensive and powerful economic enterprises. These enterprises do not exist 'out there'. Our everyday practices – involving food, entertainment, sport, fashion, and pets - shape and sustain them.

To avoid future, perhaps worse, risks to global health and nonhuman lives, and also make greater inroads towards addressing climate change, the commodification of all animals' lives and bodies needs to stop. There are ways this can be done with compassion and respect, helping those currently dependent on these systems transition to alternative livelihoods, as is happening in farming (Nittle, 2020). This proposal will raise justified concerns. However, a growing body of literature addresses questions relating to the dissolution of animal agriculture, while the ethics of, and alternatives to other practices, such as animal experimentation, pet breeding, zoos, and racing are also being rigorously examined.

And if it seems insensitive or irrelevant to speak of animal exploitation at this time, considering the many human hardships, it is important to understand, as I have hopefully illustrated, that all human oppressions — based on 'race', ethnicity, gender, class, age, religion, ability or other perceived difference — operate through the same mechanisms, and all are super-charged under capitalism. Human and nonhuman oppression cannot be treated separately. But the exploitation of animals as part of the animal industrial complex demands much greater attention than it currently receives. Safe, sustainable, and equitable societies will only be achieved through an integrated worldview that organizes nature based on the inherent value of life and not its expendability.

# Acknowledgements

This research was supported by a Leverhulme Trust Early Career Fellowship and Edge Hill University.

#### References

- Actman, J 2019, 'Exotic pet trade, explained', *National Geographic*, <a href="https://www.nationalgeographic.com/animals/reference/exotic-pet-trade/">https://www.nationalgeographic.com/animals/reference/exotic-pet-trade/</a>>.
- Adams, CJ 1997, "Mad Cow" Disease and the Animal Industrial Complex', *Organization and Environment*, vol. 10, no. 1, pp. 26-51.
- Ahmed, N 2018, 'This is how UN scientists are preparing for the end of capitalism', *The Independent*, <a href="https://www.independent.co.uk/news/long\_reads/capitalism-unscientists-preparing-end-fossil-fuels-warning-demise-a8523856.html">https://www.independent.co.uk/news/long\_reads/capitalism-unscientists-preparing-end-fossil-fuels-warning-demise-a8523856.html</a>.
- Albert, M 2014, Realizing Hope: Life Beyond Capitalism, Zed Books, London and New York.
- Alberts, EC 2020, 'Thailand's captive elephants face starvation amid COVID-19 tourism freeze', *Mongabay*, < <a href="https://news.mongabay.com/2020/04/thailands-captive-elephants-face-starvation-amid-covid-19-tourism-freeze/">https://news.mongabay.com/2020/04/thailands-captive-elephants-face-starvation-amid-covid-19-tourism-freeze/</a>>.
- Barnett, A & Wasley, A 2004, 'Revealed: UK zoos caught in rare wildlife trade with dealer', *The Guardian*, <a href="https://www.theguardian.com/environment/2004/mar/28/animalrights.conservation-nandendangeredspecies">https://www.theguardian.com/environment/2004/mar/28/animalrights.conservation-nandendangeredspecies</a>.
- Barua, M 2016, 'Lively commodities and encounter value', *Society and Space*, vol. 34, no. 4, pp. 725-44.
- BBC 2017, 'Danish horse owners face waiting list to feed the lions', *BBC News*, <a href="https://www.bbc.co.uk/news/blogs-news-from-elsewhere-41719614">https://www.bbc.co.uk/news/blogs-news-from-elsewhere-41719614</a>>.
- ---- 2020a, 'Coronavirus: Animal shelter suspends intake amid outbreak', *BBC News*, <a href="https://www.bbc.co.uk/news/uk-england-london-52056639">https://www.bbc.co.uk/news/uk-england-london-52056639</a>>.
- ---- 2020b, 'Coronavirus: Dog shelters struggle as lockdown dries up funds', *BBC News*, <a href="https://www.bbc.co.uk/news/uk-england-york-north-yorkshire-52053208">https://www.bbc.co.uk/news/uk-england-york-north-yorkshire-52053208</a>>.
- ---- 2020c, 'Coronavirus: German zoo may have to feed animals to each other', *BBC News*, <a href="https://www.bbc.co.uk/news/world-europe-52283658">https://www.bbc.co.uk/news/world-europe-52283658</a>>.
- ---- 2020d, 'Coronavirus: Zoo animals 'under threat' from panic buying', *BBC News*, <a href="https://www.bbc.co.uk/news/uk-england-somerset-51972533">https://www.bbc.co.uk/news/uk-england-somerset-51972533</a>.
- Belicia, T & Islam, M 2018, 'Towards a Decommodified Wildlife Tourism: Why Market Environmentalism Is Not Enough for Conservation', *Societies*, vol. 8, no. 3, p. 59.
- Bell, D, Roberton, S & Hunter, PR 2004, 'Animal origins of SARS coronavirus: possible links with the international trade in small carnivores', *Philos Trans R Soc Lond B Biol Sci*, vol. 359, no. 1447, pp. 1107-14.
- Boyd, DR 2017, *The Rights of Nature: A Legal Revolution That Could Save the World*, ECW Press, Toronto, Canada.
- Collard, R-C 2020, *Animal Traffic: Lively Capital in the Global Exotic Pet Trade*, Duke University Press, Durham, NC.
- Collard, R-C & Dempsey, J 2013, 'Life for Sale? The Politics of Lively Commodities', Environment and Planning A: Economy and Space, vol. 45, no. 11, pp. 2682-99.
- Doward, J 2012, 'Recession doubles the number of racehorses being destroyed in abattoirs', *The Guardian*, <<a href="https://www.theguardian.com/sport/2012/jun/02/recession-number-racehorses-destroyed-abbatoirs">https://www.theguardian.com/sport/2012/jun/02/recession-number-racehorses-destroyed-abbatoirs</a>>.
- Drollette, D 2013, 'A Plague of Deforestation Sweeps Across Southeast Asia', *YALE Environment 360*, <a href="https://e360.yale.edu/features/a plague of deforestation\_sweeps across\_south">https://e360.yale.edu/features/a plague of deforestation\_sweeps across\_south east\_asia>.</a>
- Foucault, M 1980, Power/Knowledge: Selected Interviews and Other Writings, 1972-1977, Vintage Books, New York.

- Gaard, G 2004, 'Toward a Queer Ecofeminism', in R Steiin (ed.), *New Perspectives on Environmental Justice: Gender, Sexuality, and Activism*, Rutgers University Press, New Brunswick, NJ, pp. 21-44.
- Gibbs, AJ, Armstrong, JS & Downie, JC 2009, '', *Virology Journal*, vol. 6, no. Article 207, pp. 1-11.
- Gillespie, K & Lopez, PJ 2015, Economies of Death, Routledge, London and New York.
- Gray, ED 1979, Green Paradise Lost, Roundtable Press, New York.
- Grimm, D 2020, "It's heartbreaking.' Labs are euthanizing thousands of mice in response to coronavirus pandemic', *Science*, <a href="https://www.sciencemag.org/news/2020/03/it-s-heartbreaking-labs-are-euthanizing-thousands-mice-response-coronavirus-pandemic">https://www.sciencemag.org/news/2020/03/it-s-heartbreaking-labs-are-euthanizing-thousands-mice-response-coronavirus-pandemic</a>.
- Hahnel, R & Wright, EO 2016, *Alternatives to Capitalism: Proposals for a Democratic Economy*, Verso Books, New York.
- Harvey, D 2014, *Seventeen Contradictions and the End of Capitalism*, Oxford University Press, Oxford, UK.
- Hawkins, E & Lazell, L 2020, 'Essex coronavirus: Colchester Zoo could 'permanently close' if Covid-19 lockdown is prolonged', *EssexLive*, <a href="https://www.essexlive.news/news/essex-news/essex-coronavirus-colchester-zoo-could-4016509">https://www.essexlive.news/news/essex-news/essex-coronavirus-colchester-zoo-could-4016509</a>>.
- Haynes, B 2007, 'Zoos in a pickle over horse meat', *Seattle Times*, <a href="https://www.seattletimes.com/seattle-news/zoos-in-a-pickle-over-horse-meat/">https://www.seattletimes.com/seattle-news/zoos-in-a-pickle-over-horse-meat/</a>>.
- Hospital, TMS 2016, '2009 swine flu pandemic originated in Mexico, researchers discover', ScienceDaily,
- Hribal, J 2010, Fear of the Animal Planet: The Hidden History of Animal Resistance, Counterpunch, Petrolia, CA.
- ILO 2018, Women and Men in the Informal Economy: A Statistical Picture (Third edition), International Labour Office, Geneva.
- IPBES 2019, Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES secretariat, Bonn, Germany.
- Johnson, CK, Hitchens, PL, Pandit, PS, Rushmore, J, Evans, TS, Young, CCW & Doyle, MM 2020, 'Global shifts in mammalian population trends reveal key predictors of virus spillover risk', *Proc Biol Sci*, vol. 287, no. 1924, p. 20192736.
- Jutzi, SC & Domenech, J 2006, Avian Influenza: A Global Animal Health Crisis with Profound Challenges to Science and Society, FAO: Animal Production and Health Division, FAO.
- Kaufman, CC 2012, *Getting Past Capitalism: History, Vision, Hope*, Rowman & Littlefield, Lanham, MD.
- Kelner, M 2020, 'Coronavirus: Animal shelters facing closure as COVID-19 leads to '90% drop in income' ', *SkyNews*, < <a href="https://news.sky.com/story/coronavirus-animal-shelters-facing-closure-as-covid-19-leads-to-90-drop-in-income-11965968">https://news.sky.com/story/coronavirus-animal-shelters-facing-closure-as-covid-19-leads-to-90-drop-in-income-11965968</a>>.
- Klein, N 2014, *This Changes Everything: Capitalism vs. The Climate*, Simon and Schuster, New York.
- Knowles, G & Boyle, L 2020, 'Coronavirus: Live animal markets and wildlife trade continue in Asia amid growing calls for crackdown', *The Independent*, <a href="https://www.independent.co.uk/environment/wildlife-trafficking-campaign-wet-markets-china-coronavirus-pandemic-a9476821.html">https://www.independent.co.uk/environment/wildlife-trafficking-campaign-wet-markets-china-coronavirus-pandemic-a9476821.html</a>.
- Ko, A 2017, 'Why Animal Liberation Requires an Epistemological Revolution', in A Ko & S Ko (eds), *Aphro-ism*, Lantern Books, New York, pp. 88-94.
- ---- 2019, Racism as Zoological Witchcraft: A Guide to Getting Out, Lantern Books, New York.

- Lawson, S 2014, Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timber Plantations, Forest Trends and UK Aid, UK Department for International Development (DFID).
- Lewis, L 2017, 'Shanghai Wild Animal Park Forces Neglected Australian Greyhounds To Race Cheetahs For "Show", *World Animal News*, <a href="https://worldanimalnews.com/shanghai-wild-animal-park-forces-australian-greyhounds-to-race-cheetahs-for-show/">https://worldanimalnews.com/shanghai-wild-animal-park-forces-australian-greyhounds-to-race-cheetahs-for-show/</a>.
- Marx, K 1990 [1867], Capital. Volume 1: A critique of political economy, Penguin, London. Mena, I, Nelson, MI, Quezada-Monroy, F, Dutta, J, Cortes-Fernandez, R, Lara-Puente, JH, Castro-Peralta, F, Cunha, LF & Travao, NS 2016, 'Origins of the 2009 H1N1 influenza pandemic in swine in Mexico', eLife: Epidemiology and Global Health Microbiology and Infectious Disease, vol. 5, no. e16777.
- Moore, JW 2015, Capitalism in the Web of Life, Verso, London and New York.
- Narayanan, Y 2019, "Cow Is a Mother, Mothers Can Do Anything for Their Children!" Gaushalas as Landscapes of Anthropatriarchy and Hindu Patriarchy', *Hypatia*.
- Newkey-Burden, C 2018, 'Mad cow disease's return is the ultimate reminder that our callous meat industry is bad for humans as well as animals', *The Independent*, <a href="https://www.independent.co.uk/voices/mad-cow-disease-bse-meat-industry-cattle-vegan-scotland-aberdeenshire-a8592326.html">https://www.independent.co.uk/voices/mad-cow-disease-bse-meat-industry-cattle-vegan-scotland-aberdeenshire-a8592326.html</a>.
- Nibert, D 2017, Animal Oppression and Capitalism, Praeger, Santa Barbara, CA.
- Nittle, N 2020, 'The Plant-Based Movement to Transition Farmers Away from Meat and Dairy Production', *Civil Eats*, <a href="https://civileats.com/2020/01/13/the-plant-based-movement-to-transition-farmers-away-from-meat-and-dairy-production/">https://civileats.com/2020/01/13/the-plant-based-movement-to-transition-farmers-away-from-meat-and-dairy-production/>.
- Noske, B 1989, *Humans and Other Animals: Beyond the Boundaries of Anthropology*, Pluto Press, London.
- Parry, NMA 2020, 'COVID-19 and pets: When pandemic meets panic', *Forensic Science International: Reports*, vol. 2, p. 100090.
- Rappeport, A & Smialek, J 2020, 'I.M.F. Predicts Worst Downturn Since the Great Depression', *The New York TImes*, <a href="https://www.nytimes.com/2020/04/14/us/politics/coronavirus-economy-recession-depression.html">https://www.nytimes.com/2020/04/14/us/politics/coronavirus-economy-recession-depression.html</a>.
- Roos, R 2012, 'CDC estimate of global H1N1 pandemic deaths: 284,000', *CIDRAP*, <a href="https://www.cidrap.umn.edu/news-perspective/2012/06/cdc-estimate-global-h1n1-pandemic-deaths-284000">h1n1-pandemic-deaths-284000</a>>.
- Rose, DB 2004, Reports from a Wild Country: Ethics for Decolonisation,, University of New South Wales Press, Sydney, Australia.
- Roy, A 2014, Capitalism: A Ghost Story, Verso, London and New York.
- Schmidt, CW 2009, 'Swine CAFOs & Novel H1N1 Flu: Separating Facts from Fears', Environmental Health Perspectives, vol. 117, no. 9, pp. A394-A401.
- Scott-Reid, J 2020, 'Mass Killing of Lab Animals During Pandemic Calls into Question Necessity and Cost of Animal Models', *Sentient Media*, <a href="https://sentientmedia.org/mass-killing-of-lab-animals-during-pandemic-calls-into-question-necessity-and-cost-of-animal-models/">https://sentientmedia.org/mass-killing-of-lab-animals-during-pandemic-calls-into-question-necessity-and-cost-of-animal-models/</a>.
- Shantz, J & Macdonald, JB (eds) 2013, *Beyond Capitalism: Building Democratic Alternatives* for Today and the Future, Bloomsbury Publishing, London and New York.
- Shukin, N 2009, Animal Capital
- Rendering Life in Biopolitical Times, University of Minnesota Press, Minneapolis, MN.
- Sollund, RA 2019, *The Crimes of Wildlife Trafficking: Issues of Justice, Legality and Morality,* Routledge, Abingdon, Oxon.

- Spinney, L 2020a, 'Is factory farming to blame for coronavirus?', *The Guardian*, <a href="https://www.theguardian.com/world/2020/mar/28/is-factory-farming-to-blame-for-coronavirus">https://www.theguardian.com/world/2020/mar/28/is-factory-farming-to-blame-for-coronavirus</a>.
- ---- 2020b, 'It takes a whole world to create a new virus, not just China', *The Guardian*, <a href="https://www.theguardian.com/commentisfree/2020/mar/25/new-virus-chinacovid-19-food-markets">https://www.theguardian.com/commentisfree/2020/mar/25/new-virus-chinacovid-19-food-markets</a>.
- Standaert, M 2020, 'Coronavirus closures reveal vast scale of China's secretive wildlife farm industry', *The Guardian*, <a href="https://www.theguardian.com/environment/2020/feb/25/coronavirus-closures-reveal-vast-scale-of-chinas-secretive-wildlife-farm-industry">https://www.theguardian.com/environment/2020/feb/25/coronavirus-closures-reveal-vast-scale-of-chinas-secretive-wildlife-farm-industry</a>.
- Steinfeld, H, Gerber, P, Wassenaar, T, Castel, V, Rosales, M & de Haan, C 2006, *Livestock's long shadow*, Food and Agricultural Organisation of the United Nations (FAO), Rome, Italy.
- Taylor, S 2017, *Beasts of Burden: Animal and Disability Liberation*, The New Press, New York. Torres, B 2007, *Making A Killing: The Political Economy of Animal Rights*, AK Press, California.
- TRAFFIC 2008, What's driving the wildlife trade? A Review of expert opinion on economic and social drivers of the wildlife trade and trade control efforts in Cambodia, Indonesia, Lao PDR, and Vietnam East Asia and Pacific Region Sustainable Development Department, World Bank, Washington, DC.
- TUC 2017, Insecure work and Ethnicity, Trade Union Congress, London.
- Twine, R 2010, Animals as Biotechnology: Ethics, Sustainability and Critical Animal Studies, Earthscan, London.
- ---- 2012, 'Revealing the 'Animal-Industrial Complex A Concept & Method for Critical Animal Studies', *Journal for Critical Animal Studies*, vol. 10, no. 1, pp. 12-39.
- Udale-Smith, A 2020, 'Coronavirus: Animal charities issue warning after rise in enquiries to adopt pets', *SkyNews*, <a href="https://news.sky.com/story/coronavirus-animal-charities-issue-warning-after-rise-in-enquiries-to-adopt-pets-11962246">https://news.sky.com/story/coronavirus-animal-charities-issue-warning-after-rise-in-enquiries-to-adopt-pets-11962246</a>.
- UNODC 2016, World Wildlife Crime Report: Trafficking in protected species, United Nations Office on Drugs and Crime, New York.
- van der Zee, B 2019, 'Quarter of world's pig population 'to die due
- to African swine fever", The Guardian,
  - <a href="https://www.theguardian.com/world/2019/oct/31/quarter-of-worlds-pig-population-to-die-of-african-swine-fever">https://www.theguardian.com/world/2019/oct/31/quarter-of-worlds-pig-population-to-die-of-african-swine-fever</a>.
- van Uhm, DP 2016, *The Illegal Wildlife Trade: Inside the World of Poachers, Smugglers and Traders*, Springer, Switzerland.
- Wadiwel, D 2015, The War Against Animals, Brill, Leiden, Netherlands.
- ---- 2018, 'Chicken Harvesting Machine: Animal Labor, Resistance, and the Time of Production', *South Atlantic Quarterly*, vol. 117, no. 3, pp. 527-49.
- Wall, D 2015, Economics After Capitalism: A Guide to the Ruins and a Road to the Future, Pluto Press, London.
- Weston, P 2020, "We did it to ourselves': scientist says intrusion into nature led to pandemic', *The Guardian*, <a href="https://www.theguardian.com/world/2020/apr/25/ourselves-scientist-says-human-intrusion-nature-pandemic-aoe">https://www.theguardian.com/world/2020/apr/25/ourselves-scientist-says-human-intrusion-nature-pandemic-aoe</a>>.
- Wiggins, S 2020, 'Live Wild Animal Markets, Human and Animal Health, and Biodiversity Protection', *IWB*, <a href="https://iwbond.org/2020/02/10/live-wild-animal-markets-human-and-animal-health-and-biodiversity-protection/">https://iwbond.org/2020/02/10/live-wild-animal-markets-human-and-animal-health-and-biodiversity-protection/</a>.
- WWF n.d., 'Captive-bred.... or wild-taken?', <a href="https://www.traffic.org/site/assets/files/7446/captive-bred-or-wild-taken.pdf">https://www.traffic.org/site/assets/files/7446/captive-bred-or-wild-taken.pdf</a>>.