Nonhuman Life as Infrastructure

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Bio

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Short Quote

"Infrastructures are rapidly expanding to include nonhuman life, heralding a new age of animals as infrastructure"

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Nonhuman Life as Infrastructure

A thousand goats. Chewing their way through summer grass. As concern over wildfires escalates in California, from Santa Rosa to San Diego, the goats have become an unlikely strategy for managing landscapes. Cities that prohibit livestock in urban spaces have changed ordinances to pave way for the quadruped mowers. Goats are efficient at clearing incendiary brush. They are also cost-effective. A human crew charges fifty times the US$550 it costs to use a goat herd to clear an acre of vegetation (Whalen and Kempf, 2019). In the face of public spending cuts, goats are 'a way for us to try and protect the community at a cost the community can afford' says Laguna Beach's fire marshal (Cagle, 2019). Private companies now rent out goats and demands for this caprid labour have shot up as wildfire risks increase. Indeed, goats are becoming a vital part of California's 'vegetation management system'. They are not simply vegetation mowers, but have become a technology of protecting 'structures, lives and property' (Whalen and Kempf, 2019: 4).

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As nonhuman life is being rapidly included in infrastructures, popular commentators in fact proclaim that the deployment of strategies such as goat herds is heralding a new 'age of animals as infrastructure' (Manaugh, 2015). Infrastructures might broadly be understood as 'objects that create the grounds on which other objects operate' (Larkin, 2013: 329). A term of French origin first used in relation to railway construction in the 1870s (Gandy, 2014), infrastructures are promissory, heralding modernity, progress, and development. They can be anticipatory, signaling and intervening in turbulent futures. Infrastructures habituate and settle social, economic and political orders. They are material sites in which forms of power are exercised and inequality are reproduced, and are intimately caught up in practices of liberal government (Appel et al., 2018). From ecosystem engineering to the mitigation of risk, from cyborg assistants to partners in economic assembly, the casting of nonhuman life as infrastructure affirms, but also troubles, what constitutes infrastructure. In this intervention, I map some of the modalities of refiguring

nonhuman life as infrastructure and discuss the biopolitical and bioeconomic implications of this turn. I argue that the infrastructural status of nonhumans derives from their living potentials and capacities. It derives, in other words, *from their very status of being alive*. A critical reading of how nonhuman life is rendered as infrastructure points to strategies of economizing nature and shows how such strategies simultaneously become endeavours to govern *human life* as well. Yet, nonhuman life is not entirely subsumed by capitalist projects. There are always possibilities for other alliances or lines of flight which can be infrastructure for non-capitalist motives.

One modality through which the activities of nonhumans are couched as infrastructure pertains to *provisioning infrastructures*: services that animals provide through their metabolic and ecological being, often only evident through glitches and breakdown. Cairo's cull of 300,000 urban pigs following alarms of a swine flu pandemic in 2009 is a case in point. Cairo's streets were soon filed with piles of rubbish as the city's *zabaleen* or free-lance garbage collectors were no longer incentivized to collect organic waste that they fed to their animals. Pigs were an unofficial part of the city's waste-processing infrastructure, a tacit element of Cairo's public sanitation regime (Manaugh, 2015). Like many other urban scavengers in cities of the Global South (Doherty, 2019), pigs not only cleared the city of waste, but through their metabolic labour (Barua, 2018) brought waste back into circuits of value. Provisioning infrastructures, constituted through more-than-human body-work, are often means through which the urban poor cope with precariousness or make-do when basic staples are not provided by the State. Whilst it is undeniable that such animal infrastructures play important roles in urban assembly, there is a risk of positing them as apolitical eco-technologies or service providers. Provisioning infrastructures of this sort can be used by the State and urban planners to justify cuts in public sector services. They can become means of creating further immiseration by reducing access to basic staples.

The new age of animal infrastructures can in some ways be linked to austerity: capitalist attempts to re-engineer society through reduced public spending. California's goat herds are about redefining and reorganizing human work as much as they are about developing efficient, eco-friendly technologies. Chicago's O'Hare Airport now deploys an assorted crew of sheep, goats and donkeys to keep grass and shrubs near runways under control. Dubbed by the Chicago Department of Aviation as a 'workforce for seasonal landscape maintenance', the herd reduces costs of employing people and acts as a deterrent for nesting birds, mitigating bird-strike hazards (Manaugh, 2015). If the rise of voluntary labour is symptomatic of austerity and a decline of State funding for public infrastructure, a critical reading of animal infrastructures shows how unwaged work performed by nonhumans (Barua, 2018) is fast becoming part of new financial and entrepreneurial urban logics. Animals might indeed perform certain tasks better than humans, but the political consequences of nonhuman work – for both animals and the people whose work animals replace – needs to be held in sharp focus.

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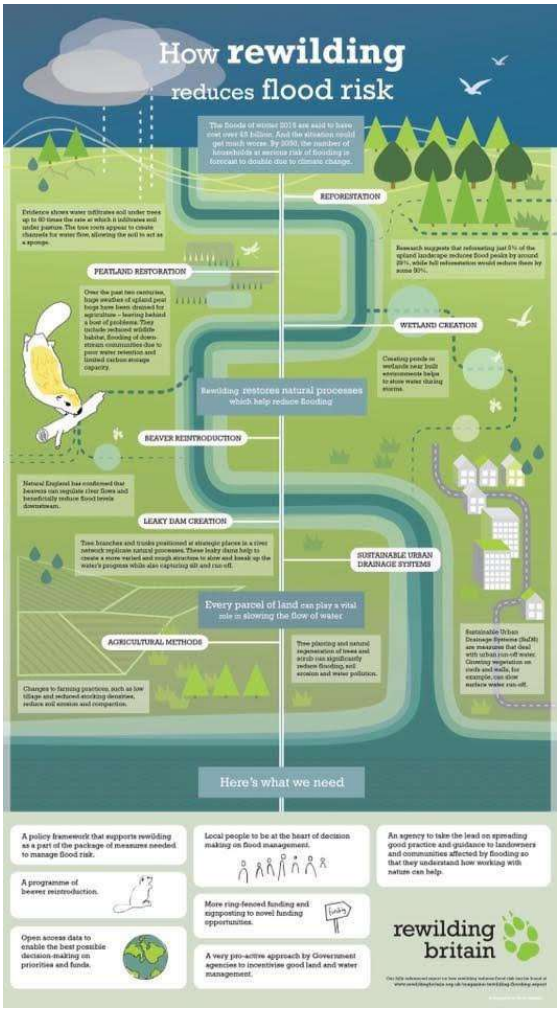
A further modality pertains to what one could term *ecological infrastructure*: organisms recruited to act as controls on material flows according to human, and capital's, desires. This is most evident in the rise of beavers in stream restoration in many parts of the US, but also in Europe and the UK. Beavers are what ecologists term 'ecosystem engineers', creatures that change environments by transforming materials from one physical state to another via mechanical means, and whose effects last far longer than the lifetime of an individual animal (Caro, 2010). By building dams, beavers create wet meadows for birdlife, rebuild salmon streams and irrigate cattle pastures. Their allure, for Federal Agencies, conservation NGOs and even private ranchers, stems from the fact that beaver dams are cheaper when compared to other restoration techniques: instead of spending US$ 1 million per stream mile, the cost of creating opportunities for beaver dams is about US$10,000. Rodential labour reduces restoration costs by one-hundredth (Goldfarb, 2018). Contrary to check dams, beavers delay rather than stop water from flowing to downstream users. By modulating water flow, beavers are also seen to reduce flood risks. They become an infrastructural means of governing the aleatory, a strategy of governance targeted at 'controlling circulations – not the circulation of individuals but of things and elements' (Foucault, 2000: 147-48). Beavers signal a form of environmentality, a moment of entering techno-ecological conditions where circulations are controlled through the repositioning of animal life as infrastructure.



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In fact, techno-ecological conditions extend to futures that are deemed risky and turbulent. There is an emerging biopolitics of governing human life via *resilience infrastructures*: animals and plants out to work to absorb and annul events. From oysters used as a line of defense to reduce wave impacts along New York's coastline (Wakefield and Braun, 2019), to the goat herds keeping wildfires at bay, resilience infrastructures have to do with the nature of contemporary risks. They intervene to ward off emergencies through their very capacities of being alive. By generating a 'defensible space perimeter' or a 'fuel modification zone' through grazing (Whalen and Kempf, 2019: 4), goats *create* infrastructure. By canceling wildfire events, goats *become* infrastructure. Such resilience infrastructures, as Wakefield and Braun (2019: 202) evocatively point out, reveal 'a new relation to being, time and politics'. They invert the promissory temporal horizon of infrastructure, its trope of heralding modernity and a new world to come, by warding off the future. Goats become unlikely technologies of government for a 'catastrophist' biopolitics (Amin, 2013) that increasingly views the future to be uncertain and turbulent.

Photo: author

Yet, not all nonhuman infrastructures need be about capitalist modulation or capture. They can entail forms of collaboration and improvisation between people and nonhumans that become collective platforms subtending the practice and reproduction of economic life at the margins. These are infrastructures in a 'minor' key (Deleuze and Guattari, 1986), operating against and along the grain of majoritarian imperatives of the state, capital and planning. Macaques in Indian cities are a compelling example. Certain communities, living at the very bottom strata of New Delhi, earn livelihoods by selling bananas to devotees who are eager to feed macaques in order to appease supernatural currents. Vendors take pains to foster relations with macaques. Some provision animals with water and food, and ensure troupe safety so that commodity transactions take grip. The animals on the other hand increasingly rely on provisioned food, even modifying behaviours to elicit sympathetic responses in people. Macaques construct niches through affect. A common world that emerges provides a scaffolding through which economic practices take grip (Barua and Sinha, 2017). These polyvalent connections become infrastructural, although municipal corporations of cities such as Delhi are witnessing constant pressure from the State and urban elites to capture and remove macaques as the latter untunes their visions of a world-class city. The same logics of exclusion work upon vendors and macaques. Instances of friction between banana vendors, whose livelihoods depend on macaques, and the State, that seeks to expunge the metropolis of these animals, are not uncommon, frictions that arise precisely because, for the poor, relations with macaques are infrastructural, enabling them to make-do amidst adversity.

Interrogating how nonhuman life is configured as infrastructure points to new ways to understand relations between biopower, capital and the governance of life. Through provisioning, ecological and resilience infrastructures we witness various tendencies by the State-capital nexus to economize life, where biopower functions as an element of capitalism, transforming life into the capacity to work, and bringing the very acts of doing and being into the ambit of accumulation. Equally, these infrastructures are about modulating and managing *human* life, in the wake of austerity and chaotic, catastrophist futures. Infrastructures in a minor key point to variations, where *other* collaborations between humans and nonhumans are actualized, against the grain of planning and majoritarian design. Together, they point to a wider infrastructural ontology, where

new eco-technological conditions are being forged but are also being taken along unprescribed pathways that open up possibilities for non-capitalist commons.

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