



Lively gifts and exclusive commodities: Rethinking encounter value in orangutan conservation

Hannah Fair^{a,*}, Viola Schreer^b

^a School of Geography and Environmental Science, University of Southampton, University Road, Southampton SO17 1BJ United Kingdom

^b Department of Anthropology, College of Business, Arts and Social Sciences, Brunel University London, Kingston Lane, Uxbridge UB8 3PH, United Kingdom

ARTICLE INFO

Keywords:

Orangutans
Conservation
Commodification
Encounter value
Nature 2.0
Indonesia

ABSTRACT

Orangutans serve as popular flagships for international conservation campaigns, which increasingly draw on digital communication and engagement technologies to mobilise support. Building on scholarship concerning the commodification of nature and digitalisation of conservation, this paper asks how orangutans produce value, for whom and to what end? It unpacks the frictions and tensions in how orangutans accumulate encounter value or fail to do so across diverse conservation contexts. Drawing upon interviews with orangutan conservation supporters in the United Kingdom and ethnographic research conducted at a rehabilitation centre and release sites in Indonesia, it reveals how orangutans become lively gifts, exclusive commodities, and entangled in unwanted encounters. By illuminating the varying, contrasting ways in which different audiences engage with one popular conservation species, our paper expands the concept of “encounter value”, troubling some of its underlying assumptions, particularly its commodity logics and intimate character. As the paper shows, encounter value is never fixed or prescribed, but contingent and, at times, even contested.

1. Introduction

The fog just started rising over Sapan, a small Dayak settlement of about 250 people in Indonesian Borneo, when Schreer joined a group of villagers along the Sapan River to watch conservation staff and a few local men loading orangutans on canoes.¹ After a long journey of nurturing and (re)learning the skills to survive independently in the ‘wild’, the rehabilitated orangutans were finally to be released in the adjacent National Park. By that time, in December 2019, Sapan still lacked electricity, running water, telecommunication, and proper health care. The release candidates were hardly visible. They sat in metal cages. Once on board, life-jackets were pulled around each cage. With big cameras and smart-phones conservation staff documented the effort. As background for the photo and video documentation at the release site a large victorious banner was taken along. Fed into diverse media channels, orangutan supporters (mainly in the global North) could participate in the celebration of giving this charismatic species back its ‘freedom’, while receiving evidence that their investment had paid off. Simultaneously, however, these digital, highly orchestrated images concealed other elements of a much more complex reality. Most

villagers of Sapan, namely, saw the release of orangutans as a rather strange (I: *aneh*) undertaking that put them into unwanted encounters with a species they considered not particularly special, but rather a pest if not prey (Schreer 2023).² These on-the-ground realities, however, remained absent from spectacular, virtual orangutan worlds.

Life-jackets, cameras, banners and metal cages are all assembled in aid of these animals. All three species of orangutans – *Pongo abelii* and *Pongo tapanuliensis* in Sumatra and *Pongo pygmaeus* in Borneo – have been identified as Critically Endangered (Ancrenaz et al. 2016; Nowak et al. 2017; Singleton et al. 2017). Conversion of orangutan habitat and opportunistic hunting are the main factors behind this trend (Davis et al. 2013; Spehar et al. 2018). Human-wildlife conflicts also contribute to the species’ decline, as logging activities, the development of industrial agriculture and forestry, mining, infrastructure development, and recurrent fires destroy and fragment orangutan habitat (ibid.). Because of their critically endangered status, orangutans have become a popular flagship species of international conservation campaigns. Their “nonhuman charisma” (Lorimer 2007: 915; Albert et al. 2018) evokes great empathy, affection, and care amongst particularly Western audiences (Jepson and Barua 2015; Fair 2021; Schreer 2023). Orangutans’

* Corresponding author.

E-mail addresses: h.l.fair@soton.ac.uk (H. Fair), viola.schreer@brunel.ac.uk (V. Schreer).

¹ All names in this paper are pseudonyms in order to protect people’s identities.

² The abbreviation “I” refers to Indonesian words, while “D” stands for the local Dayak language.

appeal to humans makes them a perfect marketing tool for conservation organisations. A recent study found that between 2000–2019 alone, US\$ 1.16 billion were invested in orangutan conservation activities in Sabah, Sumatra and Kalimantan (Santika et al. 2022). These figures powerfully demonstrate orangutans' abilities to raise funds for the cause of conservation, making them an ideal example to examine how megafauna, such as pandas, elephants, or lions, are commodified (e.g., Ni'am et al. 2021; Barua 2016, 2017, 2020).

Consequently, this raises questions of how orangutans produce value (or fail to do so), for whom and to what ends? This paper examines these questions across multiple spaces to highlight the frictions existing within one conservation nexus. We trace orangutans' "object life" (Collard 2020) from the virtual worlds of orangutan supporters in the UK to a local rehabilitation centre on the island of Borneo and to the realities of the aforementioned upland village of Sapan to unpack the tensions in how orangutans accumulate value or fail to do so in diverse contexts. By shedding light on the varying, contrasting ways in which different actors engage with one popular conservation species, our paper seeks to nuance the concept of "encounter value" and its production across diverse settings. The notion describes how the relationship between humans and non-humans generates value (Haraway 2008; Barua 2016). Encounter value has been understood alongside ideas of "nonhuman charisma" (Lorimer 2007) and "lively commodities" (Collard and Dempsey 2013, 2684). Whereas "nonhuman charisma" explains how megafauna mobilise funds and action for conservation organisation through their affective agencies (Jepson and Barua 2015; Albert et al. 2018; Schreer 2023), the idea of "lively commodities" describes how liveliness—animals' "corporeal, ethological, and reproductive potentials" (Barua 2019: 685)—is essential for turning nonhuman life, such as exotic pets, carbon stocks or farm animals, into commodities (see also Collard 2020) and giving value to interspecies encounter. To further unpick the idea of encounter value and trouble some of the concept's underlying assumptions, particularly its commodity logics and intimate character, we discuss three modes of encounter value in orangutan conservation—gift encounter, exclusive encounter and unwanted encounter—acknowledging that a much greater diversity of such multispecies encounters might exist.

Following a review of our key literature—explorations of encounter value and the digitalisation of conservation—and explanation of our methods, we first explore how orangutans generate value as what we call "lively gifts" in the context of Global North virtual orangutan adoption. We argue that the transformation of a commercial transaction into an act of gift exchange generates new modes of connection, as well as unidirectional affinities towards the adopted orangutan, premised on a fantasy of symbolic and affective exclusivity. We contend that this sense of exclusivity is in tension with the multiplication of the singular individual orangutan through thousands of parallel adoptions, integral to its generation of value for the charities. Secondly, we turn to a rehabilitation centre on the island of Borneo, where displaced, injured and orphaned orangutans are cared for. As we show, organisations constantly need to negotiate the limits and boundaries of orangutan commodification, as they have to navigate the various, often competing, expectations of government agencies, businesses, local tourists and international supporters amidst their own ethical commitments to animal welfare and conservation goals. This situation creates tensions over physical access and corporeal interspecies intimacies, which, we argue, turns orangutans into a contentiously exclusive commodity. Finally, we return to Sapan, where release activities entangle villagers in unwanted encounters with orangutans. These conflictual interspecies relations demonstrate orangutans' capacities to create loss for the affected villagers, not just economically, but in terms of the affective atmospheres they generate. Unwanted encounter, we hold, is thus not simply an economic concern, but constituted by atmospheric relational dynamics that reconfigure people's sense of place and feelings of security.

2. Rethinking Encounter Value

Within the world of conservation, a diverse range of practices aim to extract value from biodiversity by conserving it, whether through carbon payments to protect habitat (Venter et al. 2009), ecotourism at rehabilitation centres (Parreñas 2018), or so-called "Interspecies Money" derived from selling non-fungible tokens (NFTs) of flagship species like orangutans (Ledgard & Meijaard 2021). To understand this "Accumulation by Conservation" (Büscher & Fletcher 2015: 274), scholars have turned to the notion of "encounter value". The concept was developed by Haraway, who expanded Marx' differentiation between use value and exchange value to describe how the relationship between "subjects of different biological species" generates value (2008: 46; emphasis in original). Building on Haraway's idea, geographer Barua (2016) sought to map the specific ways, in which encounter value operates by investigating contact zones between humans and lions and Asian elephants respectively in Indian ecotourism and biodiversity conservation. For Barua (2016: 728; emphasis in original), encounter value is "that process of value generation where bodies, ethologies and liveliness of an animal *makes a difference* to, and is *constitutive* of, those very relations that render or mobilise it as a commodity."

Our paper seeks to expand understandings of encounter value by investigating how one species, orangutans, generates value or fails to do so across different settings. Firstly, we problematise the assumed fixed nature of lively commodities, exploring both processes of de-commodification and associated alternative forms of relation based not in commodity logics but gift exchange. Secondly, we question the proximate and intimate character of encounter value, both through elaborating on modes of virtual encounter and its relationship to the digitalisation of conservation, and through exploring the value of unwanted and deliberately avoided encounters. Consequently, by identifying the varied forms of encounter value within orangutan conservation, we expand its current formulation and operations.

Geographical analyses of the commodification of nature have been beset by under theorisation of the defining features of capitalist commodification and its heterogeneous manifestations (Castree 2003). Existing literature raises questions not only of what commodification entails, but also of its dynamic nature as a process. For instance, Collard (2020) argues that exotic pets are de-commodified when they are removed from private homes and placed in sanctuaries, yet they are nevertheless reduced to a form of "object life", as their social ecological relations are erased and they cannot labour for their own use values or species interest (Fair and McMullen 2023). This speaks to research which recognises that livestock animals can move in and out of commodity status, depending on individual characteristics, their life stages and the point in the production process (Wilkie 2017; Bruckner et al. 2019). Commodification is thus far from a fixed state, even within instrumental human-animal relations. Other scholars have contested the relationship between commodification and encounter value altogether. For instance, Colombino and Palladino (2023) challenge the Marxian foundations of encounter value, contending that it is premised on an anthropocentric and dualistic separation of humans and animals. Preferring instead Mauss' (2001) concept of the gift, they emphasise obligation and pre-existing social relations as opposed to exploitation. Building on this, we propose the notion of "lively gifts": a category of object life where value is partly generated through the transformation of a commercial transaction into an act of gift exchange, through the gifting of virtual orangutan adoptions in our case.

Moreover, scholars have challenged any essential link between proximity and corporeality and encounter value by attending to distanced, virtual forms of encounter, situating this work within wider debates on the relationship between conservation and the digital. Conservation organisations increasingly draw on web 2.0 communication and digital engagement possibilities (e.g., Büscher 2016; Fletcher 2017). Büscher has termed this development "Nature 2.0", describing how web 2.0 applications "create new virtual forms and manifestations of nature

and its conservation that intersect with material natures in complex new ways" (2013: 1). Countless online conservation tools and practices, many of which are intricately linked to social media, seek to raise awareness about environmental issues and motivate supporters to engage in conservation activities (Sandbrook et al. 2015; Büscher 2016; Fletcher 2017). To explain how such campaigning contributes to capitalist accumulation, Igoe (2010, 2017) has proposed expanding Debord's (1967: thesis 4) concept of "the spectacle", which referred to "a social relationship between people ... mediated by images", and account for how the latter mediate human-environmental relationships. His exploration of conservation media representations of Tanzanian landscapes and communities shows how images mobilize funds by mediating "relationships between Western consumers and people and environments at locations that are distant from them" (Igoe 2010: 378). The moral, political and financial support mobilised through (online) images then both justifies and funds conservation actions mainly in the Global South, where the promoted iconic species, such as orangutans, however do not necessarily enjoy the same fame, and yet reshape people's lives in various ways (Schreer 2023).

Nature 2.0 has been heavily critiqued by political ecologists for enabling the co-creation of individualised ideals of pristine nature, which can encourage affective engagement yet not effective conservation action, furthering an environmental values action gap (Fletcher 2017). Building on Igoe's work, Brandon (2021) has, for instance, shown how representations of cheetah extinction get spectacularized through social media to engage global audiences in raising money, but fail to contribute to effective conservation action in Namibia. She argues that rendering extinction "as something that can be solved by global audiences over social media reinforces economic, informational, and power asymmetries in conservation" (Brandon 2021, 189). Similarly, others have warned that Nature 2.0 can be a site of disciplinary power enacted by social media users towards conservationists (Nelson 2017) or other supporters (Chua 2018a), or even provide platforms for incitements to extreme dehumanising conservation-based violence, such as legitimising militarised action against poachers (Lunstrum 2017).

However, Elliot (2016) has criticised the current framing of Nature 2.0 for being analytically narrow. In their exclusive focus upon the idealisation and commodification of nature within a Western conservation framework, Elliot argues that "Nature 2.0 scholars" (2016: 194) have limited their attention to "typically negative outcomes...which can ensue for nature" (2016: 194) and for people immediately affected by conservation initiatives. Indeed, as Büscher (2013: 1) acknowledges, new media "both encourage and complicate the commodification of nature and its conservation" (our italics), and that "it is important to also be aware of how Nature 2.0 could lead to the opposite: possibilities for decommodification and critical awareness of the commodification of nature" (2016: 734). This connects our interest in virtually mediated human-orangutan encounters with our attempt to trouble the fixed, commodified nature of lively commodities by showing how virtually adopted orangutans function as lively gifts.

Finally, scholars have also emphasised the value of nonencounter or the loss of value through unwanted encounters. Investigating the breeding of transgenic mosquitos, Reis-Castro (2021: 323) has proposed the concept of "nonencounter value", which entails an active labour by scientists and modified mosquitos to transform human-mosquito relations to one of "becoming without". This speaks to the growing recognition within the wider multispecies literature that not all encounters with nonhumans are positive, including numerous "unloving others" (Chao 2018) and domestic pests (Fair 2024). Barua (2016: 734) mentions elephants' crop-raiding as "undesirable encounters" for Indian farmers due to adverse livelihood impacts and the hidden opportunity and transaction costs that these conflicts cause for them. Given that resentments against orangutans are widespread amongst rural Indonesians, we seek to further specify unwanted encounters. Inspired by literature on animals' atmospheres that refers to "the affective intensities of a particular space that gives rise to events, actions, feelings

and emotions" (Lorimer et al. 2019: 27), we argue that encounters with orangutans are not simply unwanted because they potentially cause economic detriment, but because the presence of released orangutans produces a frightening atmosphere. Just as wolves bereave local people of their *Heimat* (sense of home) in Germany (Gieser 2024), the apes alter local "atmospheric forces" (Keil 2021: 98) and thus people's feeling of security. Yet unlike "wolf atmospheres" (Gieser 2024) that affect men and women equally, the affective atmospheres emerging with orangutans have a gendered dimension, as particularly women's routines and sense of security are disrupted. Hence, more than an economic concern, unwanted interspecies encounter is constituted by atmospheric relational dynamics that reconfigure people's sense of place and feelings of security.

3. Researching orangutan worlds

By traversing multiple orangutan worlds, this paper takes advantage of a multi-sited research approach. Rather than being directly comparative, our material enables us to draw connections, and reveal frictions between a variety of audiences, intended and unintended, and their consumption of and responses to the spectacle of orangutan conservation. In addition to distinct forms of data (primarily semi-structured interviews and ethnographic fieldwork), our analysis has been enriched by many years of discussion between Fair and Schreer and their wider research team of the Global Lives of the Orangutan and POKOK projects. To investigate the views of Global North orangutan virtual adopters, Fair collaborated with two UK-based orangutan charities to co-design research questions and produced data that informed the charities' working practices. They conducted 54 semi-structured interviews with supporters of the charities, and contextualised these insights through a year of participant observation volunteering with one of the charities in 2018–2019, and quantitative analysis of the adopter database. Prior to their research, Fair had experience of virtual animal adoption through their mother, who was demographically representative of a typical UK conservation charity supporter. This created a foundation for easy rapport with most interlocutors.

These insights were complemented by ethnographic fieldwork by Schreer in Kalimantan, the Indonesian part of Borneo, where they have undertaken research in different Dayak villages since 2009, all of which have been affected by orangutan conservation efforts. To deepen their understanding of local human-orangutan relations, Schreer conducted six months of ethnographic fieldwork on a community-based orangutan conservation scheme in 2019. In addition to village-level research they collaborated with an orangutan conservation organisation, joined their activities, did interviews with conservation staff, and carried out participant observation at the visitor centre of a rehabilitation centre. Moreover, six months of in-depth fieldwork in Sapan during 2013 enabled Schreer to easily reconnect with the villagers and learn about their engagement with orangutan release during a short visit in 2019. Their positionality as a pregnant European researcher speaking both Indonesian and the local Dayak language, informed how they navigated at times competing relationships with conservation staff and village interlocutors (Fair et al. 2023). Our research was approved by Brunel University's internal ethics review. Schreer moreover obtained a research permit from the Indonesian Ministry of Research and Technology and signed a visitor compliance agreement with the rehabilitation centre in Kalimantan, where they built rapport with staff through repeat visits.

4. Lively Gifts

Orangutans offered for virtual adoption by charities based in the Global North produce value through their status as lively gifts. Virtual adoption refers to the process by which supporters make a standalone or regular financial donation to a charity, often ostensibly in aid of a named individual animal at a rehabilitation centre in Borneo or Sumatra. In

return, supporters generally receive an adoption certificate, a cuddly toy, and regular email or postal updates about that specific animal (Chua et al. 2021). Orangutans selected for adoption are often orphans, and updates thus centre on their individual progress in (re)learning the skills for autonomous survival. Local people are usually “edited out” (Igoe 2010: 385) from these accounts. Indonesian conservation staff discuss extensively which orangutans to promote, and regularly observe these individuals to generate material for the updates. More general updates about the organisations’ work feature the significant life events of other orangutans not available for adoption—such as being released or having offspring—as well as the charity’s wider rainforest conservation initiatives.

Rather than being proximate, the specific mode of encounter value generated through virtual adoption takes the form of distanced lively gifts. What is distinctive to lively gifts is that their value is partly generated through the transformation of a commercial transaction into an act of gift exchange, that generates new modes of sociality between the giver and the receiver. Crucially, the majority of virtual adoptions are gifts. Seventy-five percent of one charity’s 2018 adoptions were gifts, rising to 90% in the months immediately preceding Christmas. Further, they should be understood as a means of double giving: both to the recipient and to the orangutan charity, with the latter being especially apparent through the additional donations often made when adopting. Virtual adoption also results in a relation of obligation to the orangutan other, reflecting a quality of Maussian interspecies gift exchange (Colombino and Palladino 2023). Moreover, the logics of virtual adoption jar with many of the key facets of capitalist commodification, as delineated by Castree (2003), highlighting a further tension between commodity and gift exchange. Virtual adoption produces unilateral, parasocial modes of connection between the holder and the gift premised on a sense of symbolic and affective exclusivity, akin to the privatisation of commodities. Yet this sense of exclusivity is in tension with the replication and multiplicity of the orangutan as gift, integral to its generation of value for the charities.

The value of these gifts partially derives from their capacity to generate connections and strengthen kin relations. According to one orangutan charity’s 2018 adoption database, at least 46% of gifts were to kin (but the actual figure is likely to be much higher³), and amongst the interviewees most gift exchanges had been between romantic partners or immediate family members. Interviews revealed that these gifts functioned to encourage ecological concern in the young, create a novel ongoing shared interest between relatives, and memorialise the dead, both human and non-human. The desire to instil virtues in younger relatives was explicitly acknowledged by multiple adopters, as for instance by Sarah:

“I ended up adopting it for or putting it in my goddaughter’s name... cause I just thought start them young in loving the animals. And so, she gets regular updates or rather her mother shows her videos of moving orangutans and just says, ‘That’s your orangutan and you’re responsible for this orangutan now’ so we like to give them guilt from day one as well.”

Some gift adoptions acted as a means for children to exercise agency and take responsibility for the non-human world, such as undertaking sponsored walks, bake sales or public haircuts in order to fundraise adoptions. Consequently, adoptions acted both as an inducement and an avenue for the expression of ecological concern. These attempts to enhance moral awareness were not limited to the young. Some adopters had gifted orangutans to older relatives to enrol them in shared ecological concerns, including deforestation and palm oil consumption.

Besides instilling ecological virtues, adoption gifting opened an avenue for connecting with relatives. Participants spoke of discussing

orangutan updates over the phone, watching orangutan-based TV shows together, going on family trips to Monkey World, or adopting orangutans, who were themselves related (e.g. a mother and a baby) in order to parallel kinship structures. Finally, adoption also sometimes functioned as an act of memorialisation. One interviewee had received her orangutan from her partner as a memorial to their deceased pet. Others had been inspired to adopt orangutans in memory of friends, who had been passionate about primates, or as a reflection on their own mortality and associated wish to leave a positive trace in the world.

Orangutan adoptions not only fostered relations with kin, but were often situated within practices of *trans*-species concern, be they volunteer work at animal sanctuaries or with local nature trusts, adoption of vegan diets, caring for companion animals, or charitable fundraising efforts. Akin to palm oil boycotts (Fair 2021), virtual adoption is a gateway to greater critical interrogation of human-nature relations, and an individual’s own complicity in ecological destruction. This reflects Turnbull et al.’s argument that “digital encounters can, under certain circumstances, produce meaningful modes of care and concern outside capitalist relations” (2023: 3), mitigating against the skepticism of critical Nature 2.0 framings. Consequently, rather than functioning simply as a symbolic purchase, adoptions acted as a catalyst for a diversity of “small acts” (Chua 2018b) of care for the non-human world. Adoptions produce distanced encounter value for supporters, accumulate financial value for charities, and generate convivial relations far beyond the realms of orangutan conservation.

The significance of the orangutans’ liveness to the production of value is also apparent in the strong “parasocial” relations many adopters formed with their adoptees: unidirectional attachments with the orangutan in the role of intimately observed media personality and supporters as an avid audience (Ballantine and Martin 2005). This affective engagement with individual apes resists abstraction, a core component of capitalist commodification (Castree 2003), as the adopted orangutans were not rendered interchangeable. Some supporters saw their adoptee as part of their family, for instance displaying their photo amongst family portraits, and yearned for greater access to ‘their’ orangutan (Chua et al. 2021), in proportion to their sense of direct attachment, as Maya indicated:

“Since I’m kind of adopting him, it would be nice to get an update every now and then about any major thing that’s happened to him or, how he’s doing, you know? It just feel like I actually have adopted him, I mean it’s just not something that I think I did.”

However, this sense of direct individual attachment is in tension with the financial model of virtual adoption, as unlike a regular commodity, there is no exclusive relationship of ownership over the adopted orangutan. Neither is there a physical claim over or contact with the orangutan—a point of contention that will re-emerge at our next site—nor is it privatised. As Castree (2003) notes, privatisation, while not exclusive to capitalism, is fundamental to processes of commodity exchange. Thousands of people can adopt the same orangutan—a fact that adopters are generally conscious of—and the donation does not only benefit the named orangutan (Chua et al. 2021). Here orangutan adoptions and orangutan NFTs operate with contrary logics: while for the latter a potentially infinitely reproducible object is rendered economically valuable through its exclusivity, for the orangutan charities the encounter value of the singular individual orangutan is contingent on its multiplication through thousands of parallel adoptions.

Many adopters engaged in a form of double think, pragmatically recognising the presence of multiple adopters, while also excluding those thoughts in order to bolster a sense of affective and exclusive personal engagement (Chua et al. 2021). This tension was evident in their adoption choices. Orangutans were often chosen if they seemed particularly in need of support, suggesting a belief that the adoption funds were channelled directly to individuals, indicating a fantasy of direct connection. Older orangutans that would indefinitely remain at the centre were popular due to the possible continuity of attachment.

³ A conservative figure based on whether the gift-giver and recipient shared a surname, or whether reference to relation was made in the adoption form.

Others based their adoption choices on orangutans' aesthetic nonhuman charisma (Lorimer 2007) or on preexisting associations with their names. Some adopters annulled their sense of guilt of opting for a cuter orangutan through reference to the pragmatic logic of the charity's funding, but at the cost of dispelling this fantasy of direct financial connection. As Claire reconciled it:

"I should actually adopt some ugly and old orangutan... But then I thought that it doesn't matter because I think that the money is used for all of them. So, it helps them all if I help one."

This tension demonstrates that the adoptees are not simply symbols or metonyms for their species. Besides their nonhuman charisma, their value is generated by the narration of their particular histories—often distressing and tragic—and their personal overcoming of adversity. Orangutans' public status as individuals with specific life experiences is integral to their value as lively gifts, challenging an understanding of them as fungible or interchangeable assets. This highlights the need to move away from considering nonhuman charisma simply on a species level, and instead to engage with particular animals' lives (Bear 2011) and their varied capacities to generate encounter value, depending on the audience.

As a caveat, for a minority of supporters, adoption was just a mechanism for supporting the charity overall, with little interest in a specific named ape. One supporter even requested multiple repeat adoptions of the same individual for her birthday to channel more funds towards the charity, fracturing any fantasy or sense of direct interpersonal connection. The orangutan in question explicitly turned into a financial conduit for the charity.

While supporters were conscious that the adoption did not render the specific orangutan exclusively theirs—despite senses of strong personal attachment—other forms of exclusivity were generated by modes of what we term "menagerie adoption". These supporters were amassing a diverse collection of virtually adopted animals, in most cases exclusively for themselves. This mode of philanthropic giving presents differences to the lively gifts, although there is still a sense of giving to the charity and to the animals in question. Here orangutans formed one piece of this set, indicating that for many adopters, orangutans were one among many charismatic and endangered species of concern.

Consequently, understanding virtual adoptions as a form of lively gifts, as opposed to lively commodities, provides fresh insights. Orangutan adopters often framed these gifts as a deliberate rejection of the materialist accumulation of unnecessary physical possessions, which were often linked to processes of environmental destruction. Thus, the gifting of virtual adoptions was articulated as a rejection of the commodification of nature. Yet, at the same time, these adoptions still function as a significant source of revenue for many charities, and obviously do not represent an unmediated nor unalienated engagement with the nonhuman world. With these gifts, the animal's liveliness is also critical to the production of encounter value. Generally, adoptees are on a path towards freedom, and it is this anticipated return to what is portrayed as wildness, that is sold to supporters (Chua et al. 2021), in tandem with the spectacle of extinction (Brandon 2021). This potential for freedom is integral to the mechanics of the adoption offered by a number of charities: adopters financially support and receive updates about their orangutan up to the point of release. Once that orangutan has successfully graduated from the rehabilitation centre, the adoptions are generally transferred to a new orangutan still on its journey to freedom. Thus, it is not an indefinite commitment to one individual, but to the process of freedom itself. This promoted ideal is however a curbed freedom, as the released orangutans get chipped and monitored, and may be returned to the rehabilitation centres, if their adaptation is deemed unsuccessful.

While many Global North supporters expressed a desire to transcend digitally mediated encounters by volunteering at orangutan rehabilitation centres in Borneo themselves, only two of the fifty-four interviewees had experienced this. But for many adopters, this was financially

unrealistic given the cost of voluntourism (see below). However, according to the logics of privatisation as central to capitalist commodification (Castree 2003), this form of more intimate encounter value is contingent on its exclusivity.

5. Exclusive encounters

Current Indonesian policies cast biodiversity conservation as a "vehicle of development" (Chua et al. 2021; Schreer 2023). Following a "resource nationalism" (Warburton 2023) marking Indonesia's politics in recent years, biodiversity is framed as "an asset and basic capital of development that shall be managed in a wise manner so that it provides benefit to the entire nation of Indonesia" (Darajati et al. 2016: VII). Oriented toward national interests, Indonesian wildlife is thus seen as a resource to be exploited for national economic development.

In Kalimantan, NGOs and rehabilitation centres taking care of displaced, injured and orphaned orangutans – including many of those available for virtual adoption – have picked up but also reconfigured the national policy discourse, reframing the orangutan as an "asset of Kalimantan" (*aset Kalimantan*). However, branding the orangutan as a commodity to be harnessed for the sake of regional development brings its own challenges. Torn between the various expectations of government agencies, business actors, local visitors and international supporters and their own ethical commitments to animal welfare and conservation goals (Palmer 2020), conservation organisations constantly need to negotiate the limits of orangutan commodification. A central goal of rehabilitation efforts is to balance human support and contact with the apes' growing independence, increasing the distance from humans, and the apes' resocialization to other orangutans (Russon et al. 2016). This leads to tensions over physical access and encounter value, which, we contend, turns orangutans into an exclusive commodity.

Government agencies, tourist operators, entrepreneurs, and many visitors imagine and expect rehabilitation centres to be sites of encounter value (Haraway 2008; Barua 2016), where orangutans that also serve as adoption candidates in conservation campaigns co-produce value with humans through their affective labour. Tanjung Puting National Park, one of Kalimantan's most famous tourist sites for human-orangutan encounter, works according to and with this principle. In the trees, on feeding platforms, boardwalks, and on the ground, orangutans perform as lively commodities (Collard 2020) or "captive nature" (Ni'am et al. 2021: 163) for and with tourist crowds. Here, visitors can get in close contact with orangutans, at times competing for "intimacy and connectedness" (Barua 2019: 682). In the past, such a zoo-like experience was also possible at a regional rehabilitation centre, where orphaned, injured and displaced orangutans learn the skills to hopefully be released one day. Schreer remembers how they could access the orangutan playground and interact with orangutans from a striking distance back in 2009. However, for the sake of orangutan welfare, this is no longer possible. Ten years later, a local staff member recalled: "Some people just didn't show respect. They came too close to take photos, sometimes even gave orangutans cigarettes, food and so on." Because of incidences like these, for the everyday visitor multispecies encounter is now limited to observing two or three orangutans in a cage through a glass pane, reading information boards, watching a promotional film, buying merchandise at the visitor centre, and joining guided boat tours around the centre's pre-release islands. These restrictions create, first, frustrations over failures to access interspecies intimacies and, second, exclusive modes of encounter value.

Many visitors left disappointed after realising that they could neither touch the orangutans nor take one home, but just watch them through a pane. For instance, during their fieldwork in autumn 2019, Schreer observed how a foreign visitor angrily complained to the visitor centre's staff. Furious, the woman shouted in English, "Here is nothing, this is a mess. I came from far away and paid a lot of money. You can't do this to people, this is not fair." Given her investment, she seemed to feel entitled

to interact more closely with the apes. Tomas, one of the staff, tried to calm her down. Tina, another staff member, who didn't speak English, looked helplessly at Schreer and smiled. This made the foreigner even more furious. "Stop laughing, this is a nightmare," the woman screamed without sensitivity for the cultural context. Smiling is a way to navigate conflicts, whereas screaming is seen as immature, disrespectful behaviour. The visitor left, denied an 'authentic' orangutan experience crucial for making interspecies encounters valuable (Ni'am et al. 2021). Tomas and Tina seemed relieved. "This happens often", Tina said. Tomas nodded and added that "people expect an experience like in Tanjung Puting." The comments in the centre's guest book reflected these expectations. Many visitors had suggested that the centre should "expand its collection" (*I: tambah koleksi*), as if the centre should be a menagerie of captive apes. As Ni'am et al. (2021: 166) have observed for captive elephants in Sumatra, "it is not the lively being as such that comprises the commodity; rather, the animal's being alive in a captive or tamed form is an important condition for the human encounter with the performing lively being that signifies the commodification." It is unclear what role virtual encounters play in creating such expectations. Tomas reasoned that misleading promotion at the regional tourism office, that showed visitors on the orangutan playground, would fuel such misconceptions. Images clearly shape human-orangutan relations (Igoe 2010, 2017) and associated ideas of proximate cross-species encounter.

Hopes for more intimate human-orangutan encounters were also expressed by two elderly men visiting the centre in November 2019. As Schreer watched Tina offering the visitors the organisation's merchandise, such as cuddly toys and shirts, Schreer caught that they were from a 'company'. Curiously, she probed the men's interest in adoption. "Have you seen the adoption scheme?", Schreer asked, while Tina handed over the flyer explaining the different adoption packages. "Not yet, but we will tell them", one of the men reasoned. His companion whispered to Schreer, "He is a VIP, a CEO of a large company" to emphasise the man's economic influence. As our conversation about the organisation's commercialization strategy continued, the 'important' one asked Tina, "Do you already have an app?" Confused, Tina looked to Schreer for help. Schreer explained that the organisation had different social media but no app yet. "An app would be good. With one click people could adopt an orangutan and pay directly with a credit card", the man imagined, highlighting the benefit of digitalization. His companion added, "But it would even be better, if you kept one or two orangutans freely, so that people could directly touch them, take pictures, and hug them." For the visitors, the (digitally mediated) commodification of orangutans clearly was in tune with proximate interspecies encounters.

The men's hope for more "cross-species intimacies" (Chua 2021) was not exceptional. But on the Bornean ground, the production of animal commodities often intermingles with interspecies relations of compassion and care. One day, for instance, a young couple visited the centre. They had travelled all the way from the island of Java, because they had heard that the centre offered orangutans for adoption. When Tina explained the scheme, they pulled long faces. As many other visitors, they had understood adoption quite literally, expecting to take an infant orangutan back home. Seeing the couple's disappointment, Schreer asked whether they would be interested in virtual adoption. "Not sure, we have to think about it", the visitors hesitated. Spectacular, virtual encounter did not seem to offer an alternative for the direct, intimate encounter that pet orangutans enable. Though such expectations frame orangutans as lively commodities, in view of local pet keeping practises the idea of purchasing an orangutan (through adoption) should not simply be understood as an economic transaction. As Chua (2021) has shown in her analysis of local pet owners care and as diverse media reports likewise suggest (e.g., Zebua 2017), baby orangutans kept as pets are considered family members receiving child-like treatment. Yet, in contrast to the care provided through rehabilitation and its volunteerism both pet ownership and visitors' expectations of interspecies intimacies are deemed by conservation and state actors as "the *wrong* sort of care" (Chua 2021; emphasis in original). The commodification and, at the

same time, restriction of multispecies affect is based on an evaluative hierarchy of interspecies relations of compassion and care that favours rehabilitation and volunteerism over local pet keeping and cross-species intimacies (Chua 2021), which, we suggest, ultimately implies exclusionary modes of encounter value. Limiting the affective experience leads to disappointment among common visitors, while turning orangutans into an exclusive commodity.

Only staff, 'important' supporters (see below) and those willing and able to pay large amounts of money in order to engage in commercial volunteering are allowed closer contact with orangutans. The volunteers, mainly Western women aged 50 and over, usually engage in "custodial labour" (Parreñas 2012) for one to three weeks. In addition to their participation fee that ranged between EUR 1,458 and EUR 2,312 (excluding service fees, flights, travel, visa, and vaccination) in 2024, they frequently donate equipment and run personal fundraising campaigns to support the organisation. Many of the volunteers have been virtual orangutan adopters until their support culminates in direct encounter with the apes at the rehabilitation centre. In return for their financial contributions, the volunteers can experience the affect generated at the human-orangutan interface (Parreñas 2012, 2018), as they watch and feed the apes, clean their enclosures, and contribute to their enrichment. According to the centre's staff, Indonesians hardly engage in volunteering because of the financial investment required. The commodification of affective encounter value thus has exclusive effects.

The organisation's adoption scheme likewise involves exclusivity. One day, Schreer asked Flora, a local friend, who was interested in orangutan conservation, whether she had heard about the possibility of adopting an orangutan. "Yes, I pay and give the orangutan my name," the young woman reasoned. "Oh, so do you like the idea?" Schreer asked. "Yes, because I can call him by my name. I have a relative", she excitedly continued. While Flora and others did not understand the adoption programme as a way to take an orangutan home, they also saw it as a kin-making practice through name-giving. Similarly, Tina proudly claimed that several orangutans at the rehabilitation centre had been named after staff, including her. However, to Flora's disappointment, naming orangutans was reserved for special people only. When Schreer gave her the flyer and explained that the adoption scheme involved virtual adoption, the woman's face changed. "Ah okay", she said disappointedly. As she skimmed the flyer, Schreer enquired "Would you still be interested?" "Yes, but it's a bit too expensive. Maybe for officials or artists", the woman explained, indicating the way in which orangutan adoption in Indonesia is linked to class issues and orangutans work mostly as exclusive commodities.

Indonesian adopters largely come from urban settings, mostly on Java, are higher educated and wealthier than the average citizen. In contrast to UK adopters, who tend to adopt orangutans for a longer time, most Indonesian adoptions are short-term, for one month. Depending on their financial capacities, some people also support orangutans for longer periods of time. As an alternative to the regular adoption scheme that costs 10 US\$ (IDR 100,000) per month, the organisation offers single donations for 2 US\$ (IDR 20,000 IDR). Most young people opt for this alternative, as it is more affordable. This option doesn't grant access to the spectacular, virtual encounters, but at least gives them a certificate, signalling both care for orangutans and people. Similarly with the UK adopters, orangutans commonly function as lively gifts to foster social bonds. Most people adopt orangutans following the organisation's outreach activities. Those adopting orangutans during a visit to the rehabilitation centre are often on a business trip to Kalimantan. Conversations with visitors revealed that they sometimes have little knowledge about the broader context and challenges of orangutan conservation (deforestation, plantation development, fires, hunting, illegal wildlife trade and so on). They mainly come to the centre for the orangutans. Prominent supporters include business stakeholders that adopt orangutans as part of their CSR strategy (Rini 2018; Shanti 2024) and the wives of officials and police officers (Sahala 2017; Wirawan et al. 2019), in which case adoption can be seen as a political project to

improve the reputation of officials as being associated with the illegal wildlife trade and pet keeping. In the wake of digitalisation, influencers, celebrities and artists have also started adopting orangutans as part of their self-branding on social media like Instagram, X or Facebook (e.g., Yovanda 2016; Hasjanah 2018). Acting as orangutan ambassadors, these ‘famous’ supporters have the privilege to get closer to orangutans, as for example, seen during the orangutan release in Sapan, with which we opened this paper. It might well be that their spectacularized experiences create unrealistic expectations for in-person encounters amongst ordinary audiences. Zooming into the release event and discussing its implications for the affected villagers further reveals the frictions between different orangutan worlds, while showing how people are unwillingly drawn into interspecies encounters.

6. Unwanted encounters

While conservation staff and the locals were busy with loading the cages, a group of people stood together, took photos and selfies. With their black outdoor gear, high boots, and behaviour they stood out from the rest of the crowd. Their look marked them as city dwellers. “They must be the artist and VIP guests that a villager mentioned”, Schreer thought to herself. Together with the organisation’s CEO, the guests were joining the release. Several times, the group stepped closely together, put their hands on top of each other and chanted “*kahiu*”, meaning orangutan in the local Dayak language. The local residents watching the spectacle seemed confused about this celebration of the ape. Obviously, the performance was not meant for them, but directed at a distant, virtual audience. “I don’t get what the purpose of this whole orangutan activity is,” a young man commented. For the villagers the situation was simply “strange” (I: *aneh*). The spectacle stood in sharp contrast to the villagers’ views of orangutans.

Contrary to conservationists’ ideas of orangutans as having intrinsic value as a species, as “gardeners of the forest” (Tarszisz et al. 2018) because of their ecological labour through seed dispersal, as conservation flagships due to their charisma, or as an asset boosting economic development, many rural Dayak in that area view orangutans as not particularly special (Chua et al. 2021; Schreer 2023; Perez 2010). Like other Bornean societies, they see the ape as one of many nonhuman beings in a multispecies environment (Chua et al. 2021; Schreer 2023; Meijaard et al. 2012; Thung 2018; Michaela Haug, pers. comm. 2022). Because of their unpredictable and harmful agencies (Chua et al. 2021; Schreer 2023), orangutans may in fact rather be seen as agricultural pests (Campbell-Smith et al. 2010; Davis et al. 2013) or prey (Wadley et al. 1997; Wadley and Colfer 2004; Davis et al. 2013). In Christian and Kaharingan contexts, some people might opportunistically hunt orangutans for their meat and catch orangutan babies to sell them in the illegal pet trade (Nijman 2017; Thung 2023). However, as Thung (2023) notes, people usually do not search for infant orangutans intentionally. Baby orangutans might rather be caught out of curiosity, pity, or because people find them cute, and then end up in the illegal animal traffic (Nijman 2017; Thung 2023), though with little profit for those who first caught them (Clough and May 2018). Apart from this use and exchange value, in places where ecotourism has been established, a few villagers moreover benefit from orangutans’ nonhuman labour in the tourist-orangutan encounter. Local residents may also indirectly benefit from orangutans as efforts to protect them create job opportunities, provide education for children, and initiate community development projects. Due to funding restrictions, these initiatives are however often short-term, and their benefits are not equally distributed amongst the affected villagers (Schreer 2023). For most local residents, orangutans’ value thus lies in their potential to generate surplus at some point in the future. These complexities usually remain absent from media representations of orangutan conservation efforts, including rehabilitated orangutans’ journeys to ‘freedom’.

Standard coverage of orangutan release documents the final steps of the release process, with the orangutans performing digital labour as

main characters. Supported by dramatic background music, the organisation’s promotional videos display the apes’ final medical check-ups and anaesthesia at the rehabilitation centre, their transport on the back of pickups through plantations and muddy forest roads, the loading of their cages onto canoes and the ride on the river till their cages are finally opened and the apes (re)gain their ‘freedom’ by stepping into the ‘wild’. While these spectacularized images and imaginaries thus work as moral, political and economic proof that the investment of supporters pays off, they are simultaneously powerful ontological devices telling only parts of a much more complex story. Nature 2.0 indeed “hides a much larger reality” (Büscher 2016: 732) behind a screen.

What is portrayed as ‘wild’, empty forests of a National Park are in reality anthropogenic landscapes long shaped by humans (Schreer 2023). Elders of Sapan described how their common ancestor originated from a place upriver reachable in three days by canoe. To this day, the relics of the ancestor’s house and a communal rattan grove are found at this ancestral village site (D: *kaleka*). From there, the ancestor’s descendants had moved downriver, forming new settlements and swiddens (D: *tana*) along the way. For the residents, then, the surrounding landscape is not only an inherently social space, telling (hi)stories of kinship relations, migration, and mobility, but also an economic workplace used and shaped through their labour (Schreer 2023). The villagers have been reworking the forest into gardens and fields, searching for forest products and prey, and mining for gold long before rehabilitated orangutans started to be released in the wider area in 2015. However, as Schreer (2023) has detailed elsewhere, the release of Tarzan, Randy, or whatever their names, has reshaped local landscape relations and associated access regimes, movements, and labour rhythms. Roaming freely, heedless of boundaries and ownership rights, the orangutans have limited people’s access to resources, caused detriment by disturbing crops, equipment and field huts, and entered settlements to look for food (Chua et al. 2021; Schreer 2023). Failures to “dehumanize” rehabilitated orangutans, “i.e. to reorient them away from humans” can lead to them lacking wariness or fear of people and anthropogenic environments (Russon et al. 2016: 236). More than economic loss, the apes’ presence thus created a particular atmosphere (Lorimer et al. 2019; Keil 2021; Gieser 2024) that made people, especially women, feel “uneasy” (D: *dia tenang*), “afraid” (D: *mikeh*) and “uncomfortable” (D: *dia nyaman*), and interrupted their routines. Shortly after the first orangutans had been released near Sapan, an elderly neighbour explained how she feared encountering an orangutan in her family’s field:

“I wanna return to our field upriver. I haven’t been there for two days, our poor pig. (...) Now, I am feeling scared, if no men are around. So, I need to be more careful, who knows whether an orangutan will come to the field hut.”

The woman’s fear was fuelled by the account of a neighbour, who had been approached by a released orangutan. Though such experiences are rare, the fear of encountering an orangutan is widespread (Campbell-Smith et al. 2010; Schreer 2023). The apes’ elusive and ephemeral, yet also unpredictable presence evokes a scary atmosphere that reworks people’s sense of place and feelings of security. More than showing how animals get implicated in modes of dispossession thanks to conservation, the release of orangutans, whose sociality and behaviour is different to ‘wild’ orangutans (Russon et al. 2016), can entail an enforced, yet unwanted affective intimacy. Whereas local human-orangutan relations were previously marked by a general absence of orangutans (Schreer 2023), the release activities dragged the villagers unwillingly into potentially destructive cross-species encounters with economic and affective consequences. Yet, as common in digital conservation communication (Igoe 2017), uncomfortable stories like these are hardly told to distanced audiences.

These frictions between different orangutan realities are not only challenging for on-the-ground conservation staff, but, at times, can be frustrating for the producers of virtual orangutan worlds themselves. Chris, who was involved in the documentation of orangutan releases for

several years, explained the dilemmas of both the production company and the conservation organisation carrying out the releases. Because of the rehabilitation centre's dependence on government support the documentation becomes a politico-ontological project, where the producers adhere to a rubber-stamped script that leaves little room for complexity and antagonism. "We wanna do really cool stuff, but then you can't. It's all politics," Chris remarked. As a result of these politics of representation, local people's experiences with orangutan conservation efforts such as releases are either portrayed as overly positive or remain absent altogether from spectacular, virtual orangutan worlds. Nature 2.0, we contend, is therefore never neutral, but a political endeavour that blends out parts of a much more complicated reality.

7. Conclusion

Examining how orangutans produce value, our paper has highlighted varied forms of encounter value produced in diverse conservation contexts, with orangutans becoming lively gifts, exclusive commodities and resented beings. For virtual Global North adopters, orangutans' value is realised through strengthened kin connections, interspecies concern and mediated affectual attachments, whereas in Indonesia this value is thwarted by limits to embodied intimacy, or negated by unwanted proximity. These findings trouble the status of orangutans as lively commodities and reveal frictions in the commodification of nature, both through the failure to produce value, as released orangutans cause economic and atmospheric detriment, and through the production of relations of obligation and ongoing connection that reflect gift rather than commodity exchange. Encounter value is thus never fixed or prescribed but contingent, if not, contested. As well as expanding conceptualisations of encounter value and contributing to debates surrounding the commodification and associated digitalization of nature, our research provides pertinent insights for conservation practitioners.

Orangutan conservation organisations running rehabilitation centres heavily depend on digitally-mediated fundraising strategies including virtual adoption, volunteer programs, TV shows, and the support of celebrities and influencers. At the same time, our paper has shown how these organisations struggle to accommodate these forms of orangutan commodification with local ideas of interspecies care, pet-keeping and desires for embodied intimacy that contradict their own conservation ethics, as well as how to integrate the rehabilitated orangutans with the real-life conditions in release areas. However, these complexities usually remain absent from the spectacles of orangutan conservation circulating in the Global North. While this might further the political, economic and informational asymmetries existing within conservation (Brandon 2021), we query whether the successful production of encounter value is contingent on absencing such discomfiting stories. How would supporters in the Global North react to being confronted by these tensions and messy realities? We cannot definitely answer such speculations. However, virtual adopters are already imagining local orangutan worlds, albeit differently to those described in this paper (Fair 2021). And they demonstrate the capacity to pragmatically reckon with the economic realities of conservation fundraising, whilst maintaining strong personal and affectual connections with the targets of their support. Our research evidences the generative potential of digitally mediated human-environmental relations (Turnbull et al. 2023), both through enlivening kin relations and fostering concern for nonhuman others. Consequently, we suggest that there is the potential for conservation organisations to confront supporters with more nuanced stories without detriment to their philanthropic efforts. Reporting more holistically on sensitive issues like release would potentially not only help public and policy actors "to make informed decisions" (Barua 2010: 70) and counter some of the asymmetries existing within conservation, but also dissolve some of the dilemmas that conservation organisations and media producers themselves face. Yet, this requires further interrogation of the politics of representation, and a transcendence of the binary logics

underpinning much existing conservation storytelling, that sometimes represents villagers either as environmental heroes or villains (Chua and Schreer 2024). This would also necessitate complicating representations of orangutans themselves, highlighting them not just as sources of value, but also causes of potential detriment. To attend to the multiple dimensions of human-orangutan relations requires collaboration between conservation organisations, media, and scientists (Barua 2010). Integrating the complexities of on-the-ground wildlife conservation into mediated content, we suggest, would sensitise supporters to the challenges of making conservation work locally and move different worlds of orangutan conservation more closely together.

Authors contribution

Both authors have joint and equal responsibility for conceptualisation, investigation, and writing (original draft and reviewing and editing).

CRediT authorship contribution statement

Hannah Fair: Writing – review & editing, Writing – original draft, Investigation, Conceptualization. **Viola Schreer:** Writing – review & editing, Writing – original draft, Investigation, Conceptualization.

Funding

This work was supported by the H2020 European Research Council [grant number 758494].

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

Many thanks to the two reviewers and the editors for their thoughtful, insightful and constructive comments. We thank our colleagues from the Global Lives of the Orangutan and POKOK projects as well as the participants of the "Value frontiers across locations and landscapes: Anthropological perspectives" conference at the University of Helsinki, where a draft of this paper was presented. Above all, we are indebted to our interlocutors, who shaped and inspired our analysis. Schreer's research has been approved by the Brunel University Research Ethics Committee (Ethics Approval No. 13249-LRNov/2018-15114-2) and the Indonesian Ministry of Research, Technology, and Higher Education (Research Permit No. 5/SIP/FRP/E5/Dit.KI/I/2019). Our research has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation program (grant agreement no. 758494).

Data availability

The data that has been used is confidential.

References

- Albert, C., Luque, G.M., Courchamp, F., 2018. The twenty most charismatic species. *PLoS One* 13 (7), e0199149. <https://doi.org/10.1371/journal.pone.0199149>.
- Ancenaz, M., M. Gumal, A.J. Marshall, et al. (2016). Pongo pygmaeus. The IUCN Red List of Threatened Species, 2016:e.T17975A123809220.
- Ballantine, P.W., Martin, B.A., 2005. Forming parasocial relationships in online communities. *Adv. Consum. Res.* 32, 197.
- Barua, M., 2010. Whose issue? Representations of human-elephant conflict in Indian and international media. *Sci. Commun.* 32 (1), 55–75.
- Barua, M., 2016. Lively commodities and encounter value. *Environ. Plann. D: Space Soc.* 34 (4). <https://doi.org/10.1177/0263775815626420>.

- Barua, M., 2017. Nonhuman labour, encounter value, spectacular accumulation: The geographies of a lively commodity. *Trans. Inst. Br. Geogr.* 42 (2), 274–288.
- Barua, M., 2019. Animating capital: Work, commodities, circulation. *Prog. Hum. Geogr.* 43 (4), 650–669.
- Barua, M., 2020. Affective economies, pandas, and the atmospheric politics of lively capital. *Trans. Inst. Br. Geogr.* 45 (3), 678–692.
- Bear, C., 2011. Being Angelica? Exploring Individual Animal Geographies. *Area* 43 (3), 297–304.
- Brandon, S., 2021. Selling extinction: The social media (tion) of global cheetah conservation. *Geoforum* 127, 189–197.
- Bruckner, H.K., Colombino, A., Ermann, U., 2019. Naturecultures and the affective (dis) entanglements of happy meat. *Agric. Hum. Values* 36, 35–47.
- Büscher, B., 2013. Nature 2.0. *Geoforum* 44, 1–3.
- Büscher, B., 2016. Nature 2.0: Exploring and theorizing the links between new media and nature conservation. *New Media Soc.* 18 (5), 726–743.
- Büscher, B., Fletcher, R., 2015. Accumulation by conservation. *New Political Economy* 20 (2), 273–298.
- Campbell-Smith, G., Simanjorang, H.V.P., Leader-Williams, N., et al., 2010. Local attitudes and perceptions toward crop-raiding by Orangutans (*Pongo abelii*) and other nonhuman primates in Northern Sumatra, Indonesia. *Am. J. Primatol.* 72, 866–876.
- Castree, N., 2003. Commodifying what nature? *Prog. Hum. Geogr.* 27 (3), 273–297.
- Chao, S., 2018. In the shadow of the palm: dispersed ontologies among Marind, West Papua. *Cult. Anthropol.* 33 (4), 621–649.
- Chua, L., 2018a. Too cute to cuddle? “Witnessing publics” and interspecies relations on the social media-scape of orangutan conservation. *Anthropol. Q.* 91 (3), 873–904.
- Chua, L., 2018b. Small acts and personal politics: On helping to save the orangutan via social media. *Anthropol. Today* 34 (3), 7–11.
- Chua, L. (2021). (E)valuations of More-Than-Human Care. *Theorizing the Contemporary, Fieldsights*, January 26. <https://culanth.org/fieldsights/evaluations-of-more-than-human-care>.
- Chua, L., Fair, H., Schreer, V., Stepien, A., Thung, P.H., 2021. Only the orangutans get a life jacket? Uncommoning responsibility in a global conservation nexus. *American Ethnologist* 48 (4), 370–385.
- Chua, L., Schreer, V., 2024. Introduction: Heroes and Villains in the Anthropocene. *Environmental Humanities* 16 (3), 697–708.
- Clough, C., May, C., 2018. Illicit Financial Flows and the Illegal Trade in Great Apes. *Global Financial Integrity*, Washington, DC.
- Collard, R.C., 2020. Animal traffic: Lively capital in the global exotic pet trade. *Duke University Press*.
- Collard, R.C., Dempsey, J., 2013. Life for sale? The politics of lively commodities. *Environ Plan A* 45 (11), 2682–2699.
- Colombino, A., Palladino, P., 2023. Brands Matter: Nature, Economy, and the Gift. In *Designing Nature: Essays on Intellectual Property Law*. Oxford University Press, pp. 176–199.
- Davis, J.T., Mengersen, K., Abram, N., et al., 2013. It’s not just conflict that motivates killing of orangutans. *PLoS One* 8, e75373.
- Darajati, Wahyuningsih, Pratiwi, S. et al. (2016). Indonesian biodiversity strategy and action plan (IBSAP) 2015–2020. Jakarta: The Ministry of the National Development Planning/ BAPPENAS.
- Debord, G., 1967. *The Society of the Spectacle*. Zone Books, New York.
- Elliott, G., 2016. Contesting nature 2.0 or ‘the power of naming’. *Geoforum* 77, 192–195.
- Fair, H., 2021. Feeding Extinction: Navigating the metonyms and misanthropy of palm oil boycotts. *Journal of Political Ecology* 28 (1), 1–17.
- Fair, H., 2024. Labor, violence and the unfamiliar: Animals’ geographies of the more-than-human home. *Progress in Environmental Geography* 3 (4), 332–351.
- Fair, H., McMullen, M., 2023. Toward a Theory of Nonhuman Species-Being. *Environmental Humanities* 15 (2), 195–214.
- Fair, H., Schreer, V., Kiik, L., Keil, P., Rust, N., 2023. Dodo dilemmas: conflicting ethical loyalties in conservation social science research. *Area* 55 (2), 245–253.
- Fletcher, R., 2017. Gaming conservation: Nature 2.0 confronts nature-deficit disorder. *Geoforum* 79, 153–162.
- Gieser, T., 2024. Living with Wolves. Affects, Feelings and Sentiments in Human-Wolf-Coexistence. transcript Verlag, Bielefeld.
- Haraway, D., 2008. *When Species Meet*. University of Minnesota Press.
- Hasjanah, K. (2018). Peduli Orangutan Hingga Ikut Melepasliarkannya, Sophia Latjuba: The Best Moment In My Life. *Tribun Jakarta*, 6/4/2018. <https://jakarta.tribunnews.com/2018/04/06/peduli-orangutan-hingga-ikut-melepasliarkannya-sophia-latjuba-the-best-moment-in-my-life?page=all> (accessed 2/2/2024).
- Igoe, J., 2010. The spectacle of nature in the global economy of appearances: Anthropological engagements with the spectacular mediations of transnational conservation. *Crit. Anthropol.* 30 (4), 375–397.
- Igoe, J., 2017. *The nature of the spectacle: On images, money, and conserving capitalism*. University of Arizona Press.
- Jepson, P., Barua, M., 2015. A theory of flagship species action. *Conserv. Soc.* 13 (1), 95–104.
- Keil, P.G., 2021. Rank atmospheres: The more-than-human scentspace and aesthetic of a pigdogging hunt. *Aust. J. Anthropol.* 32, 96–113.
- Ledgard, J. & E. Meijaard 2021. Endangered Wildlife Should Pay for Its Own Protection. *Project Syndicate*, 2/12/2021. <https://www.project-syndicate.org/commentary/digital-wallets-for-endangered-wild-animals-by-jonathan-ledgard-1-and-erik-meijaard-2021-12> (accessed 12/07/22).
- Lorimer, J., 2007. Nonhuman charisma. *Environ. Plann. D: Soc. Space* 25 (5), 911–932.
- Lorimer, J., Hodgetts, T., Barua, M., 2019. Animals’ atmospheres. *Prog. Hum. Geogr.* 43 (1), 26–45.
- Lunstrum, E., 2017. Feed them to the lions: Conservation violence goes online. *Geoforum* 79, 134–143.
- Mauss, M., 2001. *The Gift: The form and reason for exchange in archaic societies*. Taylor & Francis Group.
- Meijaard, E., Wich, S.A., Acrenaz, M., et al., 2012. Not by science alone: why orangutan conservationists must think outside the box. *Ann. N. Y. Acad. Sci.* 1249, 29–44.
- Nelson, I.L., 2017. Interspecies care and aging in a gorilla 2.0 world. *Geoforum* 79, 144–152.
- Nijman, V., 2017. Orangutan trade, confiscations, and lack of prosecutions in Indonesia. *Am. J. Primatol.* 71 (1). <https://doi.org/10.1002/ajp.22652>.
- Ni’am, L., Koot, S. & Jongerden, J. (2021). Selling captive nature: Lively commodification, elephant encounters, and the production of value in Sumatran ecotourism, Indonesia. *Geoforum*, 127, 162–170. DOI: 10.1016/j.geoforum.2021.10.018.
- Nowak, M.G., P. Rianti, S.A. Wich, et al. (2017). Pongo tapanuliensis. The IUCN Red List of Threatened Species 2017, e.T120588639A120588662.
- Palmer, A., 2020. *Ethical Debates in Orangutan Conservation*. Routledge, London.
- Parreñas, R.J.S., 2012. Producing affect: Transnational volunteerism in a Malaysian orangutan rehabilitation center. *Am. Ethnol.* 39 (4), 673–687.
- Parreñas, J.S., 2018. *Decolonizing extinction: The work of care in orangutan rehabilitation*. Duke University Press.
- Perez, P.L., 2010. Deep-rooted hopes and green entanglements: implementing Indigenous Peoples rights and nature-conservation in the Philippines and Indonesia. *Leiden University, Netherlands*. PhD thesis.
- Reis-Castro, L., 2021. Becoming without: making transgenic mosquitoes and disease control in Brazil. *Environ. Human.* 13 (2), 323–347.
- Rini, A. S. (2018). Orang Utan Adopsi PT Bridgestone Tire Indonesia Siap Kembali ke Habitat Aslinya. *Ekonomi*, 31/8/2018. <https://ekonomi.bisnis.com/read/20180831/99/833782/orang-utan-adopsi-pt-bridgestone-tire-indonesia-siap-kembali-ke-habitat-aslinya> (accessed 2/2/2024).
- Russon, A.E., Smith, J.J., Adams, L., 2016. Managing human-orangutan relationships in rehabilitation. In: Waller, M. (Ed.), *Ethnoprimatology. Developments in Primatology: Progress and Prospects*. Springer, pp. 233–258.
- Sahala, R. (2017). Bhayangkari Polda Kalteng Adopsi Orangutan untuk Kelestarian. *Borneo News*, 13/3/2017. <https://www.borneonews.co.id/berita/55951-bhayangkari-polda-kalteng-adopsi-orangutan-untuk-kelestarian> (accessed 10/1/2024).
- Sandbrook, C., Adams, W., Monteferri, B., 2015. Digital games and biodiversity conservation. *Conserv. Lett.* 8, 118–124.
- Santika, T., et al., 2022. Effectiveness of 20 years of conservation investments in protecting orangutans. *Curr. Biol.* 32 (8), 1754–1763. <https://doi.org/10.1016/j.cub.2022.02.051>.
- Shanti, D. H. (2024). ORICA gandeng Borneo Orangutan Survival lestarian habitat orangutan. *Antara*, 14/03/2024. https://www.antaraneews.com/berita/4008525/orica-gandeng-borneo-orangutan-survival-lestarian-habitat-orangutan?utm_source=antaranews&utm_medium=desktop&utm_campaign=related_news (accessed 4/4/2024).
- Singleton, I., S.A. Wich, M. Nowak, et al. (2017). Pongo abelii. The IUCN Red List of Threatened Species 2017, e.T121097935A115575085.
- Schreer, V., 2023. The Absent Agent: Orangutans, Communities, Conservation in Indonesian Borneo. *Conservation and Society* 21 (1), 17–27.
- Spehar, S.N., Sheil, D., Harrison, T., et al., 2018. Orangutans venture out of the rainforest and into the Anthropocene. *Sci. Adv.* 4 (6), e1701422.
- Tarsisz, E., Tomlinson, S., Harrison, M.E., Morrough-Bernard, H.C., Munn, A.J., 2018. Gardeners of the forest: effects of seed handling and ingestion by orangutans on germination success of peat forest plants. *Biol. J. Linn. Soc.* 123 (1), 125–134.
- Thung, P. 2018. Studying human-orangutan relations without the orangutan? <https://pokokborneo.wordpress.com/2018/11/30/studying-humanorangutan-relations-without-the-orangutan/> (assessed 2/9/2024).
- Thung, P.H., 2023. *Illegal logging and nature conservation in Indonesian Borneo*. Brunel University London. Unpublished PhD Thesis.
- Turnbull, J., Searle, A., Hartman Davies, O., Dodsworth, J., Chasseray-Peraldi, P., von Essen, E., Anderson-Elliott, H., 2023. Digital ecologies: Materialities, encounters, governance. *Prog. Environ. Geogr.* 2 (1–2), 3–32.
- Venter, O., Meijaard, E., Possingham, H., Dennis, R., Sheil, D., Wich, S., Wilson, K., 2009. Carbon payments as a safeguard for threatened tropical mammals. *Conserv. Lett.* 2 (3), 123–129.
- Wadley, R.L., Colfer, C.J.P., Hood, I.G., 1997. Hunting primates and managing forests: the case of Iban Forest farmers in Indonesian Borneo. *Hum. Ecol.* 25 (2), 243–271.
- Wadley, R.L., Colfer, C.J., 2004. Sacred forest, hunting, and conservation in West Kalimantan. *Indonesia Human Ecol.* 32 (3), 313–338.
- Warburton, E., 2023. *Resource Nationalism in Indonesia: Booms, Big Business, and the State*. Cornell University Press, Ithaca.
- Wilkie, R., 2017. Animals as sentient commodities. In: *The Oxford Handbook of Animal Studies*. Oxford University Press, Oxford, pp. 279–301.
- Wirawan, R., Yanuwardhana, D. & Mulkan N. (2019). Istri Kapolri, Wakapolri, & Menkopolkukam adopsi 3 orangutan. *Antara*, 25/07/2019. <https://www.antaraneews.com/video/974872/istri-kapolri-wakapolri-menkopolkukam-adopsi-3-orangutan> (accessed 10/1/2024).
- Yovanda, Nadine Alexandra yang Bangsa Menjadi Duta Orangutan. *Mongabay Indonesia*, 22/10/2016. <https://www.mongabay.co.id/2016/10/22/nadine-alexandra-yang-bangsa-menjadi-duta-orangutan/> (accessed 2/2/2024).
- Zebua, D. J. (2017). Dianggap Keluarga, Serah Terima Bayi Orangutan Diiringi Tangisan. *Kompas*, 02/03/2017 <https://regional.kompas.com/read/2017/03/02/22460011/dianggap.keluarga.serah.terima.bayi.orangutan.diiringi.tangisan#> (accessed 10/1/2024).