

## The Price of Exchange: Carbon Credits and Violence

Capitalism is at odds with the particular. This is an axiom for much of critical thought, though exactly what this entails is often left to the side of the discussion. The process by which a large variety of particular things come to be exchanged in a single market is not trivial, however, and is often obscured. Karl Polanyi, in *The Great Transformation*, notes that “the commodity description of labor, land and money is entirely fictitious. Nevertheless, it is with the help of this fiction that the actual markets for land, labor and money are organized” (Polanyi 1944: 76). Here Polanyi is addressing the vexing fact that land, among other things, is not specifically produced for sale and yet is still somehow sold. This viewpoint suggests that this capacity for exchange, the basis for markets, derives from the very fiction that allows for commensurability between things, the process of abstraction that shaves down the splinters of the particular. Marx, in *Capital*, identifies this commodity fiction as the fetishistic misrecognition of the social character of the commodity—the relationships of the producers to its production—seeing instead its value as based in objective traits rather than an extractive labor process (Marx 1978: 320). ‘Commodity fiction’, then, is used here in two senses: as a particular kind of discursive transformation that allows for radically different things to be exchanged in a market and as the blinding glimmer that obscures the material relations underlying something’s existence as a commodity.

It follows that newly emerging commodity markets are sites at which the initial construction of this double fiction can be glimpsed, its discursive anatomy laid bare. So-called carbon trading is a market that has only emerged substantially in this decade. Carbon-based commodities take two main forms, cap-and-trade allowances and carbon offsets, both of which will be explained in more detail later. Carbon trading is projected

to become “the world’s biggest commodity market” (Kanter 2007), but it has developed in fits and starts, due to inconclusive policies on climate change. (No REDD Papers 2011: 26). One development is a massive program that has been in the works for several years called Reducing Emissions from Deforestation and Degradation in developing countries (REDD), negotiated in successive rounds of the United Nations Framework Convention on Climate Change (UNFCCC). It is designed to incentivize forest conservation by linking it to emissions reduction schemes in carbon markets. In this linkage exists a new commodity fiction, which is to say that enfolded within it is a complex *mélange* of social relations and inequalities, revealing some of the contours of contemporary transregional power structures.

The discursive production of the linkage between standing forests and greenhouse gas emissions involves three interrelated components that enable the transformation of the forests into the basis for a lucrative financial instrument. First, the production of forest carbon as a commodity involves a set of institutions that recognize it as a source of potential value, legitimating its availability for exchange. Arturo Escobar’s discourse analysis in *Encountering Development* will help us theorize the alignment of governments, development fund agencies, conservation NGOs, corporations and financial institutions in this act of recognition. Second, a regime of knowledge production is required that constitutes the commodity as an object with inherent value. In the case of carbon offsets, this involves both economic and ecological knowledge to implement methods that establish the market price. Finally, a set of practices and possibly disciplinary interventions are needed that allow it to be delivered to the market as a quantified thing and permit enough capital investment to accumulate to form the basis of

its liquidity. This ‘primitive accumulation’, as Marx terms it, is a crucial, ongoing process in the abstraction of particular things or places into commensurable items that can be exchanged. As may be evident, the problem of violence, both epistemic and vital, intersects these processes and the commodity form generally. This essay, then, will seek a partial answer to the question of what has to be broken in order to render something abstract.

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Climate change mitigation has increasingly become a common goal of various institutions around the world. In 1992, the UN-sponsored “Earth Summit” met in Rio de Janeiro to discuss, among other things, an international environmental treaty called the United Nations Framework Convention on Climate Change (UNFCCC). The stated objective of this treaty is to “stabilize dangerous greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” (UNFCCC: Article 2). This coalesced into a series of documents and conferences that set out to establish policy agreements under the rubric of shared environmental stewardship. A key feature of the overall plan was the establishment of cap and trade systems to reduce emissions. Under such systems, which are usually national but can assume other geographies (California adopted one in 2012), governing bodies set upper limits (caps) to greenhouse gas emissions. Companies that are responsible for emissions are then issued some quantity of ‘allowances’, which allow the holder to emit some amount of greenhouse gas. At the end of a ‘compliance period’, companies must submit a quantity of allowances equal to the volume of their emissions to the regulatory agency. Any extra allowances can then be traded to other parties whose

emissions exceeded the allowed range (Subprime Carbon 2009: 2). This is theorized to offer the most cost-efficient method of reducing emissions, as it offers a mechanism for incorporating pollution, euphemistically overlooked as an “externality”, into the value chain.

The Kyoto Protocol (KP) of 1997, a UNFCCC initiative to commit developed countries to an emissions reduction regimen, furthered the concept of market-based mitigation by introducing so-called “flexibility mechanisms” in order to help countries reach their KP reduction target. These mechanisms are various sorts of ‘project-based’ options, collectively called Clean Development Mechanisms (CDM), which generate reductions from investment in ‘green’ projects in other countries, an example of a ‘payment for environmental services’ commodity. These investments are rewarded with certified emission reductions (CER), which are the first globally standard emissions offset instruments (KP 2005: Article 12). Each CER is equal to one metric ton of CO<sub>2</sub>, or other gas (KP 2005: Article 17). These offset credits, which are generated outside of government fiat, can then be purchased to enable countries and companies to meet quotas. Furthermore, the KP specified that such offset credits can be traded (KP 2005: Article 17). Offset-based carbon trading is essentially a market of derivatives contracts that promise the delivery of a certain quantity of credits generated from a project, at a certain price and by a certain date. These promises are subject to contingency and, therefore, to risk, making carbon offset markets potentially volatile. This has led to practices of securitizing offset credits, such as the bundling and tranching of credits from 25 different offset projects in 3 different countries, all at various stages of UN approval, by the Zurich-based investment bank Credit Suisse (Subprime Carbon 2009: 2-6).

The projects themselves encompass a variety of ‘environmental services’, for example “a rural electrification project using solar panels or the installation of more energy-efficient boilers” (UNFCCC website: CDM). In 2000, a report was released by the Intergovernmental Panel on Climate Change called “Land Use, Land Use Change and Forests” (LULUCF) that detailed how such offset credits could be generated through the deployment of natural carbon sequestration in the form of ‘carbon sinks’ (LULUCF 2000: 8). However, such forestry projects were considered unworkable under the CDM, due to the difficulty of measuring the offset capacity, even if they were theoretically viable. This remained controversial until 2007, when the UNFCCC reconsidered forestry offsets and adopted REDD (No REDD Papers 2011: 26). This initiative has since been expanded, with cooperation from the World Bank’s Forest Carbon Partnership Facility (FCPF) and the Forest Investment Fund (FIF), into REDD+.

Formally, REDD(+) constitutes an attempt to equate forested land with emission volume, the linkage referred to above. In the UN’s own words, greenhouse gas emissions are “a new commodity” (UNFCCC website: Emissions Trading). More accurately, it is the capacity for these emissions to be sequestered in biomass, or otherwise offset, that is the commodity. The act of recognizing this capacity as valuable was indeed what brought its value into being. A series of performative declarations on the part of international institutions, buttressed through various legitimating discourses, inscribed this perceived value into scientific data, climate mitigation policy and, significantly, into a new financial instrument. This performative milieu is continually mobilized to reinscribe this value by introducing new types of development projects as capable of offsetting emissions, ensuring credibility for already circulating prices and ultimately moving capital. This

chain of recognitions is only legible, of course, against the backdrop of preexisting legitimating discourses and institutions.

Escobar asks “what does it mean to say that [sustainable] development started to function as a discourse, that is, that it created a space in which only certain things could be said and even imagined?” (Escobar 1995:39). For one thing, he notes that development as an apparatus relied on a set of relations among topics of study, institutions and practices, “systematized... to form a whole” (ibid: 40). As new objects are incorporated into this apparatus they are enmeshed into a system of relations that overdetermines their significance, as Escobar holds, yet these new objects just as likely act upon the apparatus, subtly altering the platform from which it is articulated. When the UNFCCC was drafted in 1992, global ecology and environmentalism entered the ‘space’ of development discourse, simultaneously reorganizing according to its imperatives and reformulating the vista of what could be said or imagined. From this initial inclusion, a range of attendant problems were identified, which, in Escobar’s reading, required yet more categorization and study. The UN identified greenhouse gas emissions as a target of intervention and so sought to prescribe treatments deemed viable. But, as Escobar states “other historical discourses influence particular representations of development” (ibid: 43). The prevailing international institutions identify, and therefore legitimate, only certain entities as having agency in global development, entities such as investment banks and multinational corporations. Similarly, the wave of environmental discourse registered and participated in another historical moment of the reframing of development priorities: the liberalized trade, strengthened financial speculation and privatized corporate resource management of neoliberalism. It is within the context of these ‘structural adjustments’

within the development apparatus that the World Bank can, in all seriousness, purport to assist “developing countries in their efforts to reduce emissions... *by providing value to standing forests.*” (FCPF website: Home page; emphasis added).

International institutions are endowed, through their official expertise on global matters, to recognize problems, or, as Escobar might put it, declare them into existence in a contested process of supranational fiat. These problems entail technical solutions, which, in contemporary neoliberal discourse, mean mechanisms that *incentivize* certain actors to implement interventions. This, in turn, requires recognizing a source of value in its proposed solutions to act as incentive. Previously, forested land was primarily recognized by dominant institutions as a resource to be extracted, and so its value took that form. However, with the growing problem of climate change, no longer an externality to global capitalism, these forests were reinscribed so that their value was not in their exploitation but in their conservation. This reinscription, of course, involves the continuing mobilization of knowledge as developing countries are “readied” for REDD+.

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The fundamental fact that enables the existence of a carbon credit is that trees use CO<sub>2</sub> in respiration. This is half of the carbon cycle, which, as a complex transregional process with many nodes, occurs everywhere and is a major component of the global geography of the biosphere. This fact stipulates that the atmosphere is one volume, such that CO<sub>2</sub> emitted in the North can later serve as inputs to biosynthetic processes in trees in the South and eventually become sequestered in various forms of biomass. The aforementioned LULUCF report was a critical document in the production of the carbon cycle as a method of reducing emissions. “Human activities change carbon stocks in

these pools [sinks] and exchanges between them and the atmosphere through land use, land use change and forestry, among other activities” (LULUCF 2000: 3). This situates forest biomes as sites of intervention for climate change mitigation. This is not to say that these claims are not technically true—human activities certainly affect the efficiency of the carbon cycle. Rather, it is to emphasize that ecological knowledge is here deployed to define an exclusive site in which mitigation can occur. While ostensibly designed to garner a net reduction in atmospheric CO<sub>2</sub>, the structure of offsets allows polluters to continue unabated and displaces the imperative to act on providers of ‘environmental services’. This asymmetry recapitulates other global power differentials, as richer, Northern countries emit the most gases and most offset projects break ground in the South.

Furthermore, the UN assumes a very broad definition of ‘forest,’ such that monoculture re/afforestation projects can qualify as offsets (No REDD Papers 2011: 50). This figures forests as merely a quantity of trees, themselves uniform carbon sequestration stocks. This has everything to do with the measurement techniques employed. Due to the immensity of the task of monitoring forest carbon, a variety of techniques (such as direct measurements, statistical models, satellite imaging and soil sampling) are used to supplement each other. “Hence, there are clear trade-offs between an accurate and precise assessment of changes in carbon stocks and cost” (LULUCF 2000: 11). This, of course, introduces a premium on inaccurate measurements in order to maximize the exchange-value of offset credits.

While dubiously reliable, a more subtle intervention takes place in the measurement process. By using such a variety of techniques, each individually providing

only a fraction of the assessment of ‘carbon stock’, the data-gathering process is amenable to a variety of landscapes. The REDD+ Measurement, Reporting and Verification (MRV) manual sets out a standardized set of techniques for the assessment of a region’s carbon stock. It establishes three ‘tiers’ of rigor that can be variously deployed depending on available resources and the type of biomass being assessed (MRV 2013: 36-37). While this flexibility can certainly be viewed as an advantage, it effectively renders diverse ecosystems identical, as varying amounts of carbon stock. A variety of places are imaged to produce a single value—in the double sense here of a single numeral denoting a ratio of area to carbon respiration over time, as well as the basic unit of exchange. This facilitates the transformation of forest carbon into a tradable commodity, as the ability to divide a forest stock into one-ton quantities of carbons is a prerequisite for pricing offset credits.

There is a fetishistic disavowal, in the Marxian sense, intrinsic to such knowledge production. The knowledge systems of indigenous peoples populating the forests, while articulating innumerable cultural differences, probably diverge quite a bit from the knowledge system that figures forest land as a carbon offset. This recalls Escobar’s observation that “ethnocentrism influenced the form development took” (Escobar 1995: 43). In accordance with this, science and technology is “seen as neutral and inevitably beneficial, not as an instrument for the creation of cultural and social orders (Escobar 1995: 36). Recall the World Bank’s FCPF mission statement, dripping with paternalism, that it assists developing countries in their efforts to reduce emissions. The development apparatus is only capable of recognizing its own imperatives, thus biasing the forms of knowledge that underlie evaluations of forests. The object of this knowledge—carbon

stocks—is perceived as objective, when it is in fact the social forms—historical colonialism, the desire of polluters to continue polluting, practices of carbon trading—that produces it. Thus, the carbon cycle is not only recognized as a commodity, but it is constructed as such.

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Carbon stocks have become objects of analysis, mobilizing the creation of value. But these carbon stocks will only realize their value if they can be delivered to the market, in the form of certification. All versions of REDD include language about accepted forms of land use in order for a forest to qualify as an offset. Questions about land are really questions about territory—and those are really questions about sovereignty. REDD projects run the gamut of corruption charges: evictions, fraud, intimidation, coercion and human rights violations (No REDD Papers 2011:19). It has been referred to as “the worst land grab in history” (No REDD Papers 2011: 70).

In Chiapas, Mexico, for example, the government has cut off medical aid to certain tribes in the Lacandon forest, which had been previously displaced in 1978 to establish the Montes Azules Biosphere Reserve. This reserve is being inventoried to bring its carbon storing potential to market, further contesting the tribes’ ambiguous claims to land. The Lacandon tribe, which was ceded 1.5M acres of forest land in 1971 at the expense of the five other local tribes (who were relocated), is being paid 2000 pesos a month per family and trained as “environmental police”, to protect against ‘encroachment’ (No REDD Papers 2011: 73). In the Embobut forest in Kenya, the Forest Service and Administration Police labeled Sengwar people squatters, a designation that has lead to their forcible eviction from ancestral lands, reportedly torching over a

thousand homes in the process (Sengwer 2014). In the Democratic Republic of Congo, Batwa people, who have been evicted, are reportedly being rehired to collect data, as they are “two to three times cheaper” than professionals or remote sensing (No REDD Papers 2011: 65).

In 2002, the Nature Conservancy, a major conservation nonprofit, partnered with Chevron, General Motors and American Electric Power to purchase \$50,000 acres of Atlantic rainforest in the Brazilian state of Paraná to create three reserves, collectively referred to as the Guaraqueçaba Environmental Protection Area (GEPA; Shapiro 2009). The advantage for the companies’ involvement is obvious: the reserves were created by the purchase of rights to the carbon, which offer excellent public relations potential and are lucrative in themselves. Though the region has historically been home to the Guarani people, many of whom depend on the forests for much of their subsistence, signs have subsequently been erected that forbid hunting, fishing or gathering wood in the reserves (Shapiro 2009). A state police force referred to as the “Força Verde” (Green Force) patrol the perimeter and routinely arrest or shoot those who are harvesting small amounts of food or wood. Many Guarani villagers, have migrated to peripheral settlements on the edge of the region’s towns, forming a “poverty belt” (Shapiro 2009). The militarized response, which disproportionately affects local Guarani and rarely prevents poaching or illegal logging (Shapiro 2009), largely stems from the necessary relationship between conservation and property in the REDD mechanism. In order for the land to be protected, it must be treated as private property; in order for private interests to put up the requisite capital, as we’ve seen, tradable value must be established. For this regime to take hold, the distinction between people with ancestral ties to the land making small use of it and

more nefarious speculative schemes must be erased (Shapiro 2009). No one can enter, by threat of force.

These examples serve as metonyms for various forms of dispossession that are common, and in fact necessary, for REDD readiness, eerily mirroring Marx's description of the enclosures in 17<sup>th</sup> century Britain. "Where there are no more independent peasants to get rid of, the 'clearing' of cottages begins" (Marx 1984: 681). What these "individual acts of violence" produced was not simply land for the taking, but "a degraded and almost servile condition of the mass of the people [and] the transformation of them into mercenaries, and their means of labor into capital" (ibid: 674). The enclosure, and all the "conquest, enslavement, robbery [and] murder" (ibid: 668) that it entailed, constituted for Marx the process of primitive accumulation, which cleared the way for the capitalist mode of production. However, these methods of strategic violence are not a thing of the precapitalist past; they serve as the most reliable technique for inscribing the commodity form onto land.

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Carbon credits require a stoichiometry between two things—greenhouse gas emissions and forest biomass—that are quite distinct. More pointedly, it requires an equivalence between a variety of practices that flattens the ethical plane to include both indigenous people and British Petroleum (e.g. Carbon Fund: 5. For the carbon market to be lucrative it has to be indifferent to the particulars of peoples' forest dependence.

This is evidenced in the rhetoric deployed by the UN in its messaging to forest communities. The UN website for the REDD program includes media materials that are available for use within countries that are attempting to build capacity for REDD funding.

These ‘REDD readiness’ campaigns involve establishing the right forest carbon monitoring infrastructure (according to the guidelines of the MRV manual), zoning laws that will juridically protect carbon sinks and the consent of different interested parties with respect to land use. As noted above, this last part very frequently takes the form of forced evictions, militarized policing and land grabs (No REDD Papers 2011: 70). The front end of REDD readiness involves visual media that addresses the problem of consent as well. Included in the media materials on the website are several posters available for printing, to be deployed in local administrative offices in forest territory the world over. One of these posters seemingly addresses an imagined indigenous subject (See Appendix A).

The most prominent image on the poster is a human ear. Above the ear is the word “Listen.” The poster immediately confronts an imagined subject, instructing them to listen. There are several visual cues as to who the subject might be. The skin color is dark, suggesting that the ear belongs to a person of color. No other features are visible except for the ear and some skin. The hair is replaced, through visual editing, with an image of a generic tropical forest, suggesting a bodily continuity between the human being and the forest land. Visually, this recognizes the identity held by many forest-dwelling indigenous communities, as a mode of being that is constituted by and inseparable from the forest. As such, it effectively interpellates the viewer of the poster as indigenous inhabitants of the forest on terms historically set by their own representations, at least nominally.

The actual message being communicated to this subject sits in a paragraph of text at the bottom of the poster (in English). The message starts by appealing to the urgency

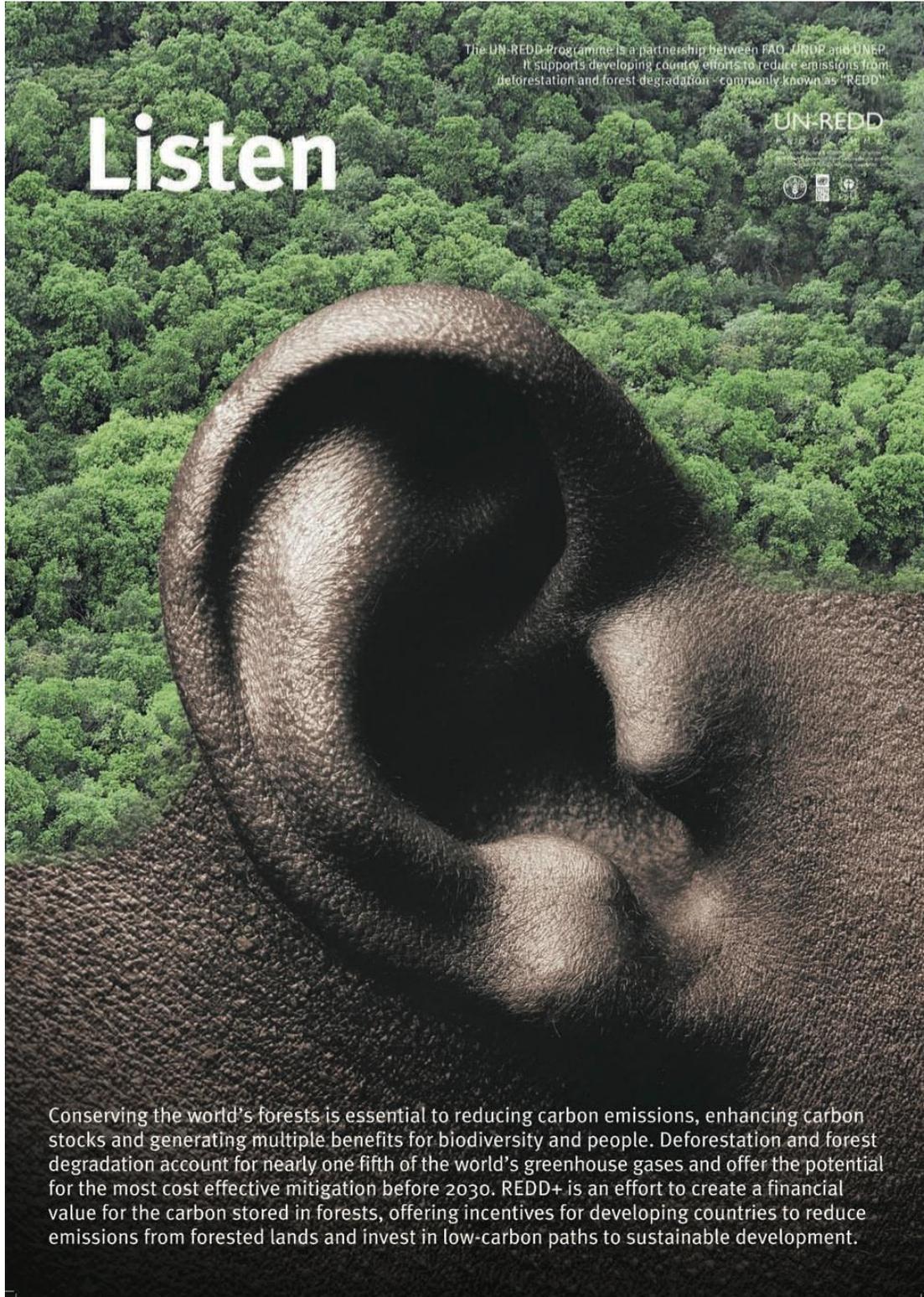
of conserving the “world’s forests” (note the possessive) and “enhancing carbon stocks,” citing that deforestation accounts for one fifth of the “world’s greenhouse gases” (again, note the possessive). This establishes an environmentalist globalism that envisions common responsibility and common resources. The forests belong to the “world,” which opens up the question of their use to parties claiming to represent the world. This gestures at the uncertain but continually established authority of international institutions to weigh in on social matters of an identified “global” scale. At the same time, the greenhouse gases belong to the world as well, which effectively redistributes the responsibility for the gases away from the primary sites of emission, positioning marginal spaces inhabited by politically vulnerable people as the exclusive site of action. It becomes clear why the poster is composed the way it is, opening with the imperative “Listen.” The intention of the poster is didactic, to inform the imagined indigenous audience of the way things are, a given state of the “world” that they must recognize for themselves.

REDD+ is then offered as the mechanism whereby the world’s forests will be protected. It is defined, again, as an “effort to create a financial value for the carbon stored in forests.” This statement is a naked admission of the entire thesis of this essay, that forests are undergoing juridical, discursive and material surgery in order to fit them into the commodity form, in the name of conservation. Significantly, the existence of the poster, oriented as it is towards an imagined indigenous cosmology of belonging, constitutes an attempt to impose the reigning social ontology onto those “outside” of it. The difference in cultural frames here hinges on the problem of value. The poster visually acknowledges the intimate identification that a forest dwelling community might have with their environment, which holds latent a notion of the forest as intrinsically valuable,

as it is not apart from oneself. This is a flattened perception of a variety of forest communities across several continents, but it is a placeholder legible to the UN. The poster's intention, then, is to confront this notion of value, informing one holding it that it is not valid in itself. A specifically "financial" value must be provided to the forests for their continuing existence to be considered. Moreover, this value is something that must be "created."

This poster is ultimately a minor document in the development of the REDD project and transformation of forests into verifiable commodities. However, it articulates an acute tension within the value-creation project. Namely, that value is contested. This ensures that the process of disembedding something like a forest and rematerializing it as a carbon stock, something to be traded upon and profited from, necessarily requires various forms of dispossession in order to resolve the contestation. The commodity fiction may be drafted by the recognition of dominant institutions and partially written by the knowledge that produces a quantified object, but it requires troops on the ground—such as the Força Verde—to ensure that those making alternative claims are listening.

Appendix A:



The UN-REDD Programme is a partnership between FAO, UNDP and UNEP. It supports developing country efforts to reduce emissions from deforestation and forest degradation - commonly known as "REDD".

# Listen

UN-REDD  
PROGRAMME

Conserving the world's forests is essential to reducing carbon emissions, enhancing carbon stocks and generating multiple benefits for biodiversity and people. Deforestation and forest degradation account for nearly one fifth of the world's greenhouse gases and offer the potential for the most cost effective mitigation before 2030. REDD+ is an effort to create a financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development.

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