Shared Social License: Mining and Conservation in the Peruvian Andes

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Abstract: Over the last two decades financial relationships between conservation and extraction have become conspicuously close. Both sectors unabashedly publicized these business deals as a form of greening extraction and marketizing conservation. This essay uses a case study in Perú to propose a tentative theory of how this seemingly incompatible but very profitable union unfolds on the ground. The development of fictitious commodities in nature for each sector is examined and the labor theory of value is combined with the labor of persuasive work to expose a fundamental shared need in both sectors: in Perú's contemporary political and economic context extractive and conservation actors increasingly must persuade landowners—usually indigenous communities—to allow for specific forms of capital to flow through their territory. In some cases this need to secure the "social license" is shared across sectors and the labor to secure the license can be undertaken together.

Resumen: Durante las dos últimas décadas las relaciones financieras entre la conservación y la extracción se han vuelto notablemente estrecha. Ambos sectores descaradamente divulgan sus acuerdos mutuales como una forma de ecologización de extracción y mercantilización de la conservación. Este ensayo utiliza un estudio de caso en Perú para proponer una teoría tentativa de cómo esta unión, aparentemente incompatible pero muy rentable, se revela. El desarrollo de mercancías ficticias en la naturaleza de cada sector se examina y la teoría del valor-trabajo se combina con el labor de persuasión para exponer una necesidad compartida fundamental entre ambos sectores: en el contexto político y económico del Perú contemporáneo, cada vez más actores extractivas y de conservación se necesita persuadir propietarios de tierras—por lo general las comunidades indígenas—para permitir formas específicas de capital fluir a través de su territorio. En algunos casos esta necesidad de asegurar la "licencia social" es compartida en los dos sectores y la mano de obra para obtener la licencia se puede emprender juntos.

Keywords: commodification, fictitious commodities, mining, conservation, Perú

Introduction

According to most public discourse, conservation and mineral extraction are incompatible land use prescriptions (for example McPhee 1971).[1] Mining has a reputation of causing negative environmental impacts which include water contamination, forest destruction, and more recently the physical displacement of large amounts of earth. Extractive activities are also associated with negative social impacts which include inequality, dispossession, migration, slavery, disease, and death. On the other hand mineral production creates power, wealth, and economic productivity for those that control it. Indeed, mineral extraction *is* the ultimate get-rich-quick scheme—in the speculative sense—for everyone involved; investors, politicians, managers, owners, workers, and so on. This tension between socio-ecological destruction justified by the desire for power and wealth is nothing new.[2]

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Public notions of conservation, on the other hand, tend to be related to saving large charismatic mega-fauna, slowing the destruction of (rain) forests, and conserving all-important biodiversity hotspots. Conservation involves the cessation of economic activity in the protected area with the exception of tourism and the work of conservation specialists endowed with expert knowledge about the enclosed ecosystems. The impacts of conservation, both environmental and social, are presumed to be positive. Thus the notion that mining and conservation are incompatible begs our common sense to agree, yet there are initial indications that these activities can align and ally themselves in the name of capitalist development (cf. Chapin 2004). This essay explores the emergent relationship between mining and conservation in Perú and provides some initial insights into how these contradictory resource use prescriptions coexist in shared spaces.

In Perú it is remarkable that the mining and conservation sectors grew with similar trajectories over the course of the last two decades (see Figure 1). While not entirely without conflict, this apparent "peaceful co-existence" and parallel growth somehow transcends our common sense notions of incompatibility; it also provides a natural experiment for observation.[3] As one mid-level bureaucrat in Perú's protected area service (*Servicio Nacional de Áreas Naturales Protegidas*—SERNANP) explains, it is not possible to create a protected area in the Peruvian Andes without mines sharing the space. Several questions arise from this experiment. How will this co-existence between apparent opposites function in environmental, economic, and political terms (cf. Peluso 2012)? How might the commodification of the underground articulate with the commodification of the surface and vice versa? This essay argues that in the world of free prior informed consultation (FPIC) created through the Convention on Indigenous and Tribal Peoples (ILO 1989) and the Declaration on the Rights of Indigenous Peoples (UN 2007), mining and conservation can work together through a convergence of interests based on the shared need to *persuade* people within the same social and geographic spaces to allow for their respective activities to be carried out on private and/or communal lands.[4] To introduce this argument the term "social license" as used in the extractive sector, and its emergence from a violent and coercive past, must first be addressed.

The Social License

The term "social license" has become common parlance in the extractive sector where, after gaining *de jure* rights of access to the natural resource through legal/government channels, companies must then gain the *de facto* rights of access through local communities in order to maintain legitimacy, avoid violent resistance and reduce possible loss of investor buy-in (Bridge 2004a; Damonte 2012; Gunningham et al. 2004; Owen and Kemp 2013; Prno and Scott Slocombe 2012; Thomson and Boutlier 2011). While this process "requires far more than money to truly become a part of the communities in which you operate", the negotiation of the social license can include legal contracts for labor, land, and other forms of compensation to sway a community's decision (Lassonde, quoted in Damonte 2012:2). In a similar manner, national governments partnered with international conservation NGOs can no longer impose protected areas upon unsuspecting

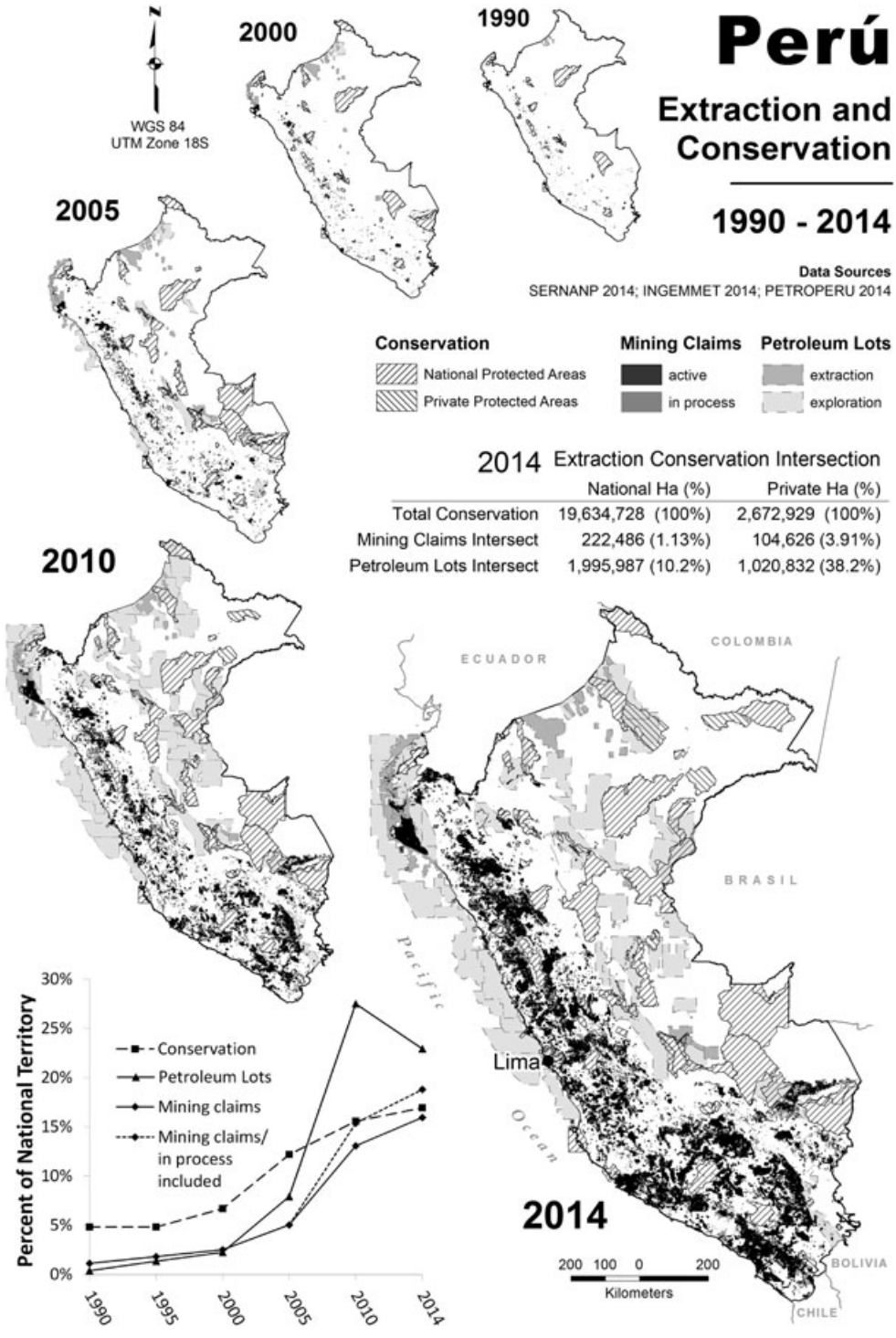

Figure 1: The growth of protected areas and sub-surface mineral claims in Peru from 1990 to 2014[20] (source: author)

indigenous populations. Increasingly conservation efforts use market-based economic incentives to encourage property owners to allow for flows of capital to pass through the landscape (Arsel and Büscher 2012; Fairhead et al. 2012; Igoe et al. 2010). In practice any conservation actor, be it governmental or non-governmental, must gain a similar "social license" where efforts take place on land owned by local communities. Although the activities of mining and conservation clearly remain distinct, the labor of persuasion can be undertaken together.

At the root of any effort to gain access to nature lie the institutions of private property. This effort includes the persuasive work needed to form property rights and to maintain their function as intended (Rose 1994; Rousseau 2011). Until recently both sectors of mining and conservation did not hesitate to use violence as a tool of persuasion or coercion for the formation and defense of property (for respective examples see Dore 1988; Peluso 1993). Historically little direct link was seen between the two activities, but now:

> ... it is precisely the complex alliances of actors around conservation and resource extraction that make the fields of power in which coercion and violence are located so intractable. Indeed *one of the most pressing tasks* is to understand the contours of what is coercively undertaken in the name of conservation and to determine both the complex alliances (and fissures) and the forms of power and hegemony associated with each (Watts 2000:47, emphasis added).

Nevertheless, over the span of the last two decades, the use of force as a coercive tool is becoming less politically legitimate and less economically viable. Distasteful news of violence used to protect foreign investment travels much more quickly than in the past and discourse of corporate social responsibility developed as an effort to maintain investor buy-in. Instead of simply relying on *de jure* rights and the state held monopoly on violence to enforce, both extraction and conservation increasingly require the negotiation of *de facto* rights. Carol Rose observes that "[p]roperty regimes cannot bear very many or very frequent uses of force ... force and violence are the nemesis of property and their frequent use is a signal that a property regime is faltering" (Rose 1994:296, quoted in Blomley 2003:123). This is not to suggest that violent means of acquiring and maintaining access to nature for economic activities are not used anymore, but that in some cases it is not enough.[5]

This negotiation for *de facto* rights represents a subtle change for extractive industries and a more substantial change for conservation. Conservation organizations now use market-based financial incentives coupled to technical environmental assessments and measurements within neoliberal policy contexts as their *modus operandi*. This strategy apparently links scientific knowledge of the environment with monetary valuations of nature in order to finance conservation efforts, yet sometimes fails to uphold ecological principles in the effort (Corson and MacDonald 2012; Fairhead et al. 2012). At the center of this shift, legal instruments based in property provide the foundation for private conservation of biodiversity and the exchange of ecosystem services on the market. As one high-level officer for Conservation International explains, the principal challenge to conservationists is to first find funding for the next year's work, and then to *persuade* the landowner —be it an individual or a community—who *owns* the *conservation resource* to allow

the work to continue.[6] The conservation actor must gain a similar *de facto* permission from the land owner to allow capital to flow through the landscape.

The theoretical framework proposed in this essay articulates how the *de facto* rights to resources on the surface of the landscape are linked with those beneath the ground through the labor needed to persuade landowners grant or restrict rights of access through their property in land. The framework is constructed as follows. First the connection between extraction and conservation is outlined from an economic perspective. This leads to a discussion of how forms of property govern the relationships between conservation and extraction. The central theoretical argument explores how these forms of property come to be as a process of commodification that allows the creation of distinct fictitious commodities in land that are made exchangeable.

Inspiration and evidence for the argument is drawn from nearly 10 years of field work in the Peruvian Andes. The research site provides a natural experiment where extraction, conservation, tourism, and local livelihood activities all co-exist in the same geographical and social space. The essay concludes that the articulations between conservation and extractive activities, as they come into existence and then either persist or fade away, are an aspect of modern conservation that deserves more attention. A better understanding of these relationships can increase social justice related to conservation practice in resource rich zones by preventing unjust conservation enclosures linked to extractive activity.

Extraction and Conservation: Two Sides of the Same Coin

Economists and environmental historians have long recognized a connection between conservation and extraction. The recognition stems from how conservation is defined; conservation for economists is not non-use or wilderness preservation as John Muir would have it, but instead a societal optimum use of some resource over time as Gifford Pinchot professed (Ciriacy-Wantrup 1952). The conservation and extraction of non-renewable resources, such as minerals in the earth's crust, is practiced in parallel in order to maintain the optimum flow of the specific resource to society. In a similar manner, O'Connor's (1988) observation that capitalism produces scarcity can also be used to explain the conservation–extraction nexus. If a non-Malthusian resource scarcity is produced by capitalist social relations, then there is an implicit need to conserve natural resources to maintain any semblance of (short-term?) social and economic stability (see also Mehta 2010; Polanyi 1944).

Furthermore, if we accept that private property is a prerequisite for capitalist social relations, it follows that private property is also a prerequisite for contemporary conservation and extraction. This is no surprise. Locating property institutions as determinants of political, economic and ecological outcomes is nothing new (Nietschmann 1973; North 1991; Ostrom 1990; Wolf 1972). Indeed, Ciriacy-Wantrup's (1971) elegant framework for analyzing environmental policy places social institutions including property as the central tier of his three-level abstraction with constitutional order one level below and behavioral norms one level above (see also Feder and Feeny 1991). Yet, what is important to understand

is not that extraction and conservation need property, but instead how property forms around these distinct activities through similar processes of commodification.

Recent scholarship examines the resurgence of private property prescriptions to solve everything from poverty to environmental crises and draws attention to the role of property formation in the broader process of the commodification of nature (Castree 2003; Prudham 2009). Scholars have investigated the commodification of material resources—both renewable and non-renewable—found in nature such as water (Bakker 2005), trees (Prudham 2003), minerals (Bridge 2000), and ocean fisheries (Mansfield 2004). Other efforts look at the commodification of natural processes—the so-called ecosystem services—found in wetlands (Robertson 2007) and forests as sinks for carbon sequestration (Bumpus and Liverman 2008; McAfee 2012). Still other analyses explore the commodification of biodiversity (Igoe et al. 2010) or of organisms and life itself (Kloppenburg 2004; Prudham 2007). This commodification of material resources, processes, and living diversity all have direct links to conservation practice, yet the articulation of conservation and extraction in this literature is rarely made explicit.

As critical research on mineral extraction demonstrates, the historical appropriation of mineral resources constitute "the chief moments of primitive accumulation" through which modern forms of capitalist production were enabled (Marx 1967:703; Robins 2011; TePaske 2010; see also Brown 2012; Nash 1993; Thorp and Bertram 1978). While the technologies of extraction have advanced in recent times, often the method to gain access to the underground resources remains some form of enclosure or purposeful reconfiguration of rights of access (for example, Bebbington and Bury 2013; Bury 2005). In much of the developing world, this reconfiguration often consists of "erasing" traditional—and often communal—resource tenure regimes and instituting some form of private property. As observers note, this is the *true* tragedy of the commons: the erasure of "traditional" common property resource management through private property prescriptions (Bromley 1991; Ciriacy-Wantrup and Bishop 1975).[7]

In the case of conservation, property rights are essential; rights of access are somehow limited or powers of exclusion are enforced (Hall et al. 2011; Ribot and Peluso 2003). Distinct from extractive activity where strong property rights guarantee a measure of economic success, property institutions are by no means a guarantee that conservation will take place or that local justice will be an outcome (Zerner 2000). Research also shows how non-local objectives, for example the conservation of biodiversity for future medicinal benefits, may or may not align with local development goals (Adams and Hutton 2007; Sundberg 1998; Zerner 2000) and can be perceived as a form of capitalist accumulation as it too is a form of enclosure and facilitates capital flows through the landscape (Igoe et al. 2010; cf. Kelly 2011).

The direct link between conservation and extraction observed by historians and economists is only present in the conservation literature in the form of a polemic. Mac Chapin (2004) correctly shows us that large global conservation organizations such as the Wildlife Conservation Society, the Nature Conservancy, and the World Wildlife Fund all have conspicuously close economic ties to the extractive industries. There is limited theoretical work that explains this apparent complementary connection between conservation and extraction as strategies of capitalist

accumulation and at the same time answer Watts' (2000) call to prioritize this research agenda (although see Bakker 2007). Within the current political context that favors private property prescriptions for the management of natural resources, a theoretical framework to enable an understanding of this articulation remains underdeveloped. This essay attempts to fill this lacuna.

Commodification, n (/kəmɒdɪfɪ'keɪʃən/)

Marx (1967) famously starts his analysis of capitalism with the exposition of the commodity as a "thing" *produced* for exchange with the explicit goal of accumulation for accumulation's sake (Castree 2001; Smith 1984). From a different but equally valid perspective, the process of commodification is understood as the movement into a market exchange of something explicitly not produced by human enterprise. This approach includes what Polanyi (1944:75) considered as the fictitious commodities—land, labor, and money—which are exchanged on the market but are not produced by human labor and instead are measured in some way to make them commensurable. Castree (2001:1522) couples these approaches and suggests a contemporary definition of the commodity as the "foci of diverse modalities of social relationality that are somehow made commensurable during the capitalist phase of their existence" (see also Appadurai 1986).

Commodification is also understood as a sort of continuum that starts with non-commodities, transitions to fictitious commodities, and then the thing becomes a "true" commodity (Dore 1988; Peluso 2012). The process is a multi-step, dynamic, dialectic, social and material means of assigning commensurable exchange value to things where there was none before with the explicit purpose of allowing value to circulate and become capital that reproduces itself in greater and greater quantities (cf. Marx 1967). Within critical geography the mechanisms of privatization and valuation are used to describe how fictitious commodities in nature come into being (Heynen and Robbins 2005).

Privatization and Persuasion

Privatization is generally understood in two modes: first the movement from state or sovereign owned property to individually owned property, and second the movement from collectively owned property to individually owned property.[8] Yet both understandings obviate the original creation of property; the process of enclosure or "primitive accumulation" (Marx 1967; Smith 2005). More recent understandings of the creation of property in land suggest that it is an ongoing process, termed "accumulation by dispossession," and is part of the "spatial fix" that can temporarily resolve tensions between capital's inherent contradictions of production and consumption (de Angelis 2004; Harvey 2006; Perelman 2000). This creation and justification of private property in land, whether historical or contemporary, relies on one of three basic premises: a claim to ownership by labor mixed with the land (see Locke 1823), through a claim of previous ownership (see Smith 2005), or simply by using force (sanctioned or not) (see Marx 1967; Proudhon 1994). This spectrum comprises an important ongoing philosophical debate; the

difference between property as a natural human right (inheritance and labor) vs. property as a dispossession of certain rights of some group or individual by another group or individual (MacPherson 2011; Rose 1998; Schlatter 1951).

Rose (1994) keenly observes that across this spectrum, whether choosing to justify property by force or not, there is necessary effort spent to persuade people that individual rights in property exist (see also Freyfogle 2007; Harvey 1996; Rousseau 2011). This labor is made as an investment to develop the property in question. Indeed, if property in land is understood not as a material thing but instead as a right to a revenue stream generated from the material thing (MacPherson 2011), then the work of persuasion will serve to guarantee a greater revenue stream to the owner. This follows Adam Smith's (2005) labor theory of value; the labor of convincing or persuading others that something is privately owned becomes embedded in the commodity. The labor serves the dual purpose of converting the land into property and adds value to the land itself. Thus, in any analysis of property and value, the labor that is invested in maintaining the institution of private property should be accounted for, particularly when the property takes the form of a fictitious commodity such as a spectacular landscape or mineral rights. It is this understanding of private property—as a right of access to an income stream which can be improved through the labor of persuasion—which can articulate the economies of mining and conservation.

Commodification of the Underground: Mineral Extraction

> ... the ore that I have digged [*sic*] in any place, where I have a right to them in common with others, become my property without the assignation or consent of anybody. (Locke 1823)

At one level the extraction of mineral resources is based on the geophysical attributes of mineral deposits, such as location and grade of the ore, and the technologies available to extract and refine the material. Yet on another level the geography of mineral extraction is determined by political, economic, and institutional contexts (Bridge 2000, 2004b); for example, strong private property institutions that guarantee extractive investments and facilitate access to sub-surface resources. Favorable combinations of material and social constructs create extractive investment "hot spots" (Bridge 2004b). Yet (neo)-liberal policies that favor mining operations are often met with social resistance. People who live in areas of mining development but do not benefit from extraction, often rural agriculturalists with limited financial means, see these institutional constructs as various forms of dispossession (Bebbington 2011; Bury 2005; de Echave et al. 2009; Perreault 2013; Szablowski 2002) or as development in which they would like to be included (Arrellano-Yanguas 2008; Gil 2009). Both the geophysical and social factors which determine the geography of extraction give rise to tensions and contradictions in the accumulation process that limit the sustainability of extractive operations (O'Connor 1988). For example, the ore body becomes depleted or social resistance

becomes too great to continue economically viable extraction. New resource frontiers must constantly be opened in order to resolve these contradictions (Harvey 2006; Redclift 2006; Tsing 2005). Due to this dynamic, extractive investment hotspots move as institutional, cultural and technological contexts shift.

The process to open an extractive frontier can be outlined in five steps: prospecting, exploration, development, extraction (including refining), and finally fashioning an object from the metal.[9] In the modern mining sector there is an additional step that results through the transition from pre-capitalist to capitalist social relations of production: the acquisition of the rights of access to the mineral resource. In Locke's time there was no need for this task and the rights were acquired as some form of a natural right or by force. In the contemporary world the access rights are either purchased and owned outright, gained through the payment of taxes or fees for a concession to extract the mineral resources owned by a sovereign state, or some combination of both means. Before rights acquisition can take place the correct legal framework must exist to first create the access rights and then create a market for their exchange.

The acquisition of access rights is often bundled with prospecting and both of these activities are largely undertaken by mining companies known as "juniors". The juniors develop mineral deposits through geological exploration and legal negotiation to produce a bundle of rights to proven mineral resources which can be sold to mining firms capable of the extractive phase of mining. This division of labor within the sector is in part due to the different capital investment necessary to complete the different steps (technology, machinery, knowledge, financial resources, and so on), and can be understood theoretically as a difference between the development and exchange of fictitious vs. material commodities. While this distinction is an abstraction, it can be useful for understanding these two distinct moments of the commodification process. As fictitious commodities are developed, and as a product of both rising indigenous awareness of territorial rights and the industry strategies of "corporate social responsibility" or the "triple bottom line" (Elkington 1998), the term "social license" has emerged to describe the granting of *de facto* rights of access by local communities to mining operations. Once granted, the social license can remain with the junior, become a traded commodity, or be revoked by the community that "granted" the license.

To illustrate how the sub-surface becomes a fictitious commodity in this manner, the story told by the chief financial officer (CFO) of a junior mining company is instructional.[10] In 2011 the CFO arrived in Perú with US$10 million to invest in mining concessions (*de jure rights*).[11] The employees of the firm consisted of several prospectors, a small legal team, and a few administrative assistants. Using satellite imagery and a GIS overlay analysis the geologists identify places likely to have mineral deposits that were not already claimed. The mining rights are purchased from the Ministry of Energy and Mines and the geologists then go out into the field to recover evidence of mineral deposits. If the prospecting is successful then the CFO visits the title holder—most often an Andean peasant community—and within one hour with a translator, tells them "all they need to know about private property". If this development effort is successful, the community members then sign a consent agreement recorded in the community's *libro de actas* (book of acts),

indicating that mining exploration will be allowed within their territory.[12] With a few mineral samples and this "proof" of social license—a simple photocopy of the agreement in the *libro de actas*—the mining rights are then resold to a firm that is capable of exploration or to another investor eager to make a quick turnaround.[13] The labor necessary to persuade the community to allow access to their lands adds value to the original concession bought from the Peruvian state and thus the access rights become commodities which allow capital to flow through the sub-surface.

Commodification of the Surface: Neoliberal Conservation

The conservation of wilderness has a long history of seeing and understanding nature as the key element of accumulation strategies (Katz 1998; Smith 2007; Zimmerer 2000). Contemporary conservation is driven by the hegemonic imperative to preserve biological diversity in the form of living genetic resources, by tourism and its many forms of generating income, and as a novel way to provide and sell ecosystem services that well managed conservation areas can bring to the market (Fairhead et al. 2012; McAfee 1999). In this context, the creation of protected areas is an act of enclosure, either by the state or an individual, which restricts rights to income streams (local livelihoods) and can be broadly understood as dispossession or primitive accumulation (cf. Brockington and Duffy 2010; Kelly 2011).

This enclosure fuels an ongoing debate over the conservation of what and for whom (Merenlender et al. 2004) which began in the 1980s as tensions between indigenous groups and conservationists peaked. In 1989 the Convention on Indigenous and Tribal Peoples was drafted as a mechanism to protect indigenous rights during the creation of protected areas across the globe (ILO 1989). In countries where the convention has been ratified—in Perú in 1994—the creation of state-managed protected areas now includes a process of informed consultation with peoples who have livelihood interests in any proposed area. The process of free prior informed consultation (FPIC) was reinforced with the United Nations Declaration on the Rights of Indigenous Peoples (UN 2007).[14] As this model of conservation and development gained support globally a set of alternative "new" and "inclusive" conservation models such as community-based conservation, community-based natural resource management, indigenous reserves, and so on were adopted within international development agencies (Blaikie 2005; Brosius et al. 2005; Chapin 2004). These new models were developed in the context of widespread neoliberal reform and were explicitly linked to the reconfiguration of property institutions in many developing countries. In Peru the legal instruments for private conservation were made law in 2001 and are based on constitutional reform that took place in 1993.

At approximately the same time biodiversity became the *raison d'être* for conservation efforts through the Convention on Biological Diversity opened for signature at the Rio Earth Summit in 1992.[15] Global non-governmental organizations such as Conservation International (CI) mapped the globe and identified "biodiversity hotspots" as targets for conservation intervention and investment. Often investments require a team of specialists that includes conservation biologists, population

ecologists, GIS technicians, lawyers, and so on. Successful investment also requires legal instruments which explicitly create private conservation sectors in the economy. This combination of biodiversity-focused conservation in the context of private property based solutions prompted an explicit shift from state-led to private sector conservation. The returns on private sector biodiversity conservation promised to be higher than returns on investments with the state (Sanderson 2002). Through assignation of value to, and exchange of, assets found in nature in the form of "biodiversity conservation, biocarbon sequestration, the protection of ecosystems services, ecotourism or 'offsets' related to any and all of these", conservation is now an explicitly commercial activity (Fairhead et al. 2012:239). This techno-scientific approach is contradictory to the rights-based approach outlined in the ILO 169 and is fraught with power imbalances; how knowledge is defined, created, and used is the sole realm of the scientist and other ways of knowing are obviated (cf. Foucault and Rabinow 1984).

In parallel to these opposed developments, and as an alternative mechanism to finance them, "eco-tourism" was promoted as a means to provide income streams to local producers. It was suggested that tourism could "enhance the value of intact wild lands and thereby promote conservation" (Yu et al. 1997:130). Yet several problems exist with this model: observed uneven income capture by local elites (Auer and Norris 2001; Campbell 1999; Farriss 2007); tourism development objectives are not always aligned with conservation objectives (for example Goodwin 1996); benefits to local communities are too small, dispersed, and are dependent on volatile international markets (Igoe and Brockington 2007); and biodiversity conservation outcomes are hard to measure where the development of eco-tourism is the goal (Kruger 2005). Nevertheless, the development of eco-tourism brought conservation into closer relationships with business interests, and where possible, attempted to bring local and indigenous peoples into market-based economies as a form of development through negotiated "co-existence" (Brockington et al. 2006; Igoe et al. 2010).

Valuation and Persuasion

The commodification of nature through conservation requires specialist assessment and services or a "rendering technical" (Li 2007) in the form of scientific appraisal of the dollar value of an ecosystem (for example Costanza et al. 1998). Monetary valuation of nature has transformed global conservation discourse from one of ecology to one of natural capital (Corson and MacDonald 2012) and the exchange of environmental services or the maintenance of "spectacular" landscapes is now a part of the hegemony of global capitalism (Igoe et al. 2010). *Investment* in conservation is the only way forward. Market mechanisms to conserve biodiversity *are* the solution. Investors now practice "philanthrocapitalism" (Holmes 2012) which can be understood as a potential "fix" for James O'Connor's (1988) second contradiction of capitalism or as part of an integrative solution to financial, environmental, and social crises of capitalism in general (Sklair 2001; Sullivan 2011).[16] This vision of conservation is similar to how Sachs (1992) understood "development" as a process anchored within the market, state, and science. The market–state–science

construct becomes the "financial–scientific–policy nexus" and the process itself is simply called conservation (Fairhead et al. 2012).

Yet within this framework the problem remains of how to persuade landowners—as communities or individuals—to allow these new capital flows to pass through their private property. Where institutional strength is sufficient to uphold and protect property-based solutions, direct financial incentives may function; for example conservation easements, carbon credits, or wildlife derivatives. In the context of weak land tenure institutions and collective ownership of private property, the incentives for rural communities to give up some sticks in their bundle, such as a limited harvest, or to implement conservation plans that need financial resources for the conservation of biodiversity, are not so clear. In identified biodiversity hot spots, conservation and development organizations struggle to gain the trust of landowners—local and/or indigenous communities—in order to "assist" the community in their adoption of these new conservation models. While the term social license is not yet used within the conservation sector, community consent is implicitly necessary to implement such private conservation activities managed by outsiders. Signed agreements between environmental NGOs interested in opening these "conservation frontiers" and local communities who control access to the nature in their territory now exist in Perú.

Negotiating such agreements can be difficult when benefits for local people appear few while benefits for conservation professionals appear abundant, for example if most of the financial resources remain controlled by the conservation professionals. Additionally, this persuasion process is different for state-led and private conservation efforts; who must do the persuading and what restrictions are (or are not) placed on negotiation strategies vary. For example, under the ILO Convention on Indigenous and Tribal Peoples state–community negotiations may be more regulated than NGO–community relations. In both cases sovereignty over land gained through some form of indigenous rights becomes a commodity held by local communities, nevertheless (Brockington et al. 2008). This commodity increases in value in two ways. First through the work necessary to gain the consent from the landowning community and second by the professional assessment of conservation outcomes often expressed as the valuation of nature; both based on the labor of the conservation professional.

Commodification Across Vertical Boundaries: Rethinking Mining and Conservation

In the study site there are four private conservation areas (PCAs) that cover a total of 54,764 ha of which 16,419 ha (30%) have overlapping mining claims (see Figure 1 for a comparison with national trends). At the end of 2011 three of the four PCAs had signed agreements with mining operations and the fourth was in the process of negotiating an agreement. During 2010 and 2011 several conservation agreements were also negotiated and signed between PCA A and PCA B and a national conservation NGO (see Figure 2). The agreements, substantiated by documents in the communities' *libro de actas*, were then "re-packaged" as conservation projects that were funded by CI. The funded work included two reforestation

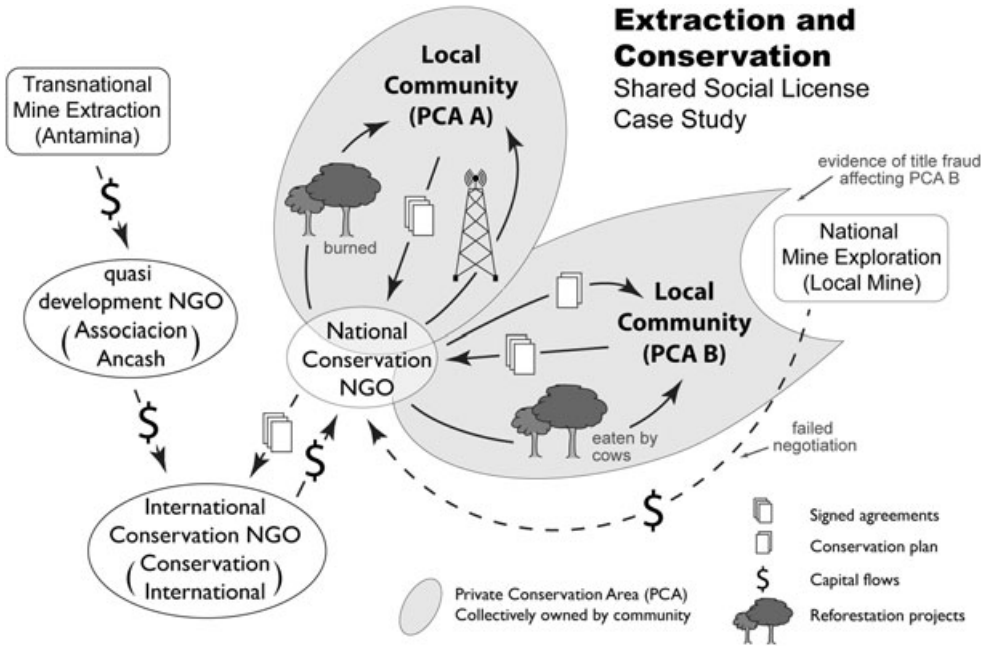

Figure 2: Conceptual diagram for the case study of the shared social license (source: author)

projects and the development of a written conservation plan for PCA B.[17] The financial resources provided by CI came directly from the *Asociación Ancash* (Ancash Association), the public relations arm of the mega mine *Antamina*.[18] The *Asociación Ancash* granted approximately US$1,000,000/year for nearly a decade to sustainable development projects (tourism, cultural valorization, and conservation) and to gain and maintain social license in Antamina's broad area of influence. CI tapped into this resource for several different projects, some of which were in the study area.

Through the reforestation projects the communities' PCAs gained legitimacy in the eyes of the state, who monitors the PCAs, and the eyes of the tourists, who pay entry fees to enjoy the unique and spectacular landscape (for details see Bury and Norris 2013). Members of the communities also benefitted from this transaction: they received many tree saplings and were involved in planting as advisers and laborers.[19] Community members from PCA B were also consulted in the development of their conservation plan. On the other hand, a significant portion of the financial resources went to purchase the saplings, logistical expenses, and compensation for the NGO professionals. To many members of the communities, these benefits were not what they expected and in both cases the social license to practice conservation was withdrawn.

In PCA A the social license for conservation was directly linked to the installation of a cell phone tower paid for by a grant from CI through the *Asociación Ancash*. The community refused to sign the conservation agreement until there was a clause guaranteeing a mine-financed cellphone tower. This agreement functioned well as long as the cell tower was operational, but when the tower failed and there were

no resources for repair, the reforestation project was burned. In this case the relationship between mining and conservation spans distinct geographical places; the mine that provided the financial resources operates in a distinct geographical location from the conservation project. In other cases connections can be observed within closer geographically proximity.

In 2010 and 2011, as a separate set of negotiations, a local national mine and the national conservation NGO "courted" PCA B; they both sought the social license from the community in order to undertake their respective activities (see Figure 2). If the Mine B was granted the social license to move from exploration to extraction then the national conservation NGO would continue the CI financed re-forestation project, now with additional resources from the local mine. The sell to the community was that the collaborative project would help them continue to legitimize their PCA before the state and tourists. The shared work to persuade the community to permit these novel flows of capital through their territory was nearly complete when a fraudulent titling "error" was discovered. It appeared likely that the mine had modified the community's registered title documents to gain access to the exploration site (see Norris 2014a). When community officials were informed of the problem all negotiations with the mine ceased and the current reforestation project financed by CI was eaten by cows. Without this discovery it is highly likely that access to the community's territory would have become a set of fictitious commodities valued by both mining and conservation actors.

Conclusions

In the age of corporate social responsibility both sectors of mining and conservation prefer to secure a social license, as opposed to using force, in order to gain access to, and encourage capital to flow through, nature. The social license for both extraction and conservation can be understood as a fictitious commodity. The interview with the junior mining company executive demonstrates that commodifying the rights of access to the sub-surface is at the forefront of mining development strategies. This is nothing particularly new. The conservation agreements used by NGOs demonstrate that the commodification of access is also taking place on the surface. Previous strategies of dispossession and enclosure for conservation are being replaced by strategies of commodification (see also Hildyard et al. 2001). In places recognized as hotspots of both biodiversity and extractive investment, evidence exists that the effort to gain the "social license" can be shared by conservation and extraction actors. Admittedly the shared efforts to create such fictitious commodities in the examples given are limited, yet the connections that do exist deserve more attention. Indeed, the entire private conservation effort in the study site is an attempt by the communities to commodify the landscape for their benefit, as opposed to the benefit of the Peruvian state, through tourism (Bury and Norris 2013). While our common sense tells us that tourism, conservation and mining cannot exist together, it is time to examine how these activities will exist together, and no longer ask whether they can.

For the communities the social license offers opportunities for greater control over access to their lands; it can also become a mechanism to simply sell out. To

those that practice conservation in resource rich environments, the shared social license can fund important conservation work, yet collaboration may prompt unjust enclosures in the name of both extraction and conservation. It is possible that the case of potential corruption presented in this essay is unusual. On the other hand, future research may show that similar articulations exist elsewhere. Further work is needed to better understand the relationships between conservation and extraction: on private lands held collectively or individually, in conservation efforts led by the state, and on properties owned by extractive enterprises. Can investments to secure social license by both extraction and conservation be quantified and compared? Is there further evidence of collaborative efforts to show how Chapin's (2004) broad observations touch down at small scales? What other forms of shared persuasion exist? Are there instances of collaborative violence and coercion? Shared mercenary forces? What other kinds of agreements exist between conservation organizations and extractive operations? What outcomes stem from such agreements in terms of conservation? In terms of extractive production? In terms of justice? With greater understanding of how these arguably incompatible land use prescriptions come together based on commodified sovereignty of communally owned lands, development outcomes become possible that address concerns of conservation, extraction, and most of all *justice* for those communities who own title to the land.

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Endnotes

[1] Current neoliberal resource management tends to separate economic activities from natural processes (Rose 1994) and thus aligns with our common sense notions of the incompatibility of mining (as an economic process) and conservation (as a quasi-natural process).

[2] This tension can be found in *Gilgamesh*, the oldest known written story (Mitchell 2004).

[3] The term "peaceful co-existence" is common in development circles; it is often a secret code for "demobilize an aroused population" (Hecht and Cockburn 1990).

[4] Most mining and conservation in Perú takes place on land "owned" by indigenous communities ("*nativos*" in the Amazon and "*campesinas*" in the Andes). Ownership is defined as both private *and* communal by the Perúvian constitution (Norris 2014b).

[5] Blomley disagrees. He shows how violence remains an essential ingredient in the creation of property rights, yet he admits that sometimes the violence is legal through what is termed "lawfare" (Comaroff 2001). Also, violence is used to this day to exclude people from conservation areas; for example the use of private militias to keep rhino poachers out of Kruger National Park (Lunstrum 2014).

[6] Based on an informal conversation with the author in 2013. Prior conversations with the director of a national conservation NGO in Perú confirm this statement. This director first

persuades donor organizations to give the NGO financial resources and then persuades local communities to let the resources flow through their territory.

[7] The common interpretation of the "Tragedy of the Commons" is incorrect as framed: what most people understand as the tragedy of the commons is actually the tragedy of open access in which no property rights exist. In a true common property regime rights of access and exclusion exist within a closed user group (Dietz et al. 2003; Ostrom 1990; Rose 1986).

[8] It is the first meaning that is more relevant in Perú where both mineral rights and conservation management are being privatized. There is some privatization in the second sense within small communities. The principal difference between these two modes of privatization is scale, much like the principal difference between state-owned property and common property is one of scale (although not the only difference) (Bromley 1991).

[9] A further step that is largely invisible is the abandonment or closure of the mine site.

[10] What follows is based upon an interview in March 2011 with the CFO of a junior mining company based in Perú.

[11] The CFO described himself as a "victim" of the 2008 financial crisis. He lost his job at Price Waterhouse Coopers and his rich uncle sent him to Perú with the investment money as a means to make a temporary income.

[12] Communities record internal agreements between community members, the constituent assembly, and the presiding community officials in the *Libro de Actas*. These written agreements are the lowest form of law in Perú, just beneath municipal codes and above informal cultural norms. Agreements with external actors are also recorded, but until brought before a judge or notary and formalized, they hold little legal weight.

[13] For evidence of this type of re-selling of mining rights, simply search the Internet for "mines sale Perú".

[14] Note that some understand FPIC as "free prior informed consent". This is technically incorrect, it is "free Prior informed consultation" (with intent to reach consent), but full consent is not necessary and there is no veto power granted to indigenous people (ILO 1989, 2013).

[15] Ratified in Perú in 1993.

[16] Conservation investment can be understood as "guilt" offsets. In order to feel better about destructive practices necessary for the accumulation of capital, investors (or consumers) can reduce their guilt by spending on conservation (Igoe et al. 2010; cf. Stirrat and Henkel 1997).

[17] CI required copies of the written agreements for the grant money to be awarded. The author also used evidence of written agreements with the study communities to lend greater legitimacy to grant proposals for this research.

[18] In their words: "CI-Perú has been working with the Antamina mining company through Asociación Ancash (AA) since 2004 to protect Andean ecosystems in the Conchucos ... " (CI 2012). The document (no longer available online) deviated significantly from ground observations. The girl in the photograph is not from Conchucos (the hat is from Cusco). The two communities on the map are not located in Conchucos. 320 ha of protected forest are cited as a conservation win of which several hectares were clear cut in 2011. The forest needs protection, but does this justify CI's distribution of misinformation to gain financial resources?

[19] Much of the labor was performed as obligatory voluntary community work known as a *faena.* If community members do not participate in the *faena* they face fines.

[20] It would be interesting to compare capital flows for these sectors, but correct investment numbers are hard to find. We can safely estimate that investment in mining is approximately two orders of magnitude greater than that for conservation. For example, in 2007 approximately $20 million was invested in conservation and $2.8 billion for mining (INEI 2013; SERNANP 2009).

References

Adams W M and Hutton J (2007) People, parks and poverty: Political ecology and biodiversity conservation. *Conservation and Society* 5(2):147–183

Appadurai A (1986) Commodities and the politics of value. In A Appadurai (ed) *The Social Life of Things* (pp 3–63). New York: Cambridge University Press

Arrellano-Yanguas J (2008) "A Thoroughly Modern Resource Curse? The New Natural Resource Policy Agenda and the Mining Revival in Peru." Institute of Development Studies Research Summary 300. http://www.ids.ac.uk/idspublication/a-thoroughly-modern-resource-curse-the-new-natural-resource-policy-agenda-and-the-mining-revival-in-peru1 (last accessed 30 August 2016)

Arsel M and Büscher B (2012) Nature™ Inc.: Changes and continuities in neoliberal conservation and market-based environmental policy. *Development and Change* 43(1): 53–78

Auer K and Norris T (2001) "ArrierosAlife" a multi-agent approach simulating the evolution of a social system: Modeling the emergence of social networks with "Ascape". *Journal of Artificial Societies and Social Simulation* 4(1). http://jasss.soc.surrey.ac.uk/4/1/6.html (last accessed 30 August 2016)

Bakker K (2005) Neoliberalizing nature? Market environmentalism in water supply in England and Wales. *Annals of the Association of American Geographers* 95(3):542–565

Bakker K (2007) The "commons" versus the "commodity": Alter-globalization, anti-privatization, and the human right to water in the global South. *Antipode* 39(3):430–455

Bebbington A (ed) (2011) *Mineria, movimientos sociales y respuestas campesinas.* Lima: IEP, CEPES

Bebbington A and Bury J (2013) Political ecologies of the subsoil. In J Bury and A Bebbington (eds) *Subterranean Struggles: New Geographies of Extraction in Latin America* (pp 1–26). Houston: University of Texas Press

Blaikie P (2005) Is small really beautiful? Community-based natural resource management in Malawi and Botswana. *World Development* 34(11):1942–1957

Blomley N (2003) Law, property, and the geography of violence: The frontier, the survey, and the grid. *Annals of the Association of American Geographers* 93(1):121–141

Bridge G (2000) The social regulation of resource access and environmental impact: Production, nature and contradiction in the US copper industry. *Geoforum* 31(2):237–256

Bridge G (2004a) Contested terrain: Mining and the environment. *Annual Review of Environment and Resources* 29:205–259

Bridge G (2004b) Mapping the bonanza: Geographies of mining investment in an era of neoliberal reform. *The Professional Geographer* 56(3):406–421

Brockington D and Duffy R (2010) Capitalism and conservation: The production and reproduction of biodiversity conservation. *Antipode* 42(3):469–484

Brockington D, Duffy R and Igoe J (2008) *Nature Unbound: Conservation, Capitalism, and the Future of Protected Areas.* London: Earthscan

Brockington D, Igoe J and Schmidt-Soltau K (2006) Conservation, human rights, and poverty reduction. *Conservation Biology* 20(1):250–252

Bromley D W (1991) *Environment and Economy.* Cambridge: Blackwell

Brosius J P, Tsing A L and Zerner C (2005) *Communities and Conservation: Histories and Politics of Community-Based Natural Resource Management.* Walnut Creek: Rowman Altamira

Brown K W (2012) *A History of Mining in Latin America.* Albuquerque: University of New Mexico Press

Bumpus A G and Liverman D M (2008) Accumulation by decarbonization and the governance of carbon offsets. *Economic Geography* 84(2):127–155

Bury J (2005) Mining mountains: Neoliberalism, land tenure, livelihoods, and the new Peruvian mining industry in Cajamarca. *Environment and Planning A* 37(2):221–239

Bury J and Norris T (2013) Rocks, rangers and resistance: Mining and conservation frontiers in the Cordillera Huayhuash, Perú. In J Bury and A Bebbington (eds) *Subterranean Struggles: New Geographies of Extractive Industries in Latin America* (pp 91–118). Houston: University of Texas Press

Campbell LM (1999) Ecotourism in rural developing communities. *Annals of Tourism Research* 26(3):534–553

Castree N (2001) Commodity fetishism, geographical imaginations, and imaginative geographies. *Environment and Planning A* 33(9):1519–1525

Castree N (2003) Commodifying what nature? *Progress in Human Geography* 27(3):273–297

Chapin M (2004) A challenge to conservationists. *World Watch* 17(6):17–32

CI (2012) "Conservation Stewards Program: Conchucos, Perú." Conservation International. http://www.conservation.org/publications/Documents/Conchucos_CSP_FS_FINAL.pdf (last accessed 30 August 2016)
Ciriacy-Wantrup S V (1952) *Resource Conservation Economics and Politics.* Berkeley: University of California Press
Ciriacy-Wantrup S V (1971) The economics of environmental policy. *Land Economics* 47(1):36–45
Ciriacy-Wantrup S V and Bishop R C (1975) Common property as a concept in natural resources policy. *Natural Resources Journal* 15(4):713–727
Comaroff J L (2001) Colonialism, culture and the law: A foreword. *Law and Social Inquiry* 26(2):305–314
Corson C and MacDonald K I (2012) Enclosing the global commons: The convention on biological diversity and green grabbing. *Journal of Peasant Studies* 39(2):263–283
Costanza R, d'Arge R, de Groot R, Farber S, Grasso M, Hannon B, Limburg K, Naeem S, O'Neill R V, Paruelo J, Raskin R G, Sutton P and van den Belt M (1998) The value of the world's ecosystem services and natural capital. *Ecological Economics* 25(1):3–15
Damonte G (2012) "From Expropriation to Social License: Accessing Land for Extractive Industries." GRADE / Evidence and Lessons from Latin America Policy Brief. http://ella.practicalaction.org/wp-content/uploads/files/120319_ECO_ExtIndLanUse_BRIEF1_0.pdf (last accessed 30 August 2016)
de Angelis M (2004) Separating the doing and the deed: Capital and the continuous character of enclosures. *Historical Materialism* 12(2):57–87
de Echave J, Hoetmer R and Palacios Panez M (eds) (2009) *Mineria y Territorio en el Perú.* Lima: Programa Democracia y Transformacion Global, CONECAMI, CooperAccion, Universidad San Marcos
Dietz T, Ostrom E and Stern P C (2003) The struggle to govern the commons. *Science* 302(5652):1907–1912
Dore E (1988) *The Peruvian Mining Industry: Growth, Stagnation, and Crisis.* London: Westview Press
Elkington J (1998) Partnerships from cannibals with forks: The triple bottom line of 21st century business. *Environmental Quality Management* 8(1):37–51
Fairhead J, Leach M and Scoones I (2012) Green grabbing: A new appropriation of nature? *Journal of Peasant Studies* 39(2):237–261
Farriss B (2007) *Finding Common Ground: Conservation, Development and Indigenous Livelihoods in the Huascarán Biosphere Reserve, Perú*. Chapel Hill: University of North Carolina
Feder G and Feeny D (1991) Land tenure and property rights: Theory and implications for development policy. *World Bank Economic Review* 5(1):135–153
Foucault M and Rabinow P (1984) *The Foucault Reader.* New York: Pantheon Books
Freyfogle E (2007) *On Private Property: Finding Common Ground on the Ownership of Land.* Boston: Beacon
Gil V (2009) *Aterrizaje Minero.* Lima: Instituto de Estudios Peruanos
Goodwin H (1996) In pursuit of ecotourism. *Biodiversity and Conservation* 5(3):277–291
Gunningham N, Kagan R A and Thornton D (2004) Social license and environmental protection: Why businesses go beyond compliance. *Law and Social Inquiry* 29(2): 307–341
Hall D, Hirsch P and Li T M (2011) *Powers of Exclusion.* Honolulu: University of Hawai'i Press
Harvey D (1996) *Justice, Nature, and the Geography of Difference.* Oxford: Blackwell
Harvey D (2006) *The Limits to Capital* (new edn). New York: Verso
Hecht S and Cockburn A (1990) *The Fate of the Forest: Developers, Destroyers and Defenders of the Amazon.* New York: Harper Perennial
Heynen N and Robbins P (2005) The neoliberalization of nature: Governance, privatization, enclosure and valuation. *Capitalism Nature Socialism* 16(1):5–8
Hildyard N, Hegde P, Wolvekamp P and Reddy S (2001) Pluralism, participation and power: Joint forest management in India. In B Cooke and U Kothari (eds) *Participation: The New Tyranny?* (pp 56–71). London: Zed
Holmes G (2012) Biodiversity for billionaires: Capitalism, conservation and the role of philanthropy in saving/selling nature. *Development and Change* 43(1):185–203

Igoe J and Brockington D (2007) Neoliberal conservation: A brief introduction. *Conservation and Society* 5(4):432–449

Igoe J, Neves K and Brockington D (2010) A spectacular eco-tour around the historic bloc: Theorising the convergence of biodiversity conservation and capitalist expansion. *Antipode* 42(3):486–512

ILO (1989) "C169–Indigenous and Tribal Peoples Convention, 1989." NORMLEX Information System on International Labour Standards, International Labour Organization. http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::p12100_instrument_id:312314 (last accessed 31 August 2016)

ILO (2013) *Understanding the Indigenous and Tribal Peoples Convention, 1989 (No. 169): Handbook For ILO Tripartite Constituents*. Geneva: International Labour Organization

INEI (2013) *Inversion en Mineria, Segun Destino 2007–2012*. Lima: Instituto Nacional de Estadística e Informática

Katz C (1998) Whose nature, whose culture? Private productions of space and the "preservation" of nature. In B Braun and N Castree (eds) *Remaking Reality: Nature at the Millennium* (pp 46–58). London: Routledge

Kelly A B (2011) Conservation practice as primitive accumulation. *Journal of Peasant Studies* 38(4):683–701

Kloppenburg J R (2004) *First the Seed: The Political Economy of Plant Biotechnology, 1492–2000.* Madison: University of Wisconsin Press

Kruger O (2005) The role of ecotourism in conservation: Panacea or Pandora's box? *Biodiversity and Conservation* 14(3):579–600

Li T M (2007) *The Will to Improve: Governmentality, Development, and the Practice of Politics.* Durham: Duke University Press

Locke J (1823 [1689]) *Two Treatises of Government.* London: Thomas Tegg

Lunstrum E (2014) Green militarization: Anti-poaching efforts and the spatial contours of Kruger National Park. *Annals of the Association of American Geographers* 104(4): 816–832

MacPherson C B (ed) (2011 [1978]) *Property: Mainstream and Critical Positions.* Toronto: Toronto University Press

Mansfield, B (2004) Neoliberalism in the oceans: "rationalization," property rights, and the commons question. *Geoforum* 35(3):313–326

Marx K (1967 [1867]) *Capital, Vol. I.* New York: International

McAfee K (1999) Selling nature to save it? Biodiversity and green developmentalism. *Environment and Planning D-Society and Space* 17(2):133–154

McAfee K (2012) The contradictory logic of global ecosystem services markets. *Development and Change* 43(1):105–131

McPhee J (1971) *Encounters with the Archdruid.* New York: Farrar, Straus and Giroux

Mehta L (2010) *The Limits to Scarcity: Contesting the Politics of Allocation.* London: Earthscan

Merenlender A M, Huntsinger L, Guthey G and Fairfax S K (2004) Land trusts and conservation easments: Who is conserving what for whom? *Conservation Biology* 18(1):822–834

Mitchell S (2004) *Gligamesh.* New York: Free Press

Nash J C (1993) *We Eat the Mines and the Mines Eat Us: Dependency and Exploitation in Bolivian Tin Mines.* New York: Columbia University Press

Nietschmann B (1973) *Between Land and Water: The Subsistence Ecology of the Miskito Indians, Eastern Nicaragua.* New York: Seminar Press

Norris T (2014a) Bridging the great divide: State, civil society, and "participatory" conservation mapping in a resource extraction zone. *Applied Geography* 54:262–274

Norris T (2014b) "The New Peruvian Experiment: Private Conservation, Tourism and Mining in the Cordillera Huayhuash." Unpublished PhD thesis, University of California, Santa Cruz

North D (1991) Institutions. *Journal of Economic Perspectives* 5(1):97–112

O'Connor J (1988) Capitalism, nature, socialism: A theoretical introduction. *Capitalism Nature Socialism* 1(1):11–38

Ostrom E (1990) *Governing the Commons: The Evolution of Institutions and Collective Action.* New York: Cambridge University Press

Owen J R and Kemp D (2013) Social licence and mining: A critical perspective. *Resources Policy* 38(1):29–35

Peluso N L (1993) Coercing conservation: The politics of state resource control. *Global Environmental Change–Human and Policy Dimensions* 3(2):199–217
Peluso N L (2012) What's nature got to do with it? A situated historical perspective on socio-natural commodities. *Development and Change* 43(1):79–104
Perelman M (2000) *The Invention of Capitalism: Classical Political Economy and the Secret History of Primitive Accumulation.* Durham: Duke University Press
Perreault T (2013) Dispossession by accumulation? Mining, water, and the nature of enclosure on the Bolivian Altiplano. *Antipode* 45(5):1050–1069
Polanyi K (1944) *The Great Transformation*. Boston: Beacon
Prno J and Scott Slocombe D (2012) Exploring the origins of "social license to operate" in the mining sector: Perspectives from governance and sustainability theories. *Resources Policy* 37(3):346–357
Proudhon P-J (1994 [1840]) *What is Property?* (eds D R Kelley and B G Smith). Cambridge: Cambridge University Press
Prudham S (2003) Taming trees: Capital, science, and nature in Pacific Slope tree improvement. *Annals of the Association of American Geographers* 93(3):636–656
Prudham S (2007) The fictions of autonomous invention: Accumulation by dispossession, commodification, and life patents in Canada. *Antipode* 39(3):406–429
Prudham S (2009) Commodification. In N Castree, D Demeritt, D Liverman and B Rhoads (eds) *A Companion to Environmental Geography* (pp 123–142). Chichester: John Wiley & Sons
Redclift M (2006) *Frontiers: Histories of Civil Society and Nature.* Cambridge: MIT Press
Ribot J C and Peluso N L (2003) A theory of access. *Rural Sociology* 68(2):153–181
Robertson M M (2007) Discovering price in all the wrong places: The work of commodity definition and price under neoliberal environmental policy. *Antipode* 39(3):500–526
Robins N (2011) *Mercury, Mining, and Empire.* Bloomington: Indiana University Press
Rose C M (1986) The comedy of the commons: Custom, commerce, and inherently public property. *The University of Chicago Law Review* 53(3):711–781
Rose C M (1994) *Property and Persuasion.* Boulder: Westview
Rose C M (1998) Canons of property talk, or, Blackstone's anxiety. *The Yale Law Journal* 108(3):601–632
Rousseau J-J (2011 [1755]) Discourse on the origin and foundations of inequality. In C B MacPherson (ed) *Property: Mainstream and Critical Positions* (pp 29–38). Toronto: University of Toronto Press
Sachs W (1992) *The Development Dictionary: A Guide to Knowledge as Power.* London: Zed
Sanderson S E (2002) The future of conservation. *Foreign Affairs* 81(5):162–173
Schlatter R (1951) *Private Property: The History of an Idea*. New Brunswick: Rutgers University Press
SERNANP (2009) *Areas Naturales Protegidas—Plan Director (Estrategia Nacional)—Plan Financiero.* Lima: Servicio Nacional de Áreas Naturales Protegidas por el Estado, Ministerio de Ambiente
Sklair L (2001) *The Transnational Capitalist Class.* Oxford: Blackwell
Smith N (1984) *Uneven Development: Nature, Capital, and the Production of Space*. Oxford: Blackwell
Smith A (2005 [1776]) *An Inquiry Into the Nature and Causes of the Wealth of Nations* (ed J Manis). Hazleton: Penn State Electronic Classics
Smith N (2007) Nature as accumulation strategy. In L Panitch and C Leys (eds) *Socialist Register 2007: Coming to Terms with Nature* (pp 19–41). New York: Monthly Review Press
Stirrat R L and Henkel H (1997) The development gift: The problem of reciprocity in the NGO world. *Annals of the American Academy of Political and Social Science* 554(1): 66–80
Sullivan S (2011) "Banking Nature? The Financialisation of Environmental Conservation." Open Anthropology Cooperative Press Working Paper Series #8. http://eprints.bbk.ac.uk/6063/1/Sullivan-Banking-Nature.pdf (last accessed 1 September 2016)
Sundberg J (1998) NGO landscapes in the Maya Biosphere Reserve, Guatemala. *The Geographical Review* 88(3):388–390
Szablowski D (2002) Mining, displacement, and the World Bank: A case analysis of Compania Minera Antamina's operations in Peru. *Journal of Business Ethics* 39(3):247–273

TePaske J J (2010) *New World of Gold and Silver.* Boston: Brill
Thomson I and Boutlier R G (2011) Social license to operate. In P Darling (ed) *SME Mining Engineering Handbook* (3rd edn) (pp 1779–1796). Washington, DC: Society for Mining, Metallurgy, and Exploration
Thorp R and Bertram G (1978) *Perú, 1890–1977: Growth and Policy in an Open Economy.* New York: Columbia University Press
Tsing A L (2005) *Friction: An Ethnography of Global Connection.* Princeton: Princeton University Press
UN (2007) *Declaration on the Rights of Indigenous Peoples*. New York: United Nations
Watts M J (2000) Contested communities, malignant markets, and gilded governance: Justice, resource extraction, and conservation in the Tropics. In C Zerner (ed) *Plants, People, and Justice: The Politics of Nature Conservation* (pp 21–51). New York: Columbia University Press
Wolf E (1972) Ownership and political ecology. *Anthropological Quarterly* 45(3):201–205
Yu D W, Hendrickson T and Castillo A (1997) Ecotourism and conservation in Amazonian Peru: Short-term and long-term challenges. *Environmental Conservation* 24(2):130–138
Zerner C (ed) (2000) *People, Plants, and Justice: The Politics of Nature Conservation.* New York: Columbia University Press
Zimmerer K (2000) The reworking of conservation geographies: Nonequilibrium landscapes and nature-society hybrids. *Annals of the Association of American Geographers* 90(2): 356–369