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Journal of Law and Political Economy

Title
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Permalink
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Journal
Journal of Law and Political Economy, 6(2)

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Publication Date
2026-10-30

DOI
10.5070/LP6.70015

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Law and Extractivism in the Anthropocene

Abstract: This article examines the historical and contemporary relations between law and extractivism in the Anthropocene. As an organizing concept of our times, extractivism describes the intensive removal of raw materials—largely from the Global South—for processing and consumption in the Global North. Extractivism is entwined with the histories and legacies of colonialism and imperialism and is central to the entrenched operations and politics of contemporary capitalism. It (re)produces a racialized global political economy and attendant climate and ecological crises. Although legal scholars have long been concerned with regulating extractive activities, attention has only recently turned to the notion of extractivism as a logic, ideology, imaginary, or imperative connected with law. This article furthers this engagement by exploring how law authorizes extractivist relations and proposing a research agenda for envisioning and building nonextractive legal and political economic orders.

Keywords: natural resources, authority, geopower, territory, dependency, corporations, sovereignty

I. An Organizing Concept for Our Times

Extractivism has emerged as an "organizing concept" for our times, which draws attention to the root causes of the acute and interconnected crises facing humanity (Birrell, Clark, and Dehm 2024; Chagnon et al. 2022, 760–61; Gudynas 2018). It is a logic, ideology, imaginary, and imperative that demands the intensive transfer of raw materials from the Global South to the Global North for processing, consumption, and wealth accumulation, and is characterized by exploitation, nonreciprocity, depletion, and subjugation (Chagnon et al. 2022, 760). The ideology and practices of extractivism are entwined with the histories and legacies of colonialism and imperialism, as well as with the entrenched operations and politics of contemporary capitalism across time and space. It has (re)produced a racialized global political economy with its relations of dependency, unequal development, and uneven accumulation. Extractivism is also structurally connected to the climate and ecological crises that characterize the Anthropocene, a term that draws attention to how humans have become geological agents as the dominant influence on the climate and environment. Extractivism is

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now the subject of increasing scholarly interest and activist engagement, with many scholars seeing it as grounded in the endemic "(ab)us[e]" of the earth, underscored by the world-making capacity of an extractivist imaginary (Chagnon et al. 2022, 772; Escobar 2017). Its dominant definition, and accompanying scholarly literature, emerge from an understanding of and resistance to "extractivismo" in the Latin American context, with a focus on the intensive extraction of natural resources (Chagnon et al. 2022, 765). Legal scholars have long been concerned with how law regulates extractive activity, and especially with how its benefits and harms are distributed and its impacts ameliorated. However, legal scholars have only just begun to engage with extractivism as a conceptual tool for understanding the world and the role of law in embedding and expanding an extractive logic.

To further this engagement, in this article we explore the connection between law and extractivism and propose a research agenda for envisioning and building nonextractive legal and political economic orders. We do this by focusing on how law authorizes extractivist relations. Part II charts the emergence of extractivism in the humanities and social sciences and its uses for legal scholars, and then explains how a focus on jurisdiction, authorization, and representation can help draw out the connections between extractivism and legal ordering. We then offer an analysis of two sites of legal authorization. Part III examines instantiations of legal authority in mineral and resource rights that enable and are enabled by extractivism, demonstrating how sovereignty and property establish territorial control over the surface and subsurface of the earth. Part IV traces how the wider global extractive political economy generalized this view of mineral and resource rights through law, illustrated in the wider themes of unequal exchange, the corporation, money, technology, development, and workers. Throughout both analyses, we show how the ontological demarcation of life and nonlife underpins an appropriative imaginary of the natural world that gives these authorizations their force, orienting political community and legal relations toward extraction. Part V concludes by returning to the Anthropocene and a research agenda for thinking about what kind of imaginaries, authorizations, and approaches to law are necessary to build a nonextractive legal and political economic order.

II. Extractivism, Law, Authorization

The notion of extractivism emerged in Latin American scholarship and activism focused on resistance to extractive industries, the appropriation of resources for profit, and unequal global movement of materials and profits. The term "extractivismo" was first adopted in the 1970s to describe and resist transnational investment in resource extraction in Latin America (Gudynas 2018, 61). But the term and associated resistive discourses and strategies only gained wider prominence in the late twentieth century, especially in intense interleft debates and struggles over "resource nationalist" or "postextractivist" positions, following the election of progressive governments in this region (Riofrancos 2020b). In 2009, Uruguayan social scientist Eduardo Gudynas (2009) further coined the term "neo-extractivism" to describe the post-neoliberal policies of these governments, which included nationalization and regulation of resource extraction to support social development initiatives, expand social welfare programs, improve education and health care, and reduce economic inequality (Burchardt and Dietz 2014, 469–70; Riofrancos 2017). But for some, neoextractivism remains essentially extractivist, still premised on the same export of raw materials and social costs, again demanding territorial dispossession of Indigenous communities, and continuing to generate social conflict and consequential state and parastate violence (Acosta 2013; Burchardt and Dietz 2014; Svampa 2019, 12).

The history of extractivism as a practice exceeds the history of this concept, and an appreciation of the historical roots of extractivist practices is essential for contemporary understandings of extractivism. The colonial "encounter" between Europeans and the Americas was a major turning point in globalizing extractive relations. Alberto Acosta approaches extractivism as a "mode of accumulation" that achieved a "massive scale 500 years ago" with the "conquest and colonization of the Americas, Africa and Asia." Northern extractivism has been "determined ever since by the demands of the metropolitan centres of nascent capitalism" (2013, 62). Similarly, for Svampa, contemporary extractivism can be "trace[d] back to the conquest and colonization of Latin America, at the dawn of European capitalism" (Svampa 2019, 1). The history of extractivism is entwined with Indigenous dispossession and colonial appropriation, control, and violence, and these legacies continue to shape the contemporary operations of global extractivism (Achiume 2019, para. 22).

Extractive accumulation initially centered on nonrenewable minerals and metals in colonial mines, and spread to fossil fuel extraction in the twentieth century. In the past decade, it has "morphed, travelled, and expanded" radically to cover a range of materials, activities, processes, and industries (Chagnon et al. 2022, 760–61). Extractivism now encompasses large-scale and unsustainable exploitation of renewable resources including timber, fisheries, and agribusiness (Acosta 2013, 62), as well as carbon sequestration and other intangible forms of expropriation and exploitation (Dehm 2021b). Some scholars now use the term "extractivism" to describe the collection of user data on digital platforms ("data extraction"); the predatory operation of stock markets ("financial extraction"); forms of embodied labor in the biomedical economy, such as surrogacy (Vora 2015); cultural appropriation of creative expression, including music, art, fashion, and food (Arewa 2016); and academic practices premised on taking knowledge without recognition or recompense to subjects of study (Wilmsen 2008).

This conceptual expansion and the proliferation of the term have made it difficult to define the parameters of "extractivism" to ensure it remains a useful analytic tool. Gudynas's influential theorization defines extractivism as descriptive of resource appropriation that exceeds conventional scales and intensities, accelerating raw commodity exports (2021). Dayna Scott contends that extractivism should be understood "not as an activity, but a relation" characterized by "non-reciprocity" oriented toward immediacy and premised on benefits for distant capital and localized costs (Scott 2021, 124; Pasternak et al. 2023). Szeman and Wenzel describe extractivism as a logic or imperative, thereby emphasizing the world-building or imagining aspects of extractivist ideologies (2021). These accounts foreground the ambivalence of extractivism as an "ideology and cultural logic," covering colonial looting for metropolitan benefit as well as the sovereign reclamation of resources central to postcolonial social welfare states (ibid. at 506–07). Maristella Svampa conceptualizes extractivism as a "commodity consensus" that supersedes the connection between liberal democracy and financial markets underpinning the Washington Consensus, foregrounding a bipartisan agreement on the "irrevocable or irresistible character of the current extractivist dynamic" (Svampa 2015, 67). Ye et al. define extractivism as a "mode, modality, form or model of accumulation" that includes monopoly control over resources, the entwining of state and private capital, and the generation of inequalities and boom-bust cycles (2020). More broadly, Sandro Mezzadra and Brett Neilson argue that "logistics, finance and extraction" coalesce as the "defining logics" and "frontiers" of contemporary extractivist capitalism (2013; 2017; 2019; Gago and Mezzadra 2017). Others emphasize the destructive and reductive tendencies of extractivism in a "techno-capitalist world system" and the "totalising imperative and tension at the heart of the present catastrophic trajectory" (Dunlap and Jakobsen 2020, 1). Macarena Gómez-Barris offers a reading of "capitalist resource conversion" in her reference to the ideology and technologies of the "extractive zone" (2017). Regardless—or perhaps

because—of this breadth, extractivism is undoubtedly an important "descriptive or analytical term" (Riofrancos 2020a) and, as we stated at the outset, an "organizing concept" of our times (Chagnon et al. 2022, 762). In various theorizations of it, we see the attention to movement and distance, nonreciprocity and unequal relations, and the imperative to accumulate as useful distinguishing features of extractivism. Moreover, we note attention to extractivism not just as a practice, but also as a logic, ideology, and imaginary.

Despite the widespread use of the term and scholarship on extractivism across the humanities and social sciences, legal scholars have only begun to engage with it. Conversely, many interdisciplinary scholars writing on extractivism tend to deal with law and legal concepts in relatively perfunctory ways. While many accounts of extractivism do not explicitly attend to law, its role in entrenching extraction as seemingly inevitable, or conversely in resisting or repelling extractive projects, is pivotal. This is curious because legal scholarship has long been concerned with the practice of extraction, if not yet with extractiv*ism*. Regulation of natural resource extraction at the local, regional, and transnational levels is a major subfield of legal studies, and much of this work is focused on the distributional struggles that follow extraction (Özsu 2024, chap. 3; Dehm 2021a; Schrijver 1997; 2010). Legal scholarship has often operated in a pragmatic register, seeking to foster more effective and (sometimes) equitable governance of natural resource extraction. But it is rare for legal scholars to acknowledge, let alone investigate, the constitutive role of law in enabling extraction in a practical or ideological sense. For example, doctrinal legal scholarship has often focused on mining codes and associated laws, rather than the background legal rules that allocate rights and duties and thereby contour the legal terrain.

Legal scholarship concerned with the extraction of resources has also been fragmented. Although extraction is regulated "by a dizzying array of overlapping and potentially conflicting norms and processes" (Scott 2021, 125), studies often address only one part of this complex governance regime. Studies that focus on mining within a particular country often focus exclusively on the laws of that country, even though in practice the exercise of state sovereignty over natural resources is shaped and constrained by international law (Bothe 2005; Schrijver 1997) and a global and transnational frame would reveal the spatial, fiscal, and contractual dimensions of extractive projects. Within international legal scholarship, resource extraction has not been treated as a "single, monolithic topic" but has been fragmented by resource type or geographical location (Higgins 1995). Consequently, international legal scholarship has commonly focused on specific areas beyond national jurisdiction, such as fisheries in the high seas, the minerals of the deep seabed (Ranganathan 2019), and outer space (Storr 2022, 187), or resources that cross territorial boundaries such as rivers and underground oil or gas reserves (Benvenisti 2002). Other studies have addressed how specific subfields of international law have influenced resource governance in nation-states—for example investment law (Tan and Faúndez 2017; Cotula 2012), human rights law (Gilbert 2018), corporate governance (Simons and Macklin 2014), and the impact of globalization (Blanco and Razzaque 2011). Given the complexity of extractivism, even within a single national jurisdiction or area of law, this fragmentation and partiality is understandable. But it affords a limited view of the constitutive relationship between law and extractivism.

Some scholarship in the law field has begun to examine this relationship, mostly approaching extractivism as an ideology or a mode of accumulation. Some socio-legal scholars have engaged with the discriminatory, exploitative, and violent effects of extraction, especially the racial, ethnic, and gendered harms it produces and the social transformations it effects (Achiume 2019). Other scholars have crafted proposals for how law might moderate or ameliorate the impact and violence of

extractivism through corporate accountability norms (Simons and Macklin 2014), rights protections (Gilbert 2018), or the self-determination of Indigenous peoples (Szablowski 2010). There is a tendency in this reformist work to focus on law as a means of responding to the harms of the extractive economy. In an important critique of the limits of that work, Montoya has described the "multi-scalar legal architecture" that encompasses national constitutional frameworks, legislative and administrative regulations, and international norms that enable and promote foreign direct investment in mining operations that amount to the "legal foundations" for extractivism, and offers critical analysis that contemplates the "refashioning" of this legal architecture (Montoya 2023). This approach is also evident in critical work addressing how law enables, contours, and responds to extractivist dynamics in struggles over extractive projects in a variety of contexts (see Scott 2021; Ranganathan 2019; Storr 2021; Feichtner 2019).

Moving further in this critical direction, we emphasize how laws constitutively enable extractivism and, conversely, how legal regimes and frameworks, including norms, doctrine, and principles, have themselves been shaped by extractive dynamics (see Pahuja 2012, 398). To explore this co-constitutive relationship, we focus on how legal relations are authorized, deploying a "jurisdictional" approach that is attentive to how legal authority is shaped, including through its instantiation and representation. "Jurisdiction," in Dorsett and McVeigh's influential account, both precedes and inaugurates law (2012, 11). Jurisdiction is the power to "speak the law," as well as the "site or space of [that] enunciation" (Rush 1997, 150). It is not a thing but rather a set of activities, crafts, techniques, and practices by which law becomes official (as in an inauguration) in the decisions and powers of human beings who hold office (Dorsett and McVeigh 2012, 16). Given that jurisdiction works to produce legal authority, it has both expressive (Matthews 2017, 436) and performative qualities (McVeigh and Pahuja 2010). Jurisdiction is therefore not an instrument but an activity, the practice and performance of which both grounds and enacts authority (Dorsett and McVeigh 2012; Hasan Khan 2025). A focus on jurisdiction as a technology of law provides a means of attending to the practical ways by which legal authority is crafted and legal relations are created. Law is not reduced to the mere question of its source, but is instead approached through the conduct and practices by which it assumes and exercises authority (Dorsett and McVeigh 2012). Thinking with jurisdiction consequently entails a descriptive "slowing down," in order to "denaturalis[e] conceptual assumptions" that would otherwise deny the materiality and relationality of authority (Hasan Khan 2025).

The relationship between representation and authority is made explicit in the practice of jurisdiction and its technologies, such as mapping and categorization (Dorsett and McVeigh 2012, 63–66, 71–76). Categorization is a "distinct technology of jurisdiction" that marks divisions in the ways of "belonging to the law"—human/nonhuman, person/property, subject/object, sovereign/subject/foreigner, friend/ enemy—and thereby "creates and crafts the forms of lawful relations" (Dorsett and McVeigh 2012, 16; Rush 1997, 150). Jurisdiction also works as a device of representation that distinguishes the author (representative) from the practice of authorization (representation) of law (Dorsett and McVeigh 2012, 11–12). This relationship between authority and representation might be otherwise expressed as "who speaks" and "who listens," where the authority to declare law both precedes law and brings it into being (ibid. at 150). Drawing on jurisdictional thinking and its emphasis on the practices and processes of authorization, in the next sections we examine how extractivism is authorized by law and the practices of authority that enable and perpetuate it. We do not focus on the specifics of the vast matrix of multiscalar laws and regulations governing extraction in the land-use statutes, multinational contracts, local regulatory policies, or criminalization of protest that constitute conventional understandings of the relation between law and extractive practices. Instead, we offer a theorization of the different registers through which law authorizes extractivism. If we understand

extractivism as a "relation" characterized by "non-reciprocity" (Scott 2021), it is also a material relation of authority that is generally not delimited by legal obligations owed to others or the existence of other forms of legal authority. For example, extractivism is not delimited in the exercise of human authority over the more-than-human and the natural world, the exercise of sovereign and private authority over land (and thereby also over other people), or the exercise of forms of private power and economic ordering that produce dependency, inequality, and marginalization.

To consider how law has played a constitutive role in authorizing the appropriation of natural resources—that is, the legal foundations or legal architecture that enables extraction—we must first explore underlying conflicts over "the authority to have authority" (Pasternak 2017, 2). Our focus on authority and "modes of authorization" reveals how a presumed human authority over nature (whether conceptualized as despotic dominium or benevolent stewardship) is authorized and enabled by the epistemological frameworks of modernity that define and categorize nature, and the representations and practices through which it is made visible. Thinking with authority enables a deeper examination of the spatial dimensions of legal authority that ground extractivism (Storr 2022, 187), which are enacted through claims of sovereignty and property, both surface and subterranean. Finally, it foregrounds the forms of private authority that structure the global extractivist economy, and through which neocolonial relations of dependence are maintained. The constitutive relationship between law and extractivism relies on an "extractive imaginary"—that is, the devices and techniques that institutionalize and sustain a diverse range of global capitalist processes, beyond the material extraction of natural resources (Chagnon et al. 2022, 761). This imaginary emerges from the categorization and abstraction of matter in the cultural artifacts that define and regulate material flows. Law is imbricated in these artifacts. They include the enclosure of land and claims to exclusive proprietary rights, the epistemologies, practices, and arts of subterranean extraction and its economies (Part III), and the calibration of extractable matter to human consumption in the exchange values of the global economy (Part IV). These artifacts are defined by a "background ontology," which erroneously posits the (gendered, racialized) human as principal protagonist on the putatively inert stage of nature (Sloterdijk 2015, 334). In what follows, we thread together a discussion of the creation of an extractive imaginary that underpins legal regimes, alongside an analysis of the material legal mechanisms that are premised on this extractive imaginary and actualize it in practice.

III. Authorizing Extractive Appropriation

In this section we explore how property law—specifically resource rights—works to authorize extractive appropriation. We show how such rights instantiate forms of spatial territorial authority at the surface and subsoil levels through a complex interplay of sovereignty and property, which both constitutively enables and is enabled by extractivism. Lawyers and legal scholars are more familiar with questions about the spatialization of authority in areas beyond national jurisdictions, where contestation remains about whether authority lies with the "international community" or with states, companies, or individuals with the capacity to extract and appropriate. Underlying the historical contestation over minerals and rights is the question of how authority is materially constituted: who has authority over the mineral estate, how this authority is enacted, and how it should it be exercised.

To support this material account, we introduce here the first conceptual step in the creation of an "extractive imaginary" (Ranganathan 2019). Producing this imaginary involves the deployment of specific representations, forms of knowledge, and practices of categorization to conceptually transform and represent parts of the natural world as a resource. Resources are not given; rather,

resource-making is a social, political, and legal process (Ferry and Limbert 2008). Law plays a crucial role in institutionalizing this conceptual transformation of nature, by making it legally possible to appropriate resources through the establishment of property rights over them (Pahuja 2012). This conceptual transformation is grounded in dominant (Western) ontological and epistemological commitments—specifically, the Cartesian distinctions between human and nonhuman, subject and object, lively and inert—which operate as jurisdictional technologies of categorization. The transformation of nature into a resource is premised on its prior fragmentation, as life and nonlife (Povinelli 2016, 5; Yusoff 2024, 4). This effects a "profound political manoeuvre," by which "mere matter" is rendered "extractable, exploitable" (Bobbette 2023, 3). Extractive practices require the categorization of matter as extractable, alongside the mapping of subterranean territory for the control and quantification of vertical space (Elden 2013a; Braun 2000; Bridge 2013; Morel 2022). Other legal concepts, including sovereignty, territory, subjectivity, property, and rights, can also be understood as technologies of jurisdiction that authorize and entrench these binary distinctions, thereby perpetuating the material flows of extractivist economies. This process involves specific representations of matter and space as extractable, which underpin the authority to extract (Craven 2019; Ranganathan 2019).

This extractive imaginary shapes legal regimes that authorize extractive appropriation by establishing forms and modes of spatial authority over the areas in which the resources are located. The first foundational connection is between law, earth, and territory. Extractivism is premised upon and compels a specific "spatial expression of legal authority" (Storr 2022, 187); that is, the territorialization of authority. The etymology of the term "territory" is derived from the Latin *terra*, meaning "land" or "earth," and the suffix *torium*, meaning "belonging to or surrounding" (Dorsett and McVeigh 2012, 39). Territory has been further defined as a "unit of contiguous space that is used, organized and managed by a social group, individual person or institution to restrict or control spatial access to people and place" (Blomley 2022, 2). While territory is often treated as self-evident, it is in fact "socially produced and productive of social relations" (ibid. at xiii). Stuart Elden describes it as a "particular and historically limited set of practices and ideas about the relation between place and power," such that it is "a bundle of political technologies" for measuring land and controlling terrain (2013b, 7, 322). The conjoining of territory and sovereignty is relatively recent, coalescing in the bounded territoriality and jurisdiction of the modern state (Ford 1999). Nicholas Blomley foregrounds the relation between property and territory, which heightened the exclusive rights attributed to "bounded space" (2022, xiv). While territoriality has emerged as a dominant modern jurisdictional form, other nonterritorial modes of jurisdiction persist (Orford 2008), as well as nonterritorial relations of "community, authority and place" (Storr 2022, 187).

While the relationship between territory, property, and authority with regard to land has been well explored by legal scholars, this nexus has been underexplored in relation to subterranean resources. Efforts to define and "master" nature, as a subject of knowledge, are integral to the establishment of legal authority over subterranean resources. These efforts are well captured in the Renaissance "theatres of machines," which explicitly represented the story of mining as epistemological, as well as material (Morel 2022, 1–3). Understood as "a crucible of modern rationality," the history of mining in this period is punctuated by the convergence of science and craft in a "vernacular conception of nature," underscored by an early commitment to mathematical methods in the practical arts of extraction (ibid. at 7). Morel's historical account of "underground mathematics" traces the critical confluence of cartography, mathematics, economics, politics, religion, and law in the silver mines of early modern Europe (6–8). The emergence of practical and artisanal tools for surveying and mapping the underground, and the Euclidean geometry with which to comprehend it, heralded new relations with the natural world. These tools and emergent relations were fortified by legal and religious

recognition and representation, the precision of geometry offering both technical accuracy and a modicum of human safety in a context with little margin for error. Moreover, the rationality of mathematics was conflated with the rationality of divine providence, such that geometry informed both spirituality and pragmatism, and underpinned law and practices of statehood (16–19).

The "culture of geometry" that pervaded sixteenth-century European mining cities, and its practical crafts, also foregrounded the role of "quantification"—of metal and money—in the development of early modern thought (Morel 2022, 4–9; Geltner 2022, 4). Concept and matter coalesced in the obscure discipline of subterranean geometry, *geometria subterranea*, which arguably influenced modern understandings of nature through the confluence of everyday practicality, science, and bureaucracy (Morel 2022; 2024; Weber 1927; Mumford 2010). The disciplinary understanding and associated practice were central to law, which is retrospectively directed toward a reconciliation of the "bureaucratic fictions" of (underground) jurisdiction and property, and the "material realities" of geologic sediment and labor (Geltner 2022, 6, 12). The jurisdiction of the underground—wielded through the extractive imaginary that united providence, pragmatism, and property—is an important conceptual anchor for our examination of the relationship between authority and extraction. The subterranean geometry that historically grounded extractive relations deeply informs understandings of the co-constitutive relationship between territorialization of authority and practices of extraction.

Whereas the legal concept of territory is premised upon the severance and hierarchical relation between human and "environment" (Storr 2022, 188), extractivism is also a product of and an impetus for territorialization. Legal authority over terrain, both surface and subterranean, is a necessary precondition for extraction. Moreover, the expansion of extractive practices has prompted ongoing struggles over who should have legal authority over the underground, and how this should be exercised. Understanding extractivism and territorialization of authority as coproduced is methodologically productive, drawing attention to the "recursive character" of "resource making" and the making of territorial forms of legal authority, enacted through sovereignty and property: It is through claiming authority over natural resources that territorial authority is established, and nature is made into a "resource" through processes of territorialization (Bridge 2014). Accordingly, sovereignty is not presumed; rather, following Pahuja, we foreground how "authority requires actualization in material form," including the material actualization of the state (2013b, 70–71). We build on the work of resource geographers, who highlight the "co-production of resources and state power" (Bridge 2014) and describe natural resources sovereignty "as the product of, rather than the precursor to, natural resource governance processes" (McCreary and Lamb 2022, 135). Similarly, Christian Lund identifies the "interconnectedness of authority and rights," to the extent that property rights, including mineral rights, are constitutive of state power, which is "always in the making" (2017, 1, emphasis altered). Furthermore, the recognition of rights or property claims itself constitutes authority, working "to authorize the authorizers" while weakening rival claims (Sikor and Lund 2010, 1).

Attending to questions of authority and authorization directs our focus to the underlying question of who has the authority to assert jurisdiction and control over subterranean resources and then subsequently grant and reallocate resource rights. Historically, there has been a complex relationship between sovereign and private property holders of ground and underground resources. Jeremy Walker and Matthew Johnson have proposed the term "mineral sovereignty" with which to revise "standard accounts of political power in geological terms" (2018, 58). Revisiting Schmitt's (in)famous conclusion, they argue that "[s]overeign is he who decides the state of extraction: who decides the access rights, labor conditions, and revenue obligations of the mining concessions, and responsibility for the downstream pollution flows" (Walker and Johnson 2018, 58; Schmitt 1922, 5). This formulation

rehearses Schmitt's assertion that "land appropriation [is] the primeval act of founding law," questioning "sovereign claims to the sub-soil" as well as "the geopolitical powers of extractive capital" (Walker and Johnson 2018, 59, emphasis altered). Nonetheless, this terminology risks obscuring the fact that geological power, or authority over natural resources, is enacted through both sovereignty and property. The diverse regimes of extractivist appropriation are underpinned by the tension and relation between public and private dominion: sovereignty and property. Paraphrasing Koskenniemi, extractivism is authorized "neither [by] the power of sovereignty nor of property but always a particular, locally specific combination of the two" (2021, 959). Indeed, in many cases there is a complex triangulation between the holder of property rights in the soil, the holder of mineral rights in the subsoil, and the sovereign. Consequently, conflict frequently arises between the competing interests of mineral and property rights holders—that is, the holders of rights in land and subsoil, or between these rights holders and the sovereign.

This tension is central to the development of legal rights to mining, its profits, and hence the origins of law and extractivism. In his *General Economic History*, Max Weber identifies two competing answers to the question of who has the legal right to authorize mining: first, that "the right to quarry is treated as *pars fundi*, the owners of the surface being also the owners of what lies beneath it"; or, alternatively, that "all hidden treasures" are treated as "regalia," such that mining requires the authority of the political ruler (1927, 140). Adopting a longer historical perspective, the right to quarry as *pars fundi* appears in a thirteenth-century maxim, commonly translated as the attribution of proprietary control to land from the air above to the soil below, from the "heavens" to "hell" (Grey 1991, 252). Scholars suggest this principle emanated from Roman or Jewish law and was first endorsed in English common law in the 1586 case *Bury v. Pope*, 78 Eng. Rep. 375 (1586) (Bradbrook 1987, 462). It was further endorsed by Lord Coke in 1628 (Wright 1970) and reiterated in *Blackstone's Commentaries*, as authority for the proposition that "land" includes "not only the face of the earth, but every thing under it, or over it" (Blackstone 1765a). The alternative treatment of subsoil "treasures" as "regalia," or *ius regale*, means that only "the political ruler, that is the judicial lord, a royal vessel or the king himself, disposes of them and no one, not even the holder of the land himself, can carry on mining without a concession from the political authority" (Weber 1927, 140; Geltner 2022, 3). While the origin of the principle of sovereign control over mineral resources remains unclear, the scholarship suggests that *ius regale* was first claimed during the twelfth-century revival of Roman law, "as an attribute of imperial sovereignty" (Nef 1964, 16; Mather 2017, 6). Assertion of *ius regale* was not unopposed, however, and the extent to which these rights could be claimed and enforced varied with the degree of political authority asserted by emperors and other territorial princes and lords. The scope of political authority over the subsoil was also contested: *ius regale* applied only to "precious metals"—gold and silver—while other mineral resources, such as iron or coal, were considered the property of the landlord. The consolidation of political authority over the subsoil in the Medieval period was enabled by the close connections between extractive activity and two other sovereign prerogatives: the power of coinage and the power to determine the uses of mined metals—as legal tender, adornment, and armament (Lacy 1995, 13). For Lewis Mumford, the mining industry "furnished the sinews of war" and "the original capital hoard, the war-chest," while simultaneously furthering the industrialization and financialization of arms (Mumford 2010, 76).

Within English common law, this royal prerogative over mineral resources arguably emerged from the Crown's right to coinage (Blackstone 1765b, 266–67), dated by some to Roman times (Bainbridge 1841, 55). Consequently, only gold and silver mines were considered "properly royal"—that is, the property of and authorized by the King (Blackstone 1765b). The prerogative was tested in the 1568 *Case of the Mines*, *R v. Earl of Northumberland* (1568) 1 Plowd. 310, 75 Eng. Rep. 472, in which a suit was

brought in the name of the monarch, claiming a right to copper ore mined on the Earl of Northumberland's freehold property on the grounds that precious and base metals were commingled. The court asserted the royal prerogative over gold and silver, connecting the power of coinage and the financing of defense. More controversially, it held that "where gold or silver is mixed with a base metal, the King shall have the whole ore or mine." *Case of the Mines*, 1 Plowd. at 324). This ruling was understood to augment the royal prerogative to the extent that it "infringed upon the subject's 'liberties' under common law," particularly given that the ore was in practice seized not by the Queen but by a German mining firm, which was subsequently granted a monopoly on copper mining by letters patent (Sale 2008, 138; Ash 2001). This precedent helped to generate a monopoly between the Society of Mines Royal and the Company of Mineral and Battery Works, as well as suspicion that valuable mines may be concealed (Bainbridge 1841, 60). The controversial judgment was subsequently repealed by the Royal Mines Act 1688 and further reforms in 1693 sought to "prevent the discourageing" of mining for copper, tin, and lead (Preamble to Royal Mines Act, cited in *Cadia Holdings Pty Ltd v. New South Wales* (2010) 242 CLR 195, [58] (Austl.)).

Subsequently, some legislative provisions were enacted to constrain and limit the royal prerogative over minerals, as part of broader political moves to constrain the scope of the royal prerogative, especially with reference to the liberties and properties of the subject. Nonetheless, the *Case of the Mines* continued to be cited in common law jurisdictions as authority for the royal prerogative over gold and silver. For example, it was relied upon by the Privy Council in *Woolley v. Attorney-General of Victoria* (1877) 2 App Cas 163 (Austl.), to find that the "prerogative right of the Crown to gold and silver found in mines will not pass under a grant of land from the Crown" unless a contrary intention is stated in "apt and precise words" in the Colony of Victoria. *Woolley* 2 App Cas at 166. Within the Australian colonies, this royal prerogative was transferred to the Colonial Legislature through imperial statutes, which after federation were exercisable by the executives of the states.[1] The prerogative extended only over precious metals, and the common law granted private ownership of minerals and petroleum to the private landowners. Nonetheless, from the late nineteenth century onward, New South Wales, followed by the other states, enacted legislation to vest ownership of minerals in the Crown (Hepburn 2023, 7–8).

This prerogative and its Roman law origins were also evident in Spanish law governing mining in the American colonies. The Spanish "discovery" of silver in Potosí, Jason Moore asserts, was "amongst the signal events in modern world history" (2010, 58). While the Indies were the property of the Crown of Castile and land was gifted to loyal subjects, the subsoil was considered the "royal patrimony" (Aiton 1924, 105). The first mining laws derived from a series of sixteenth-century royal orders made by Charles V and Phillip II, which reinforced the significance of and legislative support for "New World" mines (ibid. at 107). By 1550, a mine-registration regime was legislated, evidence of government ambition to "have in its possession detailed information concerning every mine and mine-owner within its jurisdiction" (112). In 1624, the Council of the Indies initiated a systematization project which, in part, replicated or closely paraphrased Justinian's Institutes (112). The revised laws treated minerals as a part of the royal patrimony, but allowed the acquisition and exploitation of minerals upon discovery. The 1783 Mining Ordinances for New Spain were similar to the vice-regal code of 1500 (112) insofar as they too considered minerals to be part of the royal patrimony, but allowed minerals to be subject to acquisition and exploitation upon discovery. However, these

[1] New South Wales Constitution Act 1855 (Imp) and New Constitutional Act 1853 (NSW) (discussed in *Cadia Holdings Ltd v. New South Wales*).

ordinances required the payment of a royal quint or tenth (Baade 1992), reserving one-fifth of the value of all minerals produced for the Spanish crown (Hein and Cecot 2017, 8).

English royal charters granted to companies for colonial expropriation often also included a grant of rights to the subsoil. In the 1629 Charter of Massachusetts Bay, Charles I incorporated the joint-stock company for the colonialization of New England and granted them "Mynes, and Myneralls, as well Royall Mynes of Gould and Silver, as other Mynes and Myneralls, precious Stones, Quarries, and all and singular other Commodities" (Charter of Massachusetts Bay 1629). In the Charters of Massachusetts, Rhode Island, Connecticut, Pennsylvania, Maryland, and Virginia, the British Crown claimed one-fifth of all gold and silver as rent for the Crown, and this was continued by the United States government after the Revolution (Hein and Cecot 2017, 8). Similarly, in Southern Africa in 1889, the Charter granted rights to the British South Africa Company of Cecil Rhodes, who the previous year had founded De Beers Consolidated Mines, to "carry on mining and other industries, and to make concessions of mining forestal or other rights" (Charter of the British South Africa Company 1889), allowing the company to amass considerable wealth through the "diamond rush" in the Kimberly region and the gold fields in Witwatersrand. By the late nineteenth century, the state's claim to subsoil minerals was generally recognized in international law, as well as the municipal law of many jurisdictions. In most parts of the British empire, minerals belonged to the state (Holland 1938). Ownership of minerals was "unreservedly vested in the Crown" in East Africa, Uganda, Nigeria, Malaya, Trinidad, Tobago, and British Honduras, and while Lugard noted the situation was not as clear in other colonies, he wrote that "apparently ownership of minerals is claimed by Government in all controlled lands" (Lugard 1922, 347–48). Other colonial powers did likewise: France claimed ownership of minerals in its African colonies and the United States in the Philippines (ibid. at 348).

In the west of the United States, territorial control over the subsoil was arguably enacted more through property than sovereignty. Following the treaty of peace between Mexico and California in 1848, the military governor of California, Colonel Mason, abolished the "Mexican laws and customs now prevailing in California, relative to the denouncement [i.e., making a formal claim] of mines." Thus, when gold was discovered, there was a "legal vacuum" (Lacy 1995, 13). While elsewhere in the United States, minerals under public land were the property of the state, the lack of legislation in the new state of California prompted "the creation of a new mining system, which disregarded this paramount title" (Hughes 1901, 232). A system of regulation emerged, described as the "miners' common law," which was based on the usage and customs of the miners and premised on the notion that minerals discovered in the public domain were subject to "private acquisition" (ibid. at 236–37). Accordingly, the territorialization of the subsoil was enabled through private rather than public rights. As different natural resources assumed greater strategic and monetary value in response to changing technological and economic conditions, this precipitated claims of sovereign authority over them. For example, while the royal prerogative traditionally extended only to gold and silver, sovereign authority was extended over coal, gas, and oil as fossil fuels became central to capitalism (Malm 2016).

In India, during the coal mining boom of the 1890s, the legal codification of ownership of the subsoil wealth was "recursively assembled within Indian civil courts during and after the commodity boom," eventually confirming the right of the large landholding class (*zamindaris*) to subterranean property (Shutzer 2021, 405). World War I and the perception that the Allies "floated to victory on a wave of oil" consolidated the strategic importance of oil for naval and military strength, which was perceived to be "as necessary as blood in the battles of tomorrow" (Scoones 1984, 1-9). Consequently, the Petroleum Production Act 1934 (UK) vested ownership in oil mined in the United Kingdom in the Crown. By the late nineteenth and early twentieth century, focus shifted to how authority over natural

resources should be exercised, increasingly expressed in the language of "trust." Scottish imperial constitutional law scholar A. Berriedale Keith argued that while the "formal claim" to "all unworked minerals may be readily conceded by both international and municipal law," the state nonetheless acts as "trustee for the interests of the native populations" (1918, 256). Frederick Lugard describes trading and mining as "the two chief forms of European enterprise and investment in the tropics," depicting "raw materials" as essential for civilization and as subject to development "in the interests of natives and the world at large" (Lugard 1922, 258, 60). Moreover, in the post–World War I Mandate System of the League of Nations, resources in non-European territories were construed "by European statesmen and colonial administrators" as the property of not only the peoples of those territories, but also the larger "international community" (Anghie 2007, 160).

The grant of recourse concessions from colonial power to private companies gave investors trading and "jurisdictional privileges" over colonized lands and peoples (Ohler 2013). Consequently, it is unsurprising that anticolonial elites sought to assert "resource nationalism" and sovereign ownership and control over the fossil and mineral estate, as a key element of Third World anticolonial struggles (Dietrich 2017; Özsu 2024, chap. 3). In 1962, General Assembly Resolution 1803 affirmed the "inalienable right of all States freely to dispose of their natural wealth and resources in accordance with their national interests."[2] The claim for permanent sovereignty over natural resources (PSNR) was subsequently a central element of calls for a New International Economic Order, which sought to "leverage a state's resource endowment to bring about greater economic reality," often through the nationalization of resource interests (Pahuja 2013a, 403). Control over national resources was critical to national liberation movements. For example, the 1955 South African "Freedom Charter" asserted that "the mineral wealth beneath the soil . . . shall be transferred to the ownership of the people as a whole" (Freedom Charter of South Africa 1955). Indigenous rights movements have also asserted the authority, ownership, and rights of Indigenous peoples over their territorial resources (Pereira and Gough 2013; Enyew 2017). This right is enshrined in Article 26(1) of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP),[3] but remains contested and poorly realized in practice (Young 2020). Furthermore, the right of Indigenous peoples to "free prior and informed consent," which is of particular relevance to mining, is also enshrined in UNDRIP and supported by International Labour Organization Convention 169 and the Convention on Biological Diversity.[4] This right is routinely violated and can be read as facilitating a legal procedure for authorizing extraction—requiring some commitments, funding, and other programs that may or may not eventuate—rather than operating to prevent extraction or ensure that profits are accrued and restored to local communities (Merino and Chinchay 2022; Young 2020).

This brief—and necessarily limited—account illustrates the contested nature of legal authority over the resources in the subsoil, and thus over extractive appropriation. The legal authorization of extractivism is shaped by new forms of knowledge about subsoil resources, alongside the epistemological commitments of the discipline of geology and its extractive logics. Following geographer Kathryn Yusoff, extractivism can be understood as enmeshed in the "geo-logic" of geology, a discipline marked by the racialized politics of its emergence and intensification in European thought (2021, 663–64). The early principles of geology, which preceded and informed Darwin's

[2] G.A. Res. 1803 (XVII), Permanent Sovereignty over Natural Resources, UN Doc. A/RES/1803(XVII) (Dec. 14, 1962).
[3] G.A. Res. 61/295, art. 26(1), UN Declaration on the Rights of Indigenous Peoples, UN Doc. A/61/67 (Sept. 13, 2007).
[4] International Labour Organization Convention (No. 169) Concerning Indigenous and Tribal Peoples in Independent Countries, June 27, 1989, 1650 U.N.T.S. 383 (entered into force Sept. 5, 1991); Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79 (entered into force Dec. 29, 1993).

account of evolution, were framed by epistemologies of linearity and progress (Yusoff 2018, 74–75). The epistemic diminution of the earth to its constituent minerality, calibrated to human need, rendered it an extractible resource (Yusoff 2024, 3). As a transactional space, geology marks the confluence of labor and capital, resource and trade, which are represented in technologies of extraction and legal relations of property (Yusoff 2018, 69, 70–71). For Yusoff, the categories of subjection that underpin regimes of extraction include both enslavement and minerality (ibid. at 80–81). Where colonization can be understood as a pivotal mode of extraction in this double sense—an "extractivist project" writ large (83)—representations of the appropriable matter of conquered territories are evident in the ontological categorizations of geology, which distinguish inert matter from lively subjectivity. This distinction is central to extractivism, its premises and purposes often proving incompatible with Indigenous onto-epistemologies, practices, and systems of resource distribution (Chagnon et al. 2022, 772). In a reading of "geologic life" and the racialized epistemic practices of geology and extractivism, Yusoff develops a reading of geopower as geopolitical, concerned with the co-constitution of geographical knowledge and the modern state apparatus (Yusoff 2024; Tola 2022, 566). This co-constitution is evidenced in the fossil record, as well as the sedimented social strata of geology, which conspire in "scripting the earth . . . in the geo-logics of colonialism" (Yusoff 2024, 3; Grosz et al. 2017, 112).

This reading of geo-logics and their connection to colonialism is most clearly illustrated in the accounts of property, subjectivity, and privacy that run through the development of extractive appropriation. Geologic and social strata march in step, where their theorization and practice are made manifest in legal regimes of ownership and property. In Brenna Bhandar's study of the "colonial lives of property," the meaning of property as a foundational legal concept privileges a "commodity logic" made explicit in the use and abstraction of land (2018, 29). Modes of colonial governance now entrenched in global capitalism are saturated in the metrics of "quantification and measurement," which determine value—of land, resources, and people—in contradistinction to waste (ibid. at 35). This logic turns on the individual subject at the heart of a Lockean ideology of improvement and the concomitant distinction between use and waste, and the legal formulation of these in proprietary rights of ownership and exclusion (Bhandar 2018, 35–38; Locke 1988). Legal forms that support this commodity logic, such as the liberal rights-bearing legal subject, represent and authorize the material appropriation and exclusion at the heart of this ideology. Ownership is calibrated to this "proper subject" of European humanism, whose rights turn on the agrarian capitalist distinction between cultivation and wasteland (Bhandar 2018, 35). This proprietorial subject is defined in negation, contrasted with the nonhuman subjection that underpins Indigenous dispossession and continued territorial appropriation (ibid. at 151). As a racialized and gendered abstraction, it marks the extraction of fossilized sediment through human labor and is representative of the extraction of matter as a commodity, thereby driving the "capitalist relations of exchange and ownership" (35). Affirming the "self-evident" superiority of humans as subjects, the natural world is conventionally understood principally as an object of ownership and use, alongside extraction and waste (Nedelsky 2022, 525). This "grammar of materiality" (Yusoff 2018, 72; 2020, 99) is authorized by its expression in property law and the extractivist relations supported by the logics of appropriation and nonreciprocity.

IV. Authorizing Extractive Economies

Extractivism is central to the global capitalist political economic order. Today, production and consumption activities in industrialized countries are highly dependent on material, labor, and energy resources drawn from less industrialized regions (Bruckner et al. 2012). This reflects both the unequal

geographical distribution of global resources that necessitates the exchange of essential materials between states, and the gross inequalities in resource use and consumption: The wealthiest 20 percent consumes 80 percent of all natural resources (UNDP 2019). In 2017, high-income countries relied on 9.8 tons per capita of primary materials extracted from outside of those countries, and this reliance has increased by 1.6 percent per year since 2000 (Oberle et al. 2019, 49). As David Kennedy argues, law's role in this unequal global political economy is to create a sense of "ordered governance," obscuring the injustices and inequality law creates and authorizes (2020, 127–28). Contemporary legal regimes permeate all aspects of extraction, distribution, production, and consumption. Law obscures parts of this process from various publics, while rendering others, such as perpetual growth, seemingly inevitable or unavoidable.

The previous section described how law authorizes extractive appropriation through territorialization, property rights, geology, and the possessive individual subject. This section, building on the earlier discussion, describes the contemporary, global instantiation of extractive appropriation: the constitution and maintenance of the global political economy in the authorization of extractive economies. If we understand extraction not simply as a practice, but as a relation, ideology, logic, imperative, and organizing principle, it needs to be understood and situated within an unequal political economy that produces both the compulsion to extract and a highly unequal distribution of the harms and benefits of extraction. Property is one foundation, but what becomes distinctive here are the means of movement and the creation of distance that coordinate multiple economic systems, organize them for extraction, and thus form a global extractivist political economy. We highlight three modes of authorization of this movement and space: the private sphere of corporations and money, the public sphere of Global South nation-state debt/dependency and "sustainable" development regimes, and the representations of the human in individual and collective levels of workers. Across private, public, and individual/collective levels, an interrogation of the relationship between extractivism and law requires an unsettling of conventional distinctions between public and private power to understand how they are entwined. Attending to the legal constitution of an unequal global political economy is crucial to understanding how extraction becomes an imperative and how it is a product of and reproduces neocolonial global economic and legal relations.

An important shift in the extractive imaginary underpins material accounts of both the fixed territories of soils and subsoils covered previously, as well as the generalized and global form of authorization encapsulated in geopower offered in this section. The "settler grammar of place" that privileges "extractivism and exhaustion" underpins the geological relations that constitute humanity and human experience in place (Whitington and Oguz 2023, 153; Bobbette 2023). The entwining of geographical knowledge and state power from the sixteenth century onward prompted the generation and exercise of a form of geopower that underpinned colonial expansion and its geographies of global order (Tola 2022, 566; Ó Tuathail 1996, 7). As with extractive appropriation, authorizing extractive economies requires the subordination of nature to possession, made manifest in the performance of nonreciprocal and hierarchized relationships between life (*bios*) and nonlife (*geos*) (Povinelli 2016, 5; Yusoff 2024, 4). This imaginary defines the terms of extractive capitalism and its distributions of power and resources (Povinelli 2016, 34–38). Adopting a decolonial approach, which reveals the hierarchy, abstraction, and linearity of humanism, foregrounds the erasures that inhere within the conventional categorizations of legal relations. The entrenchment of these demarcations and erasures effects an ontological enclosure, which grounds the separation of geology and biology and its various iterations in science and chemistry (Yusoff 2018, 67–68; Povinelli 2016, 38). This ontological enclosure extends beyond the apprehension of differences between human and nonhuman animals to

incorporate the governance of life and nonlife as "an entire assemblage" or imaginary (Povinelli 2016, 36–37).

In recent times, the meaning of nonlife, or *geos*, has begun to assume planetary proportions, extending beyond minerality to signify the earth itself. For Whitingdon and Oguz, this expanded meaning brings geological relations into the realm of social theory: Planetary changes are now understood within the context of conquest, extraction, and colonization (Whitington and Oguz 2023, 147). The violent erasures of our present planetary imaginary, and the associated geologies and geotraumas of "colonial world-building," can be perceived through a revelation of the spatial "partitions and apartheids" of white geopower, such that "[c]olonial earth is extractive earth" (Yusoff 2024, 2–5). The horizontal dimensions of cartography, which explicitly underpin the material appropriations of empire through the possession of land, continue to accompany the vertical and volumetric dimensions of subterranean territory and its subjection to human and nonhuman power and force (Klinke 2021; Clark and Yusoff 2017; Clark 2013; Grosz 2012; Deleuze and Guattari 1994; Grosz et al. 2017). The instrumentalization of geopower in the racialized geo-logics of geology and its "praxis of extraction" (Yusoff 2024, 2–5), as discussed in the previous section, is a story of subterranean jurisdiction—a geologic imaginary, to which authority is attributed in the articulation of the forms and relations of law that enable extraction. Geopower now moves from the subterranean to the surface to the entire globe, and legal concepts that give subjectivity and agency to nonlife—the corporation and currency flows—are a first site of law's authorizing role in this change in the extractive imaginary.

Legal accounts of the private corporation, money, and technology formed in the Global North worked to make extraction seem neutral, inevitable, and invisible in the resource-exporting locations of the Global South. Since the early seventeenth century, the legal person of "the corporation" has been an important device in English law: a legal entity with the power to contract and deal with property as if it were a natural human person, and for its members and representatives to work privately through it (Marks 2020, 178). This capacity positioned it as critical to the foundational connection between law, extractivism, and global political economy. Corporations have always been creatures of national jurisdiction with ambitions that exceed their authorizing sovereigns, to the benefit of both. They are putatively private, separate from the polity, driven by profit to shareholders but also tangentially enriching the public (Stern 2011). This serves a strong ideological purpose, entrenching markets and their individuals as parallel to and beyond the meddling of any state, lawfully separating economics and politics by authorizing corporate power and reducing corporate responsibility (Cutler 1997). The principal function of their legal artificiality is to ensure what Grietje Baars identifies as the structural "irresponsibility" of corporations, manifested as both an unbridled imperialist pursuit of profit and the nonapplication of legal regimes of responsibility to the actions of their directors and agents, epitomized in exempting corporations from criminal law, human rights law, and various national public laws in investment arbitration disputes (2019, 32–33, chap. 2).

The lifeblood of the artificial bodies of corporation, sovereign, and state is money. Money is both an extractable commodity and the means through and for which all extractive activities take place. States throughout the early modern period held ownership rights over mineral resources, but often lacked the expertise and capacity to invest large sums of capital for complex extractive operations. Mumford notes that by the sixteenth century, "mining was bound up with the first development of modern capitalism," and "set the pattern for capitalist exploitation" (2010, 74). The increased scale and scope of operations demanded external investment and expertise, and this "absentee ownership" and "reckless speculation in mining share" generated vast private fortunes (ibid. at 74). In her work on law and money in the seventeenth century, Christine Desan outlines how monarchs held exclusive rights

to make coin and define its value, an action theorized as a "public good" for the creation of commercial relations, war, and debt (2014, 331), while also usable as a liquid medium for exchange with a value larger than its metallic content (2010, 372). As with sovereign metals and mining rights, this fundamental legal theoretical problem endures in the contemporary extractivist global political economy. For Isabel Feichtner, the connection between the law of resource extraction and the laws of money best illuminates the current global political economy and its concentrated exploitation (2020, 152). Expanding financialization from the 1970s onward saw the movement of commodity production from simple extraction, transport, and sale to producers through long-term supply contracts or large single firms toward market exchanges and derivatives trading (ibid. at 162). Standardized options and futures contracts allowed parties to bet on future changes in prices of commodities, allowing for greater speculative profits than the actual use value of the oil, coffee, or timber sold (163). These movements of money are structured by coordinated laws: For Katharina Pistor, "[c]apital has become mobile and seems to know no borders," and yet global capitalism does not require any global state or legal system, coordinating through globalized domestic rules (England, New York State) and a handful of international instruments (2019, 132). When legal forms of authorization become global, they take property and sovereignty as an "analytic totality"; not a "binary frame [but] more as scaffolding" (Saunders 2022, 485; Koskenniemi 2021), which becomes vital within the long historical process of market expansions beyond state borders and the reorganization of these forms of authority to extend beyond borders (Watt 2018; Hartmann and Kjaer 2018).

Legal-financial inventions to lubricate extraction mirror the scientific, industrial, and technological changes that are the infrastructure for globalized extractive activities. Lewis Mumford's *Technics and Civilization*, first published in the shadow of the Great Depression and its global technological, economic, and legal reshaping, gave a panoramic account of the histories of technological and political "progress." Mumford emphasizes law's role in entrenching acquisition, connecting law as a "mechanism for acquisition on a grand scale" with the notion of "an acquisitive life" and its organization according to "the canon of profit" (2010, 99, 374). Mumford's speculative history gained even clearer purchase in the techno-legal innovations of the postwar era. The 1959 "invention" of the bilateral investment treaty belies a longer imperial history of protecting the colonial operations of European investor-companies from the seventeenth century onward. As Kate Miles demonstrates, this was closely linked to those companies' practices of environmental degradation and commodification, facilitated by legal innovations like treaties of amity and commercial navigation, unequal treaties granting "peace" in return for access to raw materials and commercial immunity from local laws, and systems of "concessions" that transferred exclusive rights from host state to foreign company to make and control infrastructure like railroads and the material-rich lands they linked (2013, 19–31). The connection of technology, oceans, and extraction endured into the 1960s and 1970s debates on ocean-floor minerals, which Umut Özsu argues used international zones to keep the apparent "common heritage of mankind" closed to exploitation by industrialized maritime states and their corporations alone (Özsu 2024, 175–186). Another legacy of this system remains in contemporary investment treaties and the investor-state dispute settlement system, which primarily protect foreign multinational investment in extractive projects from host state "violations" of investment protection, with a marginal role for local communities who cannot become parties to a dispute and are placed outside jurisdiction (Perrone 2022, 838). This system was also served by techno-legal inventions that enabled extraction, transport, and production. Postwar globalized shipping saw extracted raw materials move in the hulls and tanks of massive ships (Mitchell 2011, 36–39) and finished products subsequently move through containers. The shipping container offers a metonym for globalized extractive trade and production: solid, stackable, fungible, anonymous, and perfectly shrouding its contents. In raw or finished form, each ship and container links dozens of corporations

through contracts of carriage and insurance and means to avoid tax and labor laws, connecting the legal histories of imperial and merchant shipping to the means of postwar globalization (Quiroga-Villamarín 2021).

Moving from the private side of wealth extraction to its public doppelganger, we turn to shifts in dependency theories of sustainable development. A central structuring paradox in the law and political economy of extractivism emerges from the emphasis on "rights" to resources and development, and the urge to escape seemingly inevitable global dependency. This dynamic has a long and complex contemporary history. In Jennifer Beard's account, development sprang from Western Christian concepts of subjectivity and life, erasing "other explanations" that contradicted European conceptions of progress, time, geography, religion, gender, and race (2007, 4–5). In the postwar era, as Sundhya Pahuja has shown, Third World states sought to assert national political control over resources through the language of "universality," claiming "permanent sovereignty over natural resources," which the Global North transformed by affirming development as international and transcending local sovereignty, denying national rights to effectively regulate investment (2011, chap. 4). Timothy Mitchell's history of "carbon democracy" argues that the 1973–1974 Oil "Crisis" allowed the US right to replace any democratic control over the economic sphere with the "laws" of the market "as an alternative technology of rule," effectively removing "parts of the common world" from "democratic contestation" at home and in oil-producing states alike (2011, 10–11, chap. 7).

The importance of these changes was equally clear to state leaders in the Global South, then and now. Perhaps the clearest example is in Kwame Nkrumah's well-known concept of "neocolonialism," where the developing state has "all the outward trappings of international sovereignty" but "its economic system and thus its political policy is directed from outside," that is, from the West (1966). The "neo" form is subtle: Rather than troops, Nkrumah notes the incursion of "economic or monetary" policies, anticompetitive import preferencing of Western products, Western civil servants to dictate policy, and the "imposition of a banking system controlled by the imperial power" (ibid.). As Walter Rodney attests, European control of the international trading system has a longer history, most notably the imposition of European shipping law to control the transport of enslaved peoples and restrict African export powers (2018, 88). The connection between extractivism and dependency through law had variegated effects throughout the developing world. South American states were both the originating "laboratories" for the excesses and injustices of 1970s and 1980s neoliberal state privatization reforms and international structural adjustment policies, as well as the region that prompted the coining of "extractivism," and the "pink tide" of progressive socialist state provisions aimed at just distributions of the natural resources wealth of the early decades of the 2000s, which was in both cases intensely ecologically damaging (Marston 2022, 194–95). For Arboleda, what emerged from the South American model was a "planetary mine": a patchwork of connections between dispersed, resource-rich geographical regions, connected through global supply chains to East Asian manufacturing hubs and then shipped to industrialized countries for consumption (2020). The risk of deepening inequality has been realized elsewhere. Whereas South American resource booms led to the paradoxical neoliberal-to-pink-tide move, minerals extraction in African states has only deepened inequality, state and militia violence, and environmental degradation (Dezalay 2019, 1305). African extraction projects followed the implementation of severe structural adjustment policies by the World Bank and International Monetary Fund in the late 1990s, leading to national-level deregulation, privatization, the opening up of mining projects to foreign investors, and the incursion of both mining and private military multinational corporations (ibid. at 1306).

Extractivism is also a linchpin in the recent contemporary shift from dependency-development to "green" extractivism and a return of faux progressive civilizational rhetoric. Renewable energy technologies and products require significant quantities of metals like lithium, cobalt, nickel, titanium, tungsten, and molybdenum, the extraction and processing of which is often dangerous and harmful to humans and environment alike. Biofuels require and degrade large tracts of land, and renewable hydropower from dams demands masses of concrete, as well as flooding and destroying riverine ecosystems (Scheidel et al. 2023). But the imperative to extract, process, and use these materials is posed as a new civilizing mission, through the language of security and sustainability. Renewables offer clean "endless" energy to consumers in the Global North, avoiding individualized guilt or complicity in carbon emissions while simultaneously prompting criticism and obstruction of Global South development. These security discourses pose renewables as a tool for reducing reliance on "conflict zones" like the Democratic Republic of Congo, or from great power rivals like China. They have also provoked shifts in the public and private aspects of finance and development. As Celine Tan demonstrates, finance for international development has recently taken a "private turn," moving from international institutions to private corporate actors, primarily by the creation of financial markets for "sustainable development investments," thus privatizing the funding of public goods in the developing world (2022). Daniela Gabor likewise recognizes the privatization of public projects, foregrounding the use of derisking as the main method for green industrialization in the US and EU—a method that further entrenches the price mechanism and competition, and paradoxically enlists capital in green investments without real decarbonization, undermining any possibility of a "just transition" (2023). Law's role at each of these sites is to solidify, naturalize, and make inescapable the capitalist relations of North and South, and to obscure genuine alternatives to economies based on raw material export, largely unbridled foreign investment, and regimes of international debt financing.

Finally, we consider energy, material, and labor flows and the position of human beings and local communities within and against extractive corporations and states. This thematic connection between extractivism, law, and global political economy emerges at the level of the human: workers, migrants, and consumers, and the communities that coalesce around these functions but are scattered across vast geographical distances that can be straddled by capital but not by individual people. Law plays an important role in this arrangement of movement, and in preventing local resistance to extractive projects. While describing extractivism as a "mode of accumulation that necessitates both high pace and a large scale of taking" with a "certain intensity or recklessness in terms of concentrated impacts" (in Pasternak et al. 2023, 6), Scott emphasizes extraction as a relation between local and distant: Extractivism's "taking" generates benefits for distant capital without generating benefits for local people, and a particular "way of relating to nature" that is nonreciprocal and short term (Scott 2021, 124). Law's role in making this relation, logic, and political economy in Scott's account is significant. Contemporary forms of "consent" to extraction manifest as "mutual benefit agreements," "impact benefit agreements," and "relationship agreements" (Scott 2020, 269–70; Gudynas 2018, 69). Far from absent, the state creates these frameworks, allowing them to "masquerade" as forms of private governance beyond public interest in the regulation of public law (Scott 2020, 289–92). Equally, the vast connections and movements that enable extractivism obscure its wider and localized resonances, specifically "efforts to cooperate, collaborate and build the things . . . necessary for our flourishing, together," exemplified in the perpetuation of individual car ownership in electric vehicles for the Global North (Scott in Pasternak et al. 2023, 7). Connecting that to Scott's own points on law, fixing on contracting, negotiations, and corporate regulation as exemplars of extractive legalism can also obscure how extractivism permeates so much of the rest of law in less obvious ways.

The strongest instance of extractivist permeation is law's role in the process of accumulation that structures relations of workers and capital to land and resources. The constitutive relation between accumulation, colonialism, and extraction has long been evident in foundational works on political economy. To take two examples, Adam Smith and Karl Marx both deal with extractive themes at length. In his 1776 *Wealth of Nations*, Smith critiques sovereigns delegating their foreign relations powers to private trading companies, allowing them to establish embassies and forts to protect and expand commerce in "barbarous and uncivilized nations." Smith describes this delegation as a "perfectly destructive [and] strange absurdity" that is exercised "unjustly . . . capriciously [and] cruelly" by trading corporations ([1776] 1981, 637, 754). Smith's sole use of the word "extract" was in relation to resources—"the produce of the surface of the earth which extracts the minerals from its bowels." He used it to establish his argument that capital is necessary for that produce and is "equally well applied" in proportion to the "natural fertility" of land, mines, and fisheries (Smith [1776] 1982, 284). In *Capital Volume I*, first published in 1867, Marx memorably describes the "discovery of gold and silver in America, the extirpation, enslavement and entombment in mines of the [I]ndigenous population of that continent," the "plunder of India" and the conversion of Africa into a "preserve" for enslaving the population, which all "characterize the dawn of the era of capitalist production" that he named "primitive accumulation" (1990, 915). The primitive and waste are important additions to the extractive imaginary for authorizing the global political economy. Primitivity is important in the long history of expropriating value from workers by land enclosures, the wage relation, the breaking of communal connections to land, and the turning of "waste" land into private property, as theorized by Locke and Marx (Neocleous 2014, 53–64). For Marx, distribution and movement of commodities and workers produces value by circulation through ship or train, moving commodities between their places of production and sale, and distributing scarcity and supply as the "turnover" of capital (Marx 1992, chap. 14, especially 327–28). Exchange value is created through trade and circulation, accumulating money in merchant estates by dissolving labor's connection to production (Marx 1973, 509). As Maïa Pal shows, accumulation also occurred through devices of jurisdiction connected to imperial and capital claims in the early modern period: Consuls, merchants, and lawyers all operated in the "shadows of empire," using "extensions, transplants and transports" of jurisdictional authority to make the contemporary global legal and political order (2021, 301). Far from being an anachronism confined to the past, accumulation is a recurring, ongoing process that, as Mark Neocleous suggests, signifies "a need to permanently form markets and re-create labor supplies" (2014, 84). Indeed, Özsu has shown how primitive accumulation endures to explain the power of law in fostering recent ongoing waves of land grabbing to expand food and biofuel production (2019). Creating these land, material, and labor supplies in the age of extractivism involves connecting class and community to extractive projects across long distances.

This is a kind of mutuality and connection of local population to the agents of the distant extractive entity, which can be seen in the shape of encounter, negotiation, and resistance, through law and legal processes. Wyatt Sassman has shown how the recent US expansion of the oil and gas industry deployed law to remove community campaigns and reinforce the dependency of communities of workers on extractive industries. Sassman examines how fossil fuel agents negotiate private and confidential oil and gas exploration rights with individual landowners, using access rights to neighbors' properties to threaten holdouts, turning neighbors against each other, and discouraging collective action by landowners (2024, 86–91). Other scholars link nature and materiality with the individual human body in illuminating ways. Andrea Marston's exploration of material history and embodied geologies describes the relation between Bolivian miners and tin as a "porous site of contact between flesh and ore" that resulted in a differentiation in the value of both materials and people (2021, 2079). Amid the declining quality of tin in the 1960s, the Bolivian state mining company turned to labor

privatization, allowing groups of rural and Indigenous internal migrants and laid-off workers to rent access rights and sell extracted tin to the company. Different striations of ore were allocated respectively: Contract labor mined the upper levels of stannite deposits, salaried workers mined the most valuable cassiterite tin (ibid. at 2086–87). Following the replacement of tin with cheaper aluminum in the 1980s, and the decimation of the salaried workforce, Bolivian tin miners now work within cooperatives in abandoned and closed mines (2087)—which is to say, "unlawfully." Similarly, Parfitt expands on Mitchell's account of "democracy *as* oil," reading workers "not as frustrated profit-maximizers" but as human beings "earn[ing] their living by a complex web of symbiotic relationships" (in Eslava et al. 2013, 111). Access to oil vastly improved global productivity and simultaneously prompted the global erosion of individual and collective workers' rights by threatening to replace them with fossil fuel–powered technology, which Parfitt shows is starkly illustrated by the importance of unemployed workers in pressing the Arab Spring across the oil-producing Arab world (ibid. at 113–14). These recurring accounts of law's role in displacing workers rely on the specter of distant workforces to depress pay and conditions and constantly ramp the rate of extraction of human time. Beyond the liberal property-owning, self-determining human being with which we ended Part III, we see here the representation of a new instantiation of the neoliberal constant entrepreneur that seems to be the only available subjectivity in the unequal global political economy.

V. Reimagining Extractivism in the Anthropocene

Kathryn Yusoff writes, "To tell a story of the rocks is to see the past surfacing in the present: a process of coming into view, of other earths" (2023, 3). Geology can be understood as a site of violence and a racial heuristic and practice, but also as a "site of struggle . . . for the possibility of different earths and relations" (ibid. at 284). An attention to how the relationship between representation and authority is exemplified in extractivism—how matter is made material, how extraction is naturalized, and how these categorizations are sustained—is central to an understanding of how this authority might be challenged in the resurgence of these "other earths" and politics (Yusoff 2023, 3; Betasamosake Simpson 2017). To further Yusoff's gesture toward other earths, laws, and politics, we offer some preliminary proposals for how we might start to build and enact the kinds of nonextractivist legal orders that emerge from our critique here. In this final section we think about these other earths by exploring a different imaginary of nonextraction and the Anthropocene. We draw together the conceptual steps articulated in the previous sections by reflecting on the co-constitution of epistemologies of geology, the economics of extraction, and the exercise of state power, and bringing this back to the Anthropocene. We foreground plurality and struggles at the margins, and the role of law in both entrenching and resisting extractivist logics. In so doing, we offer a provisional rendering of a nonextractivist legal order and suggest that acknowledging the authority of other epistemological frameworks and other legal systems might offer possibilities for different forms and practices of relationality, both human and nonhuman.

The final piece of the representative imaginary that we turn to now is the image of geological time periods, which returns to the sense of "our times" with which we began. Extractivism seems particularly useful, important, and urgent because of the moment of ecological crisis that it has wrought, now termed the "Anthropocene." This term emerged from geological and earth system science and sought to name a new geological epoch in which the impact of humans has assumed geological proportions. The International Union of Geological Sciences rejected the formal designation of a new geological epoch (2024; Witze 2024; Damianos 2024). But the idea of the Anthropocene has been widely taken up across the humanities and social sciences as a new global

narrative, conceptual apparatus, and provocation. It has proliferated in alternatives like Capitalocene (Moore 2016) and Plantationocene (Haraway 2015), and all these forms prompt critical reflection on our present and the conditions that have created it, offering an "invitation to rethink conventional philosophical and political categories" (Biermann and Lövbrand 2019, 3; see also Wapner 2013; Clark and Yusoff 2017), most pertinently the human and nonhuman. For us, the Anthropocene reveals a crisis of authorization. The political economy and ecology by which matter becomes material is made explicit in what Povinelli describes as the "ancestral catastrophe" of late liberalism (2021, 16). This catastrophe is not reducible to a series of isolated events and solutions, but is better understood as a manifestation of "the shape of thought in the wake of geontopower"—that is, in the wake of the racial and colonial histories that define "the West" and its institutions, knowledges, and legal norms (ibid, 16).

The Anthropocene as an ancestral catastrophe helps draw connections between multiple intersecting and cumulative crises, including climate change and global heating, biodiversity loss, and extinction, alongside growing wealth and income inequalities, rising authoritarianism, and a patent democratic deficit. We recount the material realities of this situation. Atmospheric levels of greenhouse gases are at their highest for the past 3.6 million years and continue to grow at record rates. Just a "brief and rapidly closing window of opportunity" remains to "secure a liveable and sustainable future for all" (IPCC 2021). Despite these repeated warnings, the transition trajectory looks bleak: The global community is not on track to meet its stated commitments to limit temperature rise (UNFCCC 2023) and planned fossil fuel extraction still exceeds the allowable "carbon budget" (SEI et al. 2023). Resource extraction is an underlying cause of these crises, especially at the current unsustainable rates of extraction. The harms to human and nonhuman life from extraction, processing, and use of resources are mostly unabated and unaddressed, and are compounded by rampant economic and social inequalities, which cause the uneven distribution of benefits and harms (Oberle et al. 2019). The 2019 *Global Resources Outlook* showed that "extraction and processing of materials, fuels and food make up about half of total global greenhouse gas emissions" (excluding land-use emissions), as well as "more than 90 per cent of biodiversity loss and water stress" (ibid. at 27). Given the risk of "irreversible" climate breakdown, there is growing urgency to heed the warning that there can be no more exploitation or development of new oil and gas fields or new coal-fired power stations if the world is to meet the goal of net zero emissions by 2050 (Bouckaert et al. 2021). Similarly, there are growing international calls for a fossil fuel "phaseout" and "just transition" and associated economic diversification (UNFCCC 2021, para. 36; 2023; 2024, para. 28(d)). Increasing levels of social and ecological conflict are widely identified in territories subject to mining and other forms of resource exploitation, which are understood not as isolated instances of contention but as aggregated and entrenched in "conflict constellations" (Dietz and Engels 2018, 276). Such conflicts are precipitated by extractive incursions into lands presumed to be "unused" or "empty," with insufficient regard for previous forms of land use, extant property relations and land rights regimes, and attendant disparities in power relations (ibid. at 275). Evidence of harms to communities proximate to extractive industries, workers employed by them, and legacies of toxicity after operations conclude are compounded by a growing awareness of the planetary scope of extractive impacts and their contribution to climate and biodiversity crises (Oberle et al. 2019). The global scale of extractivism and its industrial complex is reflected in the scale of harm, both immediate and protracted (Nixon 2011), and the abstractions that authorize and enable it. For Pramod Parajuli, "globalization is a phase in which 'capital' is naturalized, while simultaneously 'nature' is capitalized" (Parajuli 2004, 239; Jalbert et al. 2017, 4).

If the frame of the Anthropocene underscores the urgent imperative to rethink the extractivist relations that have generated immense ecological, social, and political crises, it also prompts attention

to how this current period of transformation risks expanding and intensifying extractivist logics, including the relegitimatization of a putative "green extractivism" (Voskoboynik and Andreucci 2022; Dorn et al. 2022; Bruna 2022). The climate crisis is being used to legitimate and justify new forms of extraction. There is increasing demand for rare earth elements and critical minerals that are needed for renewable forms of energy generation, as well as semiconductors and cyber-physical systems that are a key element of the so-called "Fourth Industrial Revolution" (Schwabb 2017; Philbeck and Davis 2018). This period of global transformation will therefore have major implications for natural resource politics and economics, shifting understandings of the strategic importance of particular minerals and changing resource economies and dynamics of supply and demand. New extractive frontiers are emerging, including in previously inaccessible terrains, to supply these shifting resource demands. Previously inaccessible geographies such as polar ice sheets, the deep sea (Ranganathan 2019; Feichtner 2019; Stephens 2022), and outer space (Storr 2021; Craven 2019) are "discovered" primarily in terms of their extractive possibilities. Moreover, the imperative to transition to a putative "green economy" generates demand for "critical minerals" required for the low-carbon transition, such lithium, cobalt, and other rare earth materials. This new extractive horizon prompts further conflicts (Andreucci et al. 2023), while also potentially offering a justification or relegitimation of expanded extraction and a revivified civilizing mission in the "capital-driven" machinations of "decarbonization by dispossession," pursued to sustain the consumption of the Global North (ibid. at 2). There is a continued promotion of "false solutions" to achieve "net zero," such as offsets and carbon capture and storage, which arguably foster a "political economy of delay" that entrenches a fossil fuel–dependent "regime of capital accumulation" (Carton 2019).

What kind of account of jurisdiction, authority, and law is needed to navigate the Anthropocene? Haraway writes: "The suffix '–cene' proliferates! I risk this overabundance because I am in the thrall of the root meanings of –cene/kainos, namely, the temporality of the thick, fibrous, and lumpy 'now,' which is ancient and not" (2015, 163). Unpicking the imbrications between extractivism and the accounts of authorization that constituted it, and which it has constituted and continues to constitute, seems an important starting point: to rethink and describe and work with nonextractive forms of legal authorization in pluralism, care, abolition, and organizing beyond the academy. Critical legal scholars have foregrounded how many struggles over extraction are underpinned by not just the content of specific legal regimes, but the question of what constitutes "law"—that is, what is acknowledged and recognized as authoritative. As Valverde et al. assert, in seeking to understand the "complex and overlapping assemblages of law and authority that inform our world," we must also grapple with the multiplicity of "incompatible legal systems," alongside contrasting perspectives on the purposes of law and its sources of authority (Valverde et al. 2021). Struggles over extractivism show the "dynamic conditions of legal pluralism" on the ground, especially in settler-colonial contexts, and "pre-existing, still operating, and always evolving [Indigenous] legal orders" (Scott 2021, 125).

Foregrounding conflicts over authority to "speak in the name of the law" makes it possible to center other legal orders, in which jurisdiction does not authorize nonreciprocal taking but instead sees "jurisdiction as an ontology of care" (Pasternak 2017, 6). Care is often proposed as a replacement for carceral authority: the foregrounding of need, vulnerability, and the necessity of collectivity over individualist frames in both legal and political orders, and the individualized ideas of responsibility, power, and guilt they rely on. Angela Davis calls abolition the imagining of "a constellation of alternative strategies and institutions" that removes violent carcerality from our "social and ideological landscapes" and replaces it with a justice system "based on reparation and reconciliation rather than retribution and vengeance" (2003, 107, 115). The figure of the "lawbreaker" is removed from justice's lexicon, replaced with a duty to take responsibility and to repair (ibid. at 107, 115). In a similar sense,

removing extraction from the lexicon of legal order would mean replacing it with reparation, reconciliation, and repair—an obligation to attend to collective needs over individual demands. At this moment in the Anthropocene—the lumpy now of impending climate collapse—inaugurating new kinds of law toward that collectivity will be a major focus, as even the most powerful individuals find themselves vulnerable and in need of refuge. Thinking with authority draws attention to how speaking with and through law is not only authorized by force and capital, or through the myths and rituals that we have explored here. It demands a taking of responsibility for law, and for articulating the forms it ought to take. The demand for nonextractive relations is a call for different forms of law, different techniques of crafting legal relations, and a reformulation of modalities of authorization. Taking up this responsibility and its demands can be initiated in three steps that might contribute to delimiting authority grounded in obligations owed to the natural world and to one another. A first step is to decenter the human, confronting the representations and practices that entrench humanism and its privilege. A second step is to subordinate the claimed rights of singular sovereigns and corporations to those of democratic collectives. A third step is to insist that a just and equal global political economy is possible.

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