The 2013 ANTIPODE AAG Lecture

The Environment Making State: Territory, Nature, and Value

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Abstract: My argument is that the state is fundamental to the value form because it delivers the use values of non-human nature to the process of capital accumulation. Capital cannot, and historically does not, capture non-human nature without the participation of the state. The state delivers the utilities of extra-human nature to the accumulation process by creating property regimes, physical infrastructure, and scientific knowledge. As such, the state is a crucial under-theorized political membrane in the ecological metabolism of capitalism and the value form. The capitalist states inherently environmental qualities are rooted in its fundamentally territorial qualities. Where are the utilities of non-human nature found? On the surface of the earth. What institutions ultimately control the surface of the earth? Territorially defined national states. The example of state formation in the early years of the United States is used to illustrate these ideas.

Keywords: value, political ecology, the state, nature, climate change, violence

The fast approaching social and economic dislocations of climate change will force a return of the state. Climate change will bring extreme weather and attendant emergencies of a scale that are too large, chaotic, and destructive to be addressed primarily by the private sector, community-based volunteerism, or assembly-style horizontal social movements like Occupy—though all of these can be part of the solution. Already during climate-related natural disasters and emergencies, it is the state that is called forth because only the state has the economic capacity and political legitimacy to respond at an appropriate scale. Battered by the climate crisis the state will take on a more clearly environmental mission: responding to emergencies, rebuilding storm damaged infrastructure, quelling natural-disaster related civil disturbances, possibly regulating carbon pollution, and so forth (Parenti 2011, 2012; Wainwright and Mann 2012). How the state responds to the climate crisis is a different question: sometimes it fails, but always it is called.

While the state remains important and will likely grow more important, it has for many left scholars and activists withered as an object of serious study or as a political target and prize. But the state cannot be avoided. For left politics to be effective, movements must create strategies that engage and transform the state. Consider for example the anti-statist politics of John Holloway. Influenced by the Zapatistas and influential upon the Occupy movement, Holloway argues that a “world worthy of humanity cannot be created through the state” (2002:1). His preferred
means, a negation: “We start from the scream ... Faced with the mutilation of human lives by capitalism, a scream of sadness, a scream of horror, a scream of anger, a scream of refusal: NO” (2002:1). This brings to mind Lenin’s mocking title, *Left-Wing Communism: An Infantile Disorder* and his chiding of the German ultra-left for having “mistaken their desire, their politico-ideological attitude, for objective reality” (1940:41). For better or worse, the state remains central to modern political struggle.

Jason W. Moore has argued that “[c]apitalism does not have an ecological regime; it is an ecological regime” (2011:1). In this paper I will extend that formulation to argue that the modern capitalist state does not *have* a relationship with nature, it *is* a relationship with nature. Capital’s metabolic relationship with non-human nature is also always a relationship with the state, and mediated through the state. And, the capitalist state has always been an “environment making” institution. Managing, mediating, delivering, and producing the environment is a core and foundational feature of the modern, territorially defined, capitalist state. Furthermore, the state is central to the value form. If the utilities of non-human nature are important sources of wealth, which they are, then it is the state that delivers these to capital.

This argument becomes clear by reconsidering the state’s obvious but under-theorized “territoriality”. The modern state is fundamentally geographic; it *is* territory, which is to say, it is environmental. Now let us connect a few common and implicitly linked ideas. First, accept that the capitalist state by definition must, among other things, work to reproduce the conditions of accumulation (if it works against that it should be considered some other type of state). Second, acknowledge the importance of non-human nature’s “use values” in the production of exchange values. Third, consider the location of these pre-existing natural use values. Where are the utilities of “nature”? In the biosphere, which is to say, upon the surface of the earth. Finally, what institutions control the surface of the earth? States. Behind every “property right” stands the enforcement power of a state.

Tying these points together: the pre-existing use values of non-human nature, found upon the surface of the earth, are essential to capital, and the institutions that ultimately control the surface of the earth are states. Thus we can say that it is the state, particularly its territorial quality, that delivers extra-human nature’s use values to production and the valorization process. More specifically, the modern state delivers non-human nature to accumulation in three key ways: through its place-based property regimes; its production of infrastructure; and its scientific and intellectual practices that make bio-physical reality economically legible and accessible.

**Bringing Nature Back In**

Since the early 1970s environmentally minded scholars, writing in history, political economy, and political ecology have laid the groundwork for a profound rethinking of the relationship between capital and nature. These pioneers include but are not limited to: William Cronon (1991, 2003); Alfred Crosby (2003); and in her own way Ester Boserup (1965); Diana Davis (2007); Mike Davis (1995, 1998); John Bellamy Foster (2000); Donna Haraway (1991); David Harvey (1997); Susanna Hecht and Alex Cockburn (1990); Cindi Katz (1995); Carolyn Merchant (1980); James...
O’Connor (1997); Richard Peet and Michael Watts (1993); Michael Perelman (1975); Alfred Schmidt (1971); James C. Scott (1999); Neil Smith (2008); Donald Worster (1993); and, more recently, Andriana Vlachou (2002) and Jason W. Moore (2002, 2011); Batallie’s (1991).

Particularly important for the purposes of this essay is the work of the late Neil Smith. In his book *Uneven Development*, Smith (2008) argued that society through interacting with biophysical reality *produces* nature. By that he meant the actual physical conjuring and transformation of biological systems, not merely the “social construction” of their meanings. Smith’s subtle but powerful grounding of human economic activity within the biophysical reality we call nature, becomes the basis for his discussion of “the production of nature”.

Smith’s “production of nature” should be distinguished from the “social construction” of the meaning of nature. The quintessential essay in that genre would be Cronon’s (1995) “The trouble with wilderness, or, getting back to the wrong nature” in which he problematizes the prevailing, particularly American, binary view of nature as outside society, by peeling back the layers of historically accrued meanings that coat our notion of “the wild”. Cronon follows the thread back through American notions about rugged individualism, the frontier, and manifest destiny, anxiety about industrialization, back to the Romantic notion of the sublime, as in awe-inspiring beauty that threatens annihilation; and back to Judeo-Christian notions that link “wild” nature to exile, savagery, and the devil. Combining a bit of Smith and Cronon is Escobar (1999) who offers a “constructivist” view of nature that is also at times productive-ist. Examining the simultaneous social construction and physical production of biophysical realities Escobar describes culturally distinct “regimes of nature.”

The already mentioned Moore is also central to my argument in that his “world-ecological” framework places social nature at the heart of a fully articulated, long-range, historical reading of capitalism. Moore (2011:1) argues for a “theory of capitalism as world-ecology, a perspective that joins the accumulation of capital and the production of nature in dialectical unity. This perspective begins from the premise that capitalism does not act upon nature so much as develops through nature-society relations.”

**Forgetting the State**

While Marxian environmental theory has flourished in recent decades, state theory has not. An obvious point of departure is to connect the two traditions. The link between the state and geography are deceptively obvious. The state is territory, and Marxist traditions of state theorizing are well aware of this. Bob Jessop reminds us that “[s]tatehood rests on the territorialization of political power: its three key features are state territory, a state apparatus, and a state population” (2012:22). But the link between territory and value is not much developed. In other words, the insights of environmentally minded Marxist political economy, or political ecology, have not quite linked up with Marxist state theory.

Neither the Miliband-Poulantzas debate, nor most of Regulation Theory, nor its second coming in the “state/space theory” of Neil Brenner and others, try to
connect the role of non-human nature’s use values to accumulation and the territoriality of the state. Nor do Hardt and Negri. Just as their sovereignty is all politics, and no place, so too does their view of capital become unrealistically dematerialized. Sounding all the familiar themes of mainstream globalization theory, they write:

The informatization of production and the increasing importance of immaterial production have tended to free capital from the constraints of territory and bargaining. Capital can withdraw from negotiation with a given local population by moving its site to another point in the global network—or merely by using the potential to move as a weapon in negotiations (2001:297).

When the state and geography do meet, the discussion tends to focus on “scale” in which scale conceptually modifies and materially articulates the state’s political and administrative functions (Brenner 1999). But the environmental significance of the state as territory, as the place of use values, has not been noted. Environmentally minded theories of value, however, do much better at thinking geography as part of the actual means of production. But then, too often, it is the state that drops away.

In what follows I attempt to sketch a theory of the capitalist state as simultaneously political, economic, and environmental, and seek to push the state deeper into discussions of value and the world ecological history of capitalism.

**Value and Nature**

Marx was clear that non-human nature provides use values to capital, which through the labor process are converted into exchange values. In the *Critique of the Gotha Programme* Marx put it this way: “Labor is not the source of all wealth. Nature is just as much the source of use values (and it is surely of such that material wealth consists!) as labor, which itself is only the manifestation of a force of nature, human labor power” (1970:1).

Here Marx does two things. First, he puts human beings back inside nature. In particular, he draws our attention to the fact that labor power is the natural force that is delivered to production. The capitalist buys the worker’s labor time and in the production process the worker delivers a natural force to production, that is, her labor power. Second, he notes that non-human nature provides use values to the accumulation process—that is, the utility or usefulness of things, like the structural strength of wood, the nourishment of potatoes, the stored solar energy of coal. Through production, which is the application of labor power upon the external world, the use values of non-human nature are transformed into exchange value, ie money, ie capital, which is value in motion.3 At the same time, labor power also creates new utilities, and thus value.

For an explicit analysis of “external nature” and value, consider Marx’s discussion of the “natural forces” of production in the short chapter on “Differential Rent in General” in Capital Volume III. Here Marx describes the advantages that accrue to a capitalist who owns a waterfall:

To what circumstances does the manufacture in the present case [owning a waterfall] owe his surplus profit ...?
In the first instance, to a natural force, the motive force of waterpower which is provided by nature itself and is not itself the product of labor, unlike the coal that transforms water into steam, which has value and must be paid an equivalent, i.e. cost something. It is a natural agent of production, and no labor goes into creating it.

But this is not all. The manufacturer who operates with the steam-engine also applies natural forces which cost him nothing but which make labor more productive, and, in so far as they cheapen the means of subsistence the workers require, increase surplus value and hence profit; which are therefore just as much monopolized by capital as are the natural social forces of labor that arise from cooperation, division of labor, etc. The manufacturer pays for the coal, but not for the ability of water to change its aggregate state and transform itself into steam, nor for the elasticity of steam, etc. This monopolization of natural forces, i.e. of the increasing labor power [or rather productivity of labor] that they bring about, is common to all capital that operates with steam engines (Marx 1990b:782).

To put this point somewhat differently, it could be argued that non-human nature provides rents: utilities that exist outside of the labor process, but are delivered to it and captured by it as unearned income. This is clear when thinking about oil. But, other biophysical use values are not so dissimilar—the nitrogen of guano, the malleability of clay, the energy of whale blubber, water’s ability to become steam—all the natural forces of production could be read as a type of rent. Or, as Marx put it in *Capital Volume I*:

> We may include among the instruments of labor ... all the objective conditions necessary for carrying on the labor process. These are not entered directly into the process, but without them it is either impossible for it to take place, or possible only to a partial extent. Once again, the earth itself is a universal instrument of this kind, for it provides the worker with the ground beneath his feet and a “field of employment” for his own particular process. Instruments of this kind, which have already been mediated through past labor, include workshops, canals, roads, etc ... if we look at the whole process from the point of view of its results, the product, it is plain that both the instruments and the object of labor are means of production (Marx 1990a:286–287).

Then in a footnote on fishing, Marx adds, “It appears paradoxical to assert, that uncaught fish, for instance, are a means of production in the fishing industry. But hitherto no one has discovered the art of catching fish in waters that contain none” (1990a:286–287).

Capital as a process—not to be confused with capitalism as a social system—always has an outside upon which it is dependent. It is the logic of the enclosure at a molecular level. The seizure of external nature’s utilities is at the heart of the valorization process. We see this logic of the *micro enclosure* within the labor process. The “outside” of capital can include places but also social relations. Consider how solidarities of kinship, language, and culture are routinely utilized in capitalist production. The intense teamwork of migrant laborers cutting lettuce in the Salinas Valley would be an example (Bardacke 2011).

For Marx, labor power—a natural force particular to human beings, the capacity to labor, “the aggregate of those mental and physical capabilities existing in the physical form, the living personality, of a human being, capabilities which he sets in motion whenever he produces a use value of any kind” (1990a:271)—is similar to the motive force of a waterfall, or the calories in a potato, or the infinite energy
of the sun, in that it is a pre-existing force external to capital. Capital harnesses (or captures by using) labor power in the labor process. Thus the “use of labor-power is labor itself”. The valorization process is both the creation of utilities by human labor power and the capture/transfer of the pre-existing utilities of non-human nature within the cash nexus. The capitalist uses money to buy labor time, a quantity of money for a quantity of time, and in that labor process the capitalist attempts to capture as much labor power as possible. The key point: labor power is external to capital and pre-existing; it is the capacity to labor. In that regard it is like the waterfall. Labor power, like the other natural forces, becomes a force of production in that it is captured in the labor process by capital in a process of micro-level energetic enclosure; an enclosure not of territory, but of energies; human, biophysical, kinetic, and solar.

More broadly, the labor process leads on to questions of metabolism. As Marx puts it in *Capital Volume I*:

“Labor is, first of all, the process between man and nature, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature. He confronts the materials of nature as a force of nature. He sets in motion the natural forces, which belong to his own body, his arms, legs, head and hands, in order to appropriate materials of nature in a form adapted to his own needs. Through this movement he acts upon external nature and changes it, and in this way he simultaneously changes his own nature. He develops the potentialities slumbering within nature, and subjects the play of his forces to his own sovereign power (Marx 1990a:283).”

In this discussion of labor power, human history begins to emerge as ecological history, and production as the production of (pace Smith) social nature.

**Geopower and Placing the State**

For capital to use the biosphere, the state must control it. Before capital can harness energy, as labor power or as the pre-existing “rents” (transferred value) of non-human nature, the state must control terrain, portions of the surface of the earth where these utilities exist. The state must physically seize parts of the surface of the earth containing and controlling it militarily and legally. It must also open space with roads, canals, and ports, which are based on the scientific knowledge, good credit, and direct investment of public agencies. The state must also seize and open “nature” more abstractly, by knowing it and making it legible; that is, by encasing it within the techno-managerial apparatus of administration, science, and governance. To deliver nature to production the state must continually measure, describe, categorize, represent, and scientifically render legible and accessible the powers of biophysical reality.

We can call these practices *geopower* (Luke 1995; Ó Tuathail 1997). Geopower, obviously, refers back to and extends Foucault’s idea of biopower. Recall the definition of biopower in his 1978 lecture *Security, Territory, Population*:

“By this I mean a number of phenomena that seem to me to be quite significant, namely, the set of mechanisms through which the basic biological features of the human species...”
became the object of a political strategy, of a general strategy of power, or, in other words, how, starting from the 18th century, modern Western societies took on board the fundamental biological fact that human beings are a species. This is what I have called biopower (Foucault 2007:16).

For Foucault biopower is the matrix of modern discursive practices, the “capillary” forms of regulation that elicit, harness, channel, enhance, deploy, and maximize the power of individual bodies and whole populations; think public health, town planning, notions of self-improvement.

For Ó Tuathail geo-power is:

the functioning of geographical knowledge not as an innocent body of knowledge and learning but as an ensemble of technologies of power concerned with the governmental production and management of territorial space. The problematic of geopower concerns the modern governmentalization of geography from the sixteenth century onward, a time, as Foucault notes, when government as a general problem demanding public and intellectual thought explodes in terms of its relevance and significance (1996:6).

If biopower accesses the powers of bodies and populations, then geopower is similarly the statecraft and technologies of power that make territory and the biosphere accessible, legible, knowable, useable. As such, geopower is the ensemble of state practices that make environments. Geopower technologies include: exploring, describing, cadastral surveys; building roads, canals, dams, railroads, telegraphs; establishing property rights, borders, policing and identification systems; scientific surveys, and all the applied natural sciences, like botany, agronomy, and geology. Each of these in turn and in combination have ecological reverberations; all of these administrative and scientific practices continually make and remake capitalist social nature.

It was and still is this geopower matrix of state-centric, earth-focused techno-rational practices that help produce capitalist social nature. Consider the massive and heroic feat of accurately surveying and mapping the United States, a process that as Linklater (2002) shows was fraught with problems of coordination and collective action that only government could solve. From the original surveys of the late eighteenth and early nineteenth century emerged administrative units such as the General Land Office, later to become the Bureau of Land Management and the US Geological Survey, a scientific arm of the government charged with the “classification of the public lands and examination of the geological structure, mineral resources, and products of the national domain”. That bit of government prose is as good a definition of geopower as any. Both geo-power and bio-power can be seen as similar to and overlapping with Michael Mann’s (1984) concept of “infrastructural power” or Giddens’ (1984, 1987) neo-Weberian notion of “structuration”.

Property rights are a central form of, and effect of, geopower. Property rights, not to be confused with mere possession, are an abstraction that in the modern world presupposes the territorial power of a state. So too is modern, large-scale infrastructure mostly the product of states. Use values are delivered to production by the
legal-rational, territorially defined framework of the law and attendant state practices. And, by the massive public investments that are essential to the development of actually existing infrastructure. The ultimate “landlord” is the state; it controls non-human nature’s use values, and delivers these rents to capital (Emel et al. 2011). Thus, behind Marx’s waterfall-owning capitalist stands a bailiff and if need be a hangman ready to enforce property rights.

A Special Body
Let us now review some classic definitions of the state. From Engels in The Origin of the Family, Private Property and the State we have the state as:

the admission that this society has become entangled in an insoluble contradiction with itself, that it has split into irreconcilable antagonisms which it is powerless to dispel. But in order that these antagonisms, classes with conflicting economic interests, might not consume themselves and society in fruitless struggle, it became necessary to have a power seemingly standing above society that would alleviate the conflict and keep it within the bounds of “order”; and this power, arisen out of society but placing itself above it, and alienating itself more and more from it, is the state (Engels 2004:157–158).

This is the state as the product and arbiter of class struggle. Lenin, reading Engels, summarizes: “The state is a product and manifestation of the irreconcilability of class contradictions. The state arises where, when and to the extent that class contradictions objectively cannot be reconciled” (Lenin 1976:5).

Flowing directly from this we have Weber’s classic and more mainstream definition of the modern state, which he arrived at while trying to define “politics” amidst the violent class struggle of the German Revolution. He delivered his lecture “Politics as a Vocation” in Munich on 19 January 1919; less than 3 months later, Munich and all of Bavaria would see revolution and the short-lived creation of the Bavarian Soviet Republic. Then, just as Weber warned, “a polar night of icy darkness and harshness” (2004:93) arrived and the revolution was violently crushed. In this lecture, Weber was very much in conversation not just with Marx but with as it were “actually existing” Leninism; he even sounds like he is paraphrasing State and Revolution.

“[I]n the final analysis the modern state can be defined only sociologically”, says Weber, “by the specific means that are peculiar to it ... namely, physical violence” (2004:33). From there he concurs with Trotsky’s assertion that “Every state is based on force”, noting that force is a “means specific to the state”, and then arrives at the famous formulation: “we must say that the state is the form of human community that (successfully) lays claim to the monopoly of legitimate physical violence within a particular territory—and this idea of ‘territory’ is an essential defining feature”.7 Indeed, if sovereignty is fundamentally geographic, then the economic and environmental implications of the “monopoly of legitimate physical violence within a particular territory” means the state acts to regulate and produce both human and non-human nature: bodies, labor power, and the use values of “natural” resources, all the crucial components of value. It is precisely the territoriality of the state
that creates its inherently environmental characteristics. And this makes the state central to what Moore (2013) calls capitalism’s “world-ecological” project of accumulation.

As indicated in earlier passages, Marx saw space as part of the forces of production. In the Grundrisse he notes that:

The more production comes to rest on exchange value, hence on exchange, the more important do the physical conditions of exchange—the means of communication and transport—become for the costs of circulation. Capital by its nature drives beyond every spatial barrier. Thus the creation of the physical conditions of exchange—of the means of communication and transport—the annihilation of space by time—becomes an extraordinary necessity for it. Only in so far as the direct product can be realized in distant markets in mass quantities ... is the production of cheap means of communication and transport a condition for production based on capital, and promoted by it for that reason (1993:524).

Marx’s discussion of water power versus steam power as a source of extra surplus suggests ways in which “space acts as a force of production”, as Swyngedouw puts it (1992:422). This alerts us to the importance of political (which is to say, coercive and administrative) control over place as the pre-condition for the private appropriation of the “productive powers” and use values of non-human nature. Thus, returning to Marx’s discussion of the waterfall versus steam, we find the following:

The increased productivity of the labor he applies arises neither from the capital and labor themselves nor from the simple application of the natural force distinct from capital and labor but incorporated into the capital. It arises from the greater natural productivity of a laborer linked with the use of the natural force, but a natural force that is not available to all capital in the same sphere of production, as for example the elasticity of steam; it’s use therefore does not automatically occur as soon as capital is invested in this sphere. What is used is rather a monopolizeable natural force which, like the waterfall, is available only to those who have at their disposal particular pieces of the earth’s surface and their appurtenances. It is in no way just up to the capital to call into being this natural condition of greater labor productivity, in the way that any capital can transform water into steam. The condition is to be found in nature only at certain places, and where it is not found it cannot be produced by a particular capital outlay. It is not bound up with products that labor can produce such as machines, coal, etc. but rather with particular natural conditions on particular pieces of land. Those manufacturers who possess waterfalls exclude those who do not possess them from employing this natural force, because land is limited, and still more so land endowed with water-power. It is not ruled out that, although the number of natural waterfalls in the country is limited, the amount of waterpower that industry can use may still be increased. A waterfall can be artificially channeled to make its motive power fully usable; a waterwheel can be improved in order to use as much of this water-power as possible; where the ordinary type of wheel is not suited to the supply of water, turbines can be used, etc. Possession of this natural force forms a monopoly in the hands of its owner, the condition of higher productivity for the capital invested, which cannot be produced by capitals unproductive processes; the natural force that can be monopolized in this way is always chained to the earth (Marx 1990b:784, emphasis added).
Just as the waterfall is “chained to the earth” so too are many other natural use values (fish and game being partial, though not total, exceptions). Trees, like waterfalls, confer utility and value, when growing they too are bound in place, though they can be cut down and carted away. Marx’s waterfall is only a dramatic illustration of a more common set of relationships.

To those who control territory flow the utilities of specific spaces. But the small private monopolies over space and nature that are private property rights depend upon a larger system of political control over space, the state. Thus capitalism is an inherently political-geographic project with the state as its central mechanism. At the heart of capital’s process is nature, and that dynamic interplay between violence and space which is the state process. Capitalism emerged through and with the state and continues to depend upon it (Moore 2002). The state appropriates nature for capital directly by force; during conquest, enclosure and the creation of functional property rights; and indirectly by its development of landscape and its infrastructure.

**Primitive Accumulation as State Formation**

To better understand the origins of the environment making state, consider again Marx’s discussion of “so-called primitive accumulation”. He begins by saying: “In themselves money and commodities are no more capital than are the means of production and of subsistence. They want transforming into capital” (1990a:874). But divorcing the producer from the means of production and the creation of the two historically opposed classes is also a process of capitalist state formation. A process running thus: Step one. In the late fifteenth century the rise of the Flemish wool industry starts driving up wool and land prices in the British Isles. The great feudal lords respond by driving peasants from the land, replacing them with sheep. This is illegal and the royal state attempts to stop it. “Legislation shrank back in the face of this immense change”, writes Marx. A 1489 act of Henry VII forbade the destruction of all “houses of husbandry” with at least 20 acres of land. Later Henry VIII, who reigned from 1509 to 1547, sought to limit the size of herds. For nearly 150 years the royal state attempted to check the land seizures of this emerging capitalist farming class.

Step Two. With the Reformation in England, the Crown expropriates that major feudal landlord the Catholic Church. These lands are parceled out to royal favorites; and these expropriations also mean the deracination of peasants who are now cast out as proletarians. This expropriation was the byproduct, or cause of, what Marx here called “a peculiar religious struggle”. Here the royal state gave land to, and thus hastened the formation of, an emerging class of mercantilist, proto-capitalist landlords. Yet the state itself was only gradually transformed.

Step Three. After the English Revolution, and the restoration of the Stuarts in 1660, the land of proprietors achieved:

by legal means an act of usurpation in that they abolished the feudal tenure of land, i.e. they got rid of all of its obligations to the state, indemnified the state by taxes on the peasantry and the rest of the mass of the people and thus vindicated for themselves the rights of modern private property (Marx 1990a:883–884).
Now, along with land-use and class relations becoming more capitalist, so too is the state. 

*Step Four.* By the eighteenth century landed elites enclose communal property, an old Teutonic institution living on under the cover of feudalism, through parliamentary Acts of Enclosure. Now the state is taking on properly capitalist characteristics; political elites are intertwined with the new capitalist farming class, the two emerging intertwined together. Thus viewed, primitive accumulation is also a process of state formation. 

*Step Five.* Finally, or simultaneously, there is the European conquest of the Americas and the Columbian Exchange (Crosby 2003), the biological and political consequences of merging the Old World and New. The global enclosures of the long sixteenth century fueled the rise not only of capitalism but also of the capitalist state.

We could easily place this final step first at the beginning. The development of the colonial periphery was also a catalyst in the development of the capitalist state. The profits from exploiting the New World resources and African labor power helped fund incipient industrialization in the core economies. Just as economic resources flowed back-and-forth between the core and periphery so too did state income increase and statecraft develop across the core–periphery divide of the emerging capitalist world system. Even during its most piratical moments European colonization wrapped itself in state charters, legality, and administrative apparatus; Drake was a privateer licensed by Elizabeth. Pizarro had the permission of Charles V; mercantilism was a state-centered system of trade. Political technologies—variously military, administrative, techno-rational, judiciary, and racial—developed through the uneven geography of empire.

**The Environment Making State in Early America**

The history of the early United States offers another example of state formation as environment making. In many ways the Revolution was a struggle over who controlled extra-human nature: which institutions would control access to it; how would it be digested, metabolized and transformed? In October 1780—a year before the Articles of Confederation were ratified by Maryland’s final agreement—the Continental Congress had already adopted a general policy for administering any lands transferred to the federal government. During the 1780s, the national government slowly but steadily collected western lands from the states (Linklater 2002). The Northwest Ordinance of 1784 was the first step, Virginia agreed to cede its huge and much contested claims. This was followed by the more complete Northwest Ordinance of 1787, in which New York, Massachusetts, and Connecticut ceded their claims. That same year, the new constitution addressed the issue with a mere 26 words in Article IV, Section 3: “The Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States…” (US Const. article IV, section 3). Georgia was the last to cede trans-Appalachian land in 1802.

The federal government’s promise to pay off state debts incurred during the war facilitated this massive land transfer. Yet, in a stroke of brilliant geographic alchemy it was the land transfers themselves that created the federal territory against which
the national government could borrow to pay down the state debts. In other words, Alexander Hamilton’s strong federal government was not just a political arrangement; it became strong when it acquired territory.

In Hamilton’s developmentalist economic vision, as laid out in the 1791 *Report on Manufactures*, incorporated a considerable amount of geopower, and through it, environment-making. “Good roads, canals, and navigable rivers”, explained the *Report*:

> by diminishing the expense of carriage, put the remote parts of a country more nearly upon a level with those in the neighborhood of the town. They are upon that account the greatest of all improvements ... Though they introduce some rival commodities into the old market, they open many new markets to its produce (Hamilton 2014).

Here, Hamilton as an agent of state power was operationalizing capital’s “extraordinary necessity” to “drive beyond every spatial barrier”, its quest for “the annihilation of space by time”, as Marx (1993) would later put it in the *Grundrisse*. We see in Hamilton that capital does not actually annihilate all by itself, but rather does so while symbiotically bound up with the state. Hamilton’s plans to use federal lands and build an integrated national market were instrumental to his larger project of a manufacturing-based form of economic development. Though deeply concerned with creating finance and manufacturing sectors, Hamilton never lost sight of what we could call (*pace* Marx) the “substratum” of pre-existing use values, lying within non-human nature. “[I]t is manifest that our immense tracts of land occupied and unoccupied are capable of giving employment to more capital than is actually bestowed upon them” (Hamilton 2014).

The Hamiltonian “American School” was a combination of: strong federal government, a high tariff, a national bank and money system, public funding of internal improvements (ie infrastructure), bounties and subsidies for what would later be “infant industries”; and deliberate recruitment of skilled labor and intellectual property. By the 1820s, the Hamiltonian package of development policies became known as “the American System” and Henry Clay of Kentucky was its tribune. Clay added to the developmentalist policy menu the controlled release of federal lands in a fashion that set minimum prices. Ultimately, the American System was only partially realized. Its grander vision fell victim to steadfast opposition by Southern proponents of state’s rights and laissez-faire. Largely defeated at the national level, much of the Hamiltonian vision was operationalized by the states. New York State’s construction of the Erie Canal is perhaps the best example, but there were many such projects during the canal building mania of the 1820s and 1830s.

The story of the Erie Canal illustrates well the role of the state in developing and reproducing the metabolic arrangements that are capitalism. Put differently, the canal shows us how states make ecologies. It reveals the connection between non-human nature’s use values, state geo-power, and the expanded reproduction of capital. Famously, the canal connected Atlantic trade circuits, via New York City to the Great Lakes, the Mississippi River, and thus the whole interior West and South. New York City became the pivot point of a huge international network of financial and biological flows and as such became the capital of American finance,
and thus later world finance. But the rise of New York City was merely the urban manifestation of a primarily rural process: the radical ecological transformation of a huge swath of interior territory; a transformation that involved the displacement of the Iroquois’ “regime of nature” with a nascent capitalist one. Great swaths of previously Iroquois-controlled land were opened to white settlers and their environmental practices.

At the physical and financial heart of this de facto national project was a massive gift of public land, and with it public water. By one count no less than 4.5 million acres of federal land were given to canal companies (Rae 1944:167). This land provided the territory and water for canals, as well as land to be developed next to them. The land grants also functioned as collateral against which to finance the canals. There was something else about the canals that made them state-centric—the unwieldy properties of water.

**Dewitt Clinton’s “Hydraulic State”**

Few forces call forth the state so consistently as does water. The peculiar link between water management and state power was not lost on canal loving eighteenth century European observers. The fact that water management is difficult and thus requires collective, rather than individual, action would of course later play a role in Marx’s (1977) conception of an “Asiatic Mode of production” from 1859, and Wittfogel’s (1957) concept of “hydraulic societies” and his problematically associated notion of “Oriental Despotism”. Without getting into the critiques of these ideas, it is worth acknowledging that water management demands collective action. And only when the general cause of canals was taken up by the public sector, did the dream of an American network of canals come to fruition.

Written accounts of Chinese canals played an important role in exciting the imagination of American canal proponents (Hanyan 1961). Much of what canal proponents learned from reading about China’s 1000-mile-long Grand Canal, linking Beijing in the north to the southeastern coast at Hangzhou, was technical, but just as important were the political insights about the essential role of government in producing and maintaining this amazing water way. British diplomat Sir George Staunton, who wrote one of the most widely read investigations of China’s Grand Canal, took pains to note the role of state planning and investment. “This canal”, wrote Staunton:

> is not nor indeed is any in China, a private concern, carried on at the expense and for the profit of individuals but is under the regulation and immediate inspection of the government, whose policy it is to maintain an easy communication between the several parts of the empire, as tending to promote the commerce and agriculture of the country, thereby increasing the revenues of the state and the comforts of the people (quoted in Hanyan 1961:562).

In 1817, New York State finally allocated money to start building its canal. As President, Jefferson rebuffed New York’s would-be canal builders when they came looking for federal money. But his Treasury Secretary, Albert Gallatin, did commit
plenty of adjacent federal land to the canal; informing Congress as he did that a successful canal would greatly enhance the value of those lands (Koepple 2009:93). In all, the canal would cost $6 million; its primary contractor was a not-for-profit public entity, the Canal Commission, which in turn dolled out work to local for-profit contractors—a methodology that set the template for public contracting thereafter.

According to Hanyan the state-centric political lessons from China were as important or more important than any technological vision:

During the next decade many states made efforts in this direction, building canals in profusion. These projects were carried out under government control, following the pattern set by New York State’s well-known Canal Commission and Canal Fund. Drawing more heavily from legislative allotments, rather than private shareholders and controlled more by state commissions than corporate directors, these new waterways indicated that the day of the [private] canal company was passing. If not providing new methods of building, then, the oriental example played a part in this change ... To a New York provided only with the inadequate works of the Western Company, China gave the vision of a government-built Grand Canal (1961:566).

Completed in 1825, the economic, and therefore ecological, effect of the Erie Canal was massive; the cost of moving a ton of freight dropped by 95%. This is the state making a regime of nature unintentionally but very directly and forcefully. “The abandonment of New England farms began with the completion of the Erie Canal” (Hedrick 1933:243–244). And thus, by 1850 New England had begun its long slow process of reforestation, even as its population increased (Pfaff 2000). As Howe summed it up: “the Erie Canal represented the first step in the transportation revolution that would turn an aggregate of local economies [and ecologies] into a nationwide market economy” (2007:118). Before long, the Erie Canal was carrying twice as much cargo as flowed down the Mississippi to New Orleans. The state-led transportation revolution was also an environmental revolution. The famous canal-triggered growth of New York City (an environmental event in itself) was only one side of a broader spatial transformation, the rest of which was going on throughout the Midwest. Away went one “regime of nature”, in came another.

The pre-canal landscape of the Iroquois had hinged on massive anthropogenic burning. Regularly setting fire to the landscape created what we now call “edge habitat” which is preferred by deer and other game. Burning also facilitated food gathering, berries for example still need burning; and of course burning returned nutrients to the soil thus aiding cultivation of corn, squash, and beans. Adriaen van der Donck, a Dutch chronicler of life in New Amsterdam writing in the 1640s and 1650s, described the role of fire:

The Indians are in the habit—and we Christians have also adopted it—once a year in the fall to burn the woods, plains, and those marshlands that are not too wet as soon as the leaves have dropped and the herbage has withered. Portions that were missed, as may happen, get their turn later in the months of March and April. This is known among our people as well as the Indians there as bush burning (2008:21).

After the Revolution a majority of the Iroquois withdrew to land grants in Canada. Some white settlers moved in and cleared land for subsistence farming. But it was
the government-built canal that really opened the interior west to white settlement, shaped its economy and ecology, its social nature, and tied these regional metabolisms to broader markets. Gone was selective burning, in came forest clearing and the monocropping of wheat and other grains. Isolated subsistence farmers now became wheat exporters, and in the process developed new types of “nature”. Monocropping would soon invite fungal disease and pests like the midge and Hessian Fly. In the face of these ecological transformations, Hudson Valley farmers had to put “all available land under cultivation, some of it inferior land that had been previously depleted” (Wermuth 1998:188). Ultimately, Hudson Valley agriculture under pressure from disease and cheaper grain flowing from the west, and responding to the growing market in New York City, converted from wheat to dairy production. At the same time Hudson Valley farmers intensified household-based manufacturing of barrels and course cloth, drawing in and transforming resources from further afield. All these were ecological transformations caused directly and indirectly by the government-built canal.

Canals more generally, as a development of the means of production, facilitated the extension and intensification of agriculture, which is to say, greatly facilitated the capitalist production of nature. Much of the Erie Canal’s freight, therefore, can be seen as not merely carried by the new waterway, but in a geo-power fashion as conjured and created by it. As Howe notes:

Wheat flour from the Midwest was stored in New York alongside the cotton that the city obtained from the South through its domination of the coastal trade; both could then be exported across the Atlantic. New York merchants began to buy wheat and cotton from their producers before shipping them to the New York warehouses. Soon the merchants learned to buy the crops before they were even grown; that is they could advance the grower money on the security of his harvest. Thus the city’s power in commercial markets fostered its development as a financial center (2007:119–120).

As such, New York was merely one spatial expression of an emerging “regime of nature” that had as a central mechanism the geo-power of the state, which built the canal and helped create the agricultural economy of the Midwest.

**Conclusion**

I have laid out an analysis of the state rooted in a political ecological reading of value. As a central catalyst of social nature, the capitalist state does not have a relationship to “nature” rather it is a relationship with nature. The state is a crucial ecology making institution within the metabolism of capitalism. This argument has political implications. First, the state cannot be avoided, as scholars like Holloway suggest. For Left politics to be effective movements, especially in the face of the climate crisis, they must come up with strategies that engage and attempt to transform the state. The idea of escaping the state is to misrecognize the centrality and immutably fundamental nature of the state to the value form and thus to capitalist society (Mazzucato 2013).

The chairman of the Export-Import Bank of the United States (the export credit agency of the Federal Government) tried to explain the centrality of the state to
reporters after a business trip to the Czech Republic during which he was accompanied by the CEO of Westinghouse:

It’s time to drop the fantasy that a purely free market exists in the world of global trade... In the real world our private enterprises are pitted against an array of competitors that are often government-owned, government-protected, government-subsidized, government-sponsored or all of the above (The Economist 30 July 2013).

In other words, the legal frameworks of property are *territorially fixed* and states remain the crucial political units of the global system.¹³

Managing, mediating, producing, and delivering non-human nature to accumulation is a core function of the modern, territorially defined, capitalist state. When we speak of capital having a metabolism, we must think of the state as an indispensable mediating membrane in that process. In that regard, the climate crisis does not require a new role for the state, but merely a different and better version of the environment making that it already does. For that to happen critical scholars need a renewed theoretical engagement with the state. I have suggested that we begin by considering the state as the central environmental actor within the larger world historical drama of capitalism. The state remains at the center of modern political struggle. More specifically, the state’s seemingly new role as an economically crucial, environmental agent, which can appear to be merely a political by-product of climate change and the broader ecological crisis, is actually not new at all. Climate change brings disasters and emergencies that call forth the state. How the state responds is a different question: sometimes it fails, but always it is called.

**Acknowledgements**

I would like to thank Jason W. Moore for comments on an earlier draft of this paper and particularly for suggesting that I use the term "environment making state" rather than my earlier formulation of the environmentalist state. Also many thanks to Josh Mason for comments on an earlier draft. And thanks also to the helpful comments from the participants of the ongoing seminar convened by David Harvey at the Center for Place Culture Politics at CUNY Graduate Center.

**Endnotes**

¹ After rediscovering these passages in Marx one realizes there is no outside of nature, and that civilization, which is to say human “economic activity” is that part of “nature” which most intensifies and accelerates biophysical change, for better and for worse. It should be pointed out that human beings are not alone in having a dialectical relationship with their environment. Plenty of species do the same. Beavers need beaver ponds, but they do not find them ready-made, they create them. The creative tension that is the organism environment relationship is at the heart of Aldo Leopold’s concept of the “trophic cascade”. Remove apex predators like wolves and watch all the reciprocal relationships in the food web, which is a local ecosystem, begin to transform. Even the oxygen-rich atmosphere that allowed our development as a species is itself the product of organism environment interactions that occurred 2.4 billion years ago when methane consuming “exhaled” so much oxygen that they transform their environment in what is now known as the Oxygen Catastrophe or Great Oxygen Event.

² Recently, Moore (2013) has deployed the term *Oikeios*, a Greek word that crystalizes ideas about the social production of ecologies.
At another level this indicates that capital, or the production and accumulation of value, always needs an outside to take from and deposit back into. It takes up utilities and deposits back externalities.

Timothy Luke (1995) and Gearóid Ó Tuathail (1997) offer versions of geo-power that are useful, though I find their use of the concept a bit too “discursive” and not materialist enough.

It is no coincidence that men like George Washington often had as one of their first skills “surveyor”. From these adventures in geo-measurement they got rich by first plotting and mapping then buying up choice pieces of Western lands. The knowledge of surveying in mapmaking was crucial to all colonial land companies. Frequently all they needed to assert their claim was the map, no “improvement” of the land like selling trees was necessary. As a young George Washington explained: “the greatest estates we have in this colony were made ... by taking up and purchasing at very low rates the rich back lands which were thought nothing of in those days, but are now the most valuable lands we possess.”


It is not that others do not use force, even legitimately: “all other organizations or individuals can assert the right to use physical violence only insofar as the state permits them to do so. The state is regarded as the sole source of the ‘right’ to use violence” (Weber 2004:33).

I say partial exceptions because even schools of fish that migrate hundreds or thousands of miles nonetheless have ecological ranges and thus specific territories, portions of which can fall under state control.

Moore writes: “Medieval Europe was riven by profound socio-ecological contradictions. Feudalism’s environmental degradation pivoted on the lord-peasant relationship, which limited the possibilities for reinvestment in the land. Consequently, feudalism exhausted the soil and the labor power from which it derived revenues, rendering the population vulnerable to disease. The Black Death decisively altered labor-land ratios in favor of Western Europe’s peasantry. This new balance of class forces eliminated the possibility of feudal restoration and led the states, landlords, and merchants to favor geographical expansion—an external rather than internal spatial fix to feudal crisis. This external fix, beginning in the Atlantic world, had capitalist commodity production and exchange inscribed within it. Capitalism differed radically from feudalism in that where earlier ecological crises had been local, capitalism globalized them” (2002:301).

“Although states other than Virginia also claimed lands in the trans-Appalachian West upon the basis of the vague boundaries stated in their founding charters, no other state’s claims embraced so vast a territory as those of the Old Dominion, which included not only the area between the Appalachian Mountains and the Ohio River but also the huge acreage beyond that became known as the Old Northwest. Its very extensiveness made the claim the focus of opposition. Moreover, with seven states “landed” according to charter claims and six ‘landless’ the even balance produced a long drawn out fight that even Virgini’s cession in 1784 only partially resolved” (Berkhofer 1972:232).

In his classic Oriental Despotism: A Comparative Study of Total Power, Karl Wittfogel described water’s political imperatives thus: “No operational necessity compels [a farmer] to manipulate either soil or plants in cooperation with many others. But the bulkiness of all except the smallest sources of water supply creates a technical task which is solved either by mass labor or not at all” (1957:15). Murray Leaf (1992) explains: “The need to control corvee labor and competition between societies requires ever larger works; larger works require heavier corvees of labor, heavier corvees require higher levels of integration and co-ordination and therefore large permanent systems ultimately require permanent specialized bureaucracies who will decide how many people are needed for what, and where. These must be ‘vertically’ organized.” In other words, the argument behind the idea of hydraulic despotism or the Asiatic mode of production: large-scale canal irrigation systems seem to require mass organization, and that seems to require a centralized powerful state. For interesting and surprisingly sympathetic discussion of Wittfogel’s ideas in transit from Left to Right, see Smith (1987).
Neoliberalism’s miraculous disappearance of the state as a category animates not only the Right but also many of capitalism’s critics on the Left. Where the neoliberal Right celebrates a globalized “flat world” in which knowledge and capital have been liberated from the political encumbrances of physical space, many on the Left see “rule by corporations”. Missing from both narratives is a proper understanding of what the state actually is, and by extension what it could be. Rampant in the 1990s left-wing anti-globalizers are somewhat quieter now. Doug Henwood mocked this milieu as “globaloney”. See your quintessential David Korten (2001) When Corporations Rule the World.

References

Berkhofer R F (1972) Jefferson, the Ordinance of 1784, and the origins of the American territorial system. The William and Mary Quarterly 29(2):231–262


Marx K (1970 [1875]) *Critique of the Gotha Programme*. Moscow: Progress

Marx K (1977 [1859]) *A Contribution to the Critique of Political Economy*. Moscow: Progress


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van der Donck A (2008 [1656]) *A Description of New Netherland*. Lincoln: University of Nebraska Press


