

Understanding Neoliberalism as Economization: The Case of the Ecology

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Abstract

This chapter aims at exploring how the neoliberal project reproduces itself theoretically and practically in the context of the government of the ecology. It first proposes, following Foucault, a definition of neoliberalism as not only a drive towards privatization and marketization, but rather more broadly as a drive towards the economization of the ensemble of social relations (viz., the economic, the cultural, the political, and the ecological) through governmental dispositifs based on the understanding that individuals are calculative and calculable. It then traces the historical genealogy of neoliberal reason back to the establishment of the Mont Pèlerin Society in the immediate aftermath of WWII, as an alliance venue for the Austrian, the Chicago and the Virginia schools of thought. The chapter then claims that if neoliberal project is to be understood as an economization of the entire realm, then the Post-Walrasian approach, whose main aim is to provide “incentive-compatible” mechanisms to situations pertaining imperfect and costly information, should equally be included within the neoliberal project despite its egalitarian concerns. On this backdrop, the chapter finally unpacks how different varieties of neoliberalism reproduce themselves in the context of the ecology. It concludes by making two claims: first, the reduction of ecological valuation to a mere aggregation of individual subjective valuations may be inappropriate for complex and uncertain ecological services; and second, environmental policies that are based only on economic incentives are likely to subject the entire ecology into the economic logic of markets and “performatively” turn it into an object of strategic-calculative logic, as they solicit manipulative, predatory, and rent-seeking behavior.

Setting out the problem

In the aftermath of the 2008 financial crisis, governments and international finance organizations began to call for and take regulatory measures in order to prevent similar breakdowns in the future, causing some commentators to quickly pronounce neoliberalism dead. Consider, for instance, a most recent example: while writing this chapter, a special report in the January 21-27, 2012, issue of *The Economist*—embellished with a red and black portrait of Lenin on the cover, triumphantly holding a cigar with a dollar sign on it—lamented the “emerging world’s new model” would be “the rise of state capitalism.” Yet, this line of argument is based on a rather simplified and narrow reading of neoliberalism, as a purer *laissez-faire* regime where spontaneous markets reign free with minimal role for governments. A closer look at the brief history of neoliberalism challenges this reading of neoliberalism as a project/process of *marketization* on both the practical and the ideational levels. Practically

speaking, governments have always played an active role in designing, instituting and facilitating the operation of markets, not only before but also under neoliberalism. In other words, the historical track record of three decades of neoliberal hegemony at a global scale demonstrates that the much invoked dichotomy between state and private capitalism fails to do justice to the intensity and the depth of dirigiste and technocratic bureaucratic state involvement in implementing neoliberalism (Harvey, 2005; Peck, 2010). In fact, if we were to follow the directions proposed back in the end of the 1970s by Michel Foucault (2008) in his prescient genealogy of neoliberal reason, at the ideational level, neoliberal “turn” in economic thinking, quite distinct from the earlier, late 18th-century classical liberalism which aimed at protecting the markets from the arbitrary interventions of the state, represents a particular epistemic shift in the way the governments relate to and regulate the entire ensemble of social relations through a governmental matrix which is organized around the assumption that all social agents (be they individuals, groups, enterprises, or states) are calculatively rational and calculably responsive towards (pecuniary or otherwise) incentives. In other words, if neoliberalism is not (only) a drive towards *marketization*, but rather more broadly a drive towards the *economization* of the ensemble of social relations (viz. the economic, the cultural, the political, and the ecological) through governmental dispositifs, then it would be misleading to deduce the death of neoliberalism from the increasing visibility of state involvement in the economy and society at large without asking how that involvement is epistemically organized and whether or not it successfully transforms social ontology in the direction of *economization* (Madra and Adaman, 2010).

If one were to subscribe to this reading of neoliberalism as a drive towards economization of the economic, political, social, and ecological spheres, one could plausibly argue in our current conjuncture that, despite the fact that the economic recession is still going strong in North America and Europe, leading to political crises in Southern Europe (Greece, Spain, and Italy) and potentially to the dissolution of the Euro-zone, neoliberalism remains hegemonic. In response to this persistent crisis, governments are electing not to return to a Keynesian-style demand-management policy through deficit- or, better yet, progressive taxation-based spending policy (as advocated by the likes of Joseph Stiglitz [2010]), and continue to advocate and actually implement austerity programs despite widespread popular unrest and opposition. But more importantly, while only a small fraction within the neoliberal field still defend the market panacea paradigm unequivocally, there is very little questioning of the economizing and calculative ideologies of the neoliberal social ontological project.

In this chapter, our aim is to shed some light on how the neoliberal project reproduces itself theoretically and practically in the context of the government of the ecology. Given the ever-deepening dual crises of environmental pollution and the over-use of natural resources (including the exhaustion of non-renewable energy and material sources), unveiling the relationship between neoliberalism and ecological degradation—at both theoretical and policy levels—is crucial. Currently, the privatization of natural resources (viz. natural parks, forests) is being promoted; financial markets are finding their way into environmental policy and conservation (viz. payments for ecosystem services, biodiversity derivatives, species banking and carbon trade); and incentive schemes are being designed to provide the right signal to agents in their relationship with ecology (viz. the price-per-bag policy for household waste). Critically engaging with these numerous policies and their ideological sources will be possible only if one subscribes to the understanding of neoliberalism as a project of economization as outlined above. This constitutes the essence of this chapter.

More specifically, the chapter argues that the global spread of neoliberalism as a set of ideas, interpretative grids, governmental interfaces, and institutional dispositifs in relation to ecology is premised on the conceptualization of human behavior from a certain perspective, according to which the capacity of agents in understanding and responding to economic incentives is taken as a postulate, and every human decision is assumed reducible to a mere cost-benefit analysis. The chapter reads the widespread and resilient hold of the neoliberal epistemic grid within theory and policy-making by situating it, or “embedding” it, within the historical context of intellectual continuities between neoliberal policies towards the use of ecology and the general postwar intellectual legacy of neoliberalism within the mainstream of the discipline of economics. For this purpose, it traces the historical genealogy of neoliberal reasoning back to the establishment of the Mont-Pèlerin Society in order to defend the idea of free market against the post-Great Depression hegemony of the Keynesian welfare state capitalism (the Beveridge Plan in the UK, New Deal in the USA, developmentalism in the Third World), by discussing the links, affinities, and differences among not only the usually-recognized Austrian, Chicago, and Virginia Schools, but also, and perhaps more controversially, the left-leaning and egalitarian post-Walrasian, or better-known as “mechanism-design,” approach. Indeed, the latter set of approaches, because they highlight the limits and failures of markets (arising mainly due to informational asymmetries) and advocate for the regulation of markets and the design and institution of “incentive-compatible” mechanisms that would substitute for markets, tend to be read as alternatives to the neoliberal creed. Nevertheless, what appears as an alternative from

the neoliberalism-qua-*marketization* perspective, can be considered only as a variant from the perspective of our understanding of neoliberalism as a project/process of *economization*. The common thread that has held these diverse groups of intellectual networks together, the chapter argues, is the ultimate belief that relying on economic incentives would indeed produce a prosperous and harmonious society. In sum, this chapter invites the reader to understand neoliberalism as a governmental epistemic grid that aims to performatively bring to existence a particular calculative and calculable organization of the entire social field, including the ecology—as a governmental logic, while undoubtedly including marketization and privatization among its policy options, exhaustively entailing the economization of the political, the cultural and the natural, and performatively promoting calculative (and therefore calculable) behavior across all fields.

Neoliberalism beyond marketization

As mentioned above, the narrower and *ipso facto* partial definition of neoliberalism considers it a quest for *marketization*—viz. an assemblage of deregulation, private property, trade and financial liberalization, and labor-market flexibilization, together with a reduction in the role of the state in the economy (if only at the level of representation) and especially the gradual rolling back of its welfare functions (see, for a critical assessment, Plehwe, Walpen and Neuhöffer, 2006). This reading certainly has a point. The last three decades have witnessed structurally-transformative national and globalizing developments (see, e.g., Harvey, 2005, Cerny, 2008, Klein, 2008). The removal of trade barriers, the shift from fixed to floating currencies, increased international capital mobility, the expansion of multinational corporations, and the vast amount of privatizations have altogether brought about a decoupling of profits and investment, a decline in the share of wages, and a deterioration in income distribution together with increased poverty (see, e.g., Epstein, 2005; Duménil and Lévy, 2011). In addition, the drive to generate short-term profits and accumulate wealth, exacerbated during the neoliberal era, have continued to deplete the earth's resources to the point where today, the global economy requires approximately 1.4 times the earth's capacity to regenerate resources per year (www.footprintnetwork.org).

Some scholars name this process, the “roll-back” (as in the rolling back of the post-war welfare state) face of neoliberalism and distinguish it from the “roll-out” face of neoliberalization (Tickell and Peck, 2003; Peck, 2010). As the neoliberal project/process of economization

stumbles along its path into various forms of market failures, social antagonisms and ecological limits, these scholars argue, it ends up rolling out the state (or more generally the mechanisms of “command and control”) by taking a pro-active role in devising market-complementing and technocratic regulatory institutions, expanding and deepening the dispositifs of social control, and implementing crisis-management interventions (Peck, 2010: 22-28). Indeed, when viewed from an historical perspective, the state apparatus has always been behind the design and safeguarding of market structures: recall, for instance, Karl Polanyi’s (1944) portrayal of the liberal era of the late 19th and the early 20th centuries. Furthermore, governments always actively participated and continue to do so in the day-to-day operations of the economy directly. To begin with, military spending, globally, has resumed its rate of growth after a brief period of post-Cold War slow down in the 1990s. Accompanying this process of military build-up, is the unprecedented growth of the “security” industry in the post-9/11 context. Increasing income inequality, combined with the “fear” industry, has led to the dissolution of the public sphere and the increasing segmentation of the social space—as evinced by the contrast between the growing numbers of gated communities and shopping malls and heavily isolated and policed shanty towns (Klein, 2008). Similarly, while the welfare-state functions of the capitalist states have been curtailed dramatically, the states, through public-private partnerships, at the local, city and regional levels, have continued to participate in the regional redevelopment and urban renewal projects and infrastructural projects pertaining to, among others, energy and transportation. And most recently, in the aftermath of the 2008 financial meltdown, we have observed how the state functioned as the lender of last resort, as the institution that is supposed to bail out corporations which are themselves too-big-to-fail.

As if all this was not enough, today the advanced capitalist states of the global North are implementing austerity regimes and further cutting social expenditure budgets without really curtailing security-related spending, the most important contributor to budget deficits. Yet, all these involvements have gone hand-in-hand with the financialization of the economy. Apart from the increased share of finance in the economy (financial services becoming a, if not the, key industry) and the switching of its use from risk hedging to speculative motives, financialization has meant the reduction of all exchanged value, be it tangible or intangible, into either a financial instrument or a derivative of it (see, e.g., Epstein, 2005; Duménil and Lévy, 2011; Plihon, 2011). Neoliberalism, therefore, is to be seen as rooted in a philosophical tradition that essentializes the economizing, calculative and calculable behavior of agents, and reduces the decisions regarding all aspects of life to a mere utilitarian calculus. Read as such, it

should thus not be viewed only as a tendency towards marketization, the support and guidance of state-forms at different scales (from local to transnational) and the international finance organizations notwithstanding, but rather as a deeper process of de-politicizing the economic life (a form of biopolitics) in which states and other institutions of command and control play an active role.

Neoliberal governmentality and its forms

Michel Foucault's close reading of some of the key texts of neoliberal thought at his 1979 lectures at the Collège de France (Foucault, 2008; see also Tribe, 2009) moves beyond the popular representations of neoliberalism that reduce it to a set of marketization policies. According to Foucault, neoliberalism is a response to the historical unfolding of a constitutive tension of liberal governmental reason: how might one extend the realm of freedom without inadvertently delimiting it with governmental interventions that are necessary for the extension of the realm of freedom? In contrast to classical liberalism that tried to limit government control over markets, neoliberalism answers this question by aiming at nothing less than modeling "the overall exercise of political power" on the competitive logic of markets (Foucault, 2008: 131). The emergence of neoliberalism, according to Foucault, heralds the birth of a new art of government, a "biopolitical mode of governmentality," where the state ceases to relate to its subjects as citizen-subjects with social rights, and begins to conduct its functions under the presumption that subjects will respond (predictably) to economic incentives in all aspects of their lives. In short, neoliberalism, as a combination of an ideological discourse and practices, entails a push towards a de-politicization of the social through its economization—viz. imposing a logic of cost-benefit analysis to all aspects of life under the assumption that everything is commodifiable (see also Fine and Milonakis, 2009).

The historical genealogy of neoliberal reason can be traced back to the immediate aftermath of the WW2, to the establishment of the Mont Pèlerin Society by the Austrian economist and philosopher Friedrich von Hayek (Mirowski and Plehwe, 2005; Bockmann, 2007; Peck, 2010). The Society, as the meeting place of European ordo-liberals and constitutional political economists and North American "Chicago" neoclassicals and Virginia School of public choice economists, has been an important node of the neoliberal intellectual network in the post-war era. The state phobia of this intellectual network was fueled in part by the bad after-taste of the Nazi consolidation of state power in Germany, in part by the then ongoing Soviet experiment

with economic planning as an alternative to capitalism, and by the successes of the New Deal and the Keynesian macro-policies in the US, the Beveridge plan in the UK, the indicative planning in France, and the various shades of developmentalism in the post-colonial world (Foucault, 2008). German ordo-liberals wanted to reconstruct the institutions of markets through a reconstruction of the German State according to the logic of competitive markets and by taking “the production unit” as the basic model-institution for reconfiguring the entire social world around what is known as the “social market economy” (Peck, 2010). Austrian neoliberals advocated the insulation of the state from the variable demands of the popular will so that the rule of law can be fully established (Vanberg, 2009). And in North America, while the Chicago neoclassicals extended the neoclassical framework to legal theory, to the analysis of household, to education, to health, to labor and to other areas of social policy that the New Deal has already extended its reach (see, e.g., Becker, 1976), the members of the Virginia school of public choice developed what is essentially a neoclassical critique of the bureaucratic logics of the post-war welfare state (through the rubric of rent-seeking conceptualization—see Krueger, 1974).

The common thread to all these approaches has been a desire to embed the economic sphere within the technocratic and purportedly neutral discourse of economics, and therefore depoliticize the functioning of the economy. Ordo-liberals know very well that markets do not come to existence on their own, that they need to be constructed and instituted by the state, but would like to accomplish this in such a way that the state’s mode of intervention is modeled along the logic of the production unit (Vanberg, 2001). Austrians know very well that the rules of law should be established by the state qua extra-market power, but would like to insulate the state from the democratically-determined demands of the popular will (Hayek, 1948; Kirzner, 2000). The American neoliberals of the Chicago and Virginia schools both know very well that it is impossible to eradicate the role and functions of the state from a democratic society (for even the contractual law, the foundation of market society, is contingent upon the monopolization of violence in the hands of the state), but would like to develop an economic critique of its welfare policies by submitting them to perpetual efficiency audits and constitutionally delimit its budgetary discretions (Friedman, 1962; Brennan and Buchanan, 1985).

Nevertheless, in order to fully appreciate the hegemonic power of neoliberalism, it will be useful to turn our attention to another school of thought; one that is normally not cited among

the family of neoliberal approaches. Referred to as the post-Walrasian school, or the mechanism-design approach, this school of thought highlights various market failures that emanate from information failures (adverse selection and moral hazard), and argues that markets and non-market institutions are all different kinds of mechanisms that elicit, with differential success, the desired performance of rational agents (*qua homo economicus*) (for a classic and foundational statement of this position, see Arrow, 1974). In terms of this approach, since markets do not necessarily deliver economically-efficient outcomes, any kind of institutional mechanism would do the job, as long as it was incentive-compatible and gave the correct signals to rational agents (Stiglitz, 1993; Hurwicz, 2008). The idea here is that in cases where the market mechanism fails to function properly because agents have private information they do not want to reveal, a mechanism is to be set up where all agents fare best when they truthfully reveal private information. An important implication of this school of thought is that it offers an intellectual framework for the reform of the state-forms (local, regional, national, transnational) according to the strictures of economic logic. In other words, if this extended definition of neoliberal reason as the process/project of de-politicization through economization is accepted, this latter school of thought also falls under the rubric of the neoliberal framework, even though it does not advocate private property and marketization *per se*.

States as agents of economization

Neoliberal reason is therefore not simply about market expansion and the withdrawal of the welfare state, but more broadly about reconfiguring the state and its functions so that the state governs its subjects through a filter of economic incentives rather than direct coercion. In other words, supposed subjects of the neoliberal state are not citizen-subjects with political and social rights, but rather economic subjects who are supposed to comprehend (hence, calculative) and respond predictably (hence, calculable) to economic incentives (and disincentives). There are mainly two ways in which states under the sway of neoliberal reason aim to manipulate the conduct of their subjects. The first is through markets, or market-like incentive-compatible institutional mechanisms that economic experts design based on the behaviorist assumption that economic agents respond predictably to economic (but not necessarily pecuniary) incentives, to achieve certain discrete objectives. The second involves a revision of the way the bureaucracy functions. Here, the neoliberal reason functions as an internal critique of the way bureaucratic dispositifs organize themselves: The typical *modus*

operandi of this critique is to submit the bureaucracy to efficiency audits and subsequently advocate the subcontracting of various functions of the state to the private sector either by full-blown privatization or by public-private partnerships.

While in the first case citizen-subjects are treated solely as economic beings, in the second case the state is conceived as an enterprise, i.e., a production unit, an economic agency whose functions are persistently submitted to various forms of economic auditing, thereby suppressing all other (social, political, ecological) priorities through a permanent economic criticism. Subcontracting, public-private partnerships, and privatization are all different mechanisms through which contemporary governments embrace the discourses and practices of contemporary multinational corporations. In either case, however, economic policy decisions (whether they involve macroeconomic or microeconomic matters) are isolated from public debate and deliberation, and treated as matters of technocratic design and implementation, while regulation, to the extent it is warranted, is mostly conducted by experts outside political life—the so-called independent regulatory agencies. In the process, democratic participation in decision-making is either limited to an already highly-commodified, spectacularized, mediatized electoral politics, or to the calculus of opinion polls where consumer discontent can be managed through public relations experts. As a result, a highly reductionist notion of economic efficiency ends up being the only criteria with which to measure the success or failure of such decisions. Meanwhile, individuals with financial means are free to provide support to those in need through charity organizations or corporations via their social responsibility channels.

Here, two related caveats should be noted to sharpen the central thrust of the argument proposed in this chapter. First, the separation of the economic sphere from the social-ecological whole is not an ontological given, but rather a political project. By treating social subjectivity solely in economic terms and deliberately trying to insulate policy-making from popular politics and democratic participation, the neoliberal project of economization makes a political choice. Since there are no economic decisions without a multitude of complex and over-determined social consequences, the attempt to block (through economization) all political modes of dissent, objection and negotiation available (e.g., “voice”) to those who are affected from the said economic decisions is itself a political choice. In short, economization is itself a political project.

Yet, this drive towards technocratization and economization—which constitutes the second

caveat—does not mean that the dirty and messy distortions of politics are gradually being removed from policy-making. On the contrary, to the extent that policy making is being insulated from popular and democratic control, it becomes exposed to the “distortions” of a politics of rent-seeking and speculation—ironically, as predicted by the representatives of the Virginia School. Most public-private partnerships are hammered behind closed doors of a bureaucracy where states and multinational corporations divide the economic rent among themselves. The growing concentration of capital at the global scale gives various industries (armament, chemical, health care, petroleum, etc.—see, e.g., Klein, 2008) enormous amount of leverage over the governments (especially the developing ones). It is extremely important, however, to note that this tendency toward rent-seeking is not a perversion of the neoliberal reason. For much of neoliberal theory (in particular, for the Austrian and the Chicago schools), private monopolies and other forms of concentration of capital are preferred to government control and ownership. And furthermore, for some (such as the Virginia and the Chicago schools), rent-seeking is a natural implication of the “opportunism” of human beings, even though neoliberal thinkers disagree whether rent-seeking is essentially economically efficient (as in “capture” theories of the Chicago school imply) or inefficient (as in rent-seeking theories of the Virginia school imply) (Madra and Adaman, 2010).

This reconfiguration of the way modern states in advanced capitalist social formations govern the social manifests itself in all domains of public and social policy-making. From education to health, and employment to insurance, there is an observable shift from rights-based policy-making forged through public deliberation and participation, to policy-making based solely on economic viability where policy issues are treated as matters of technocratic calculation. In this regard, as noted above, the treatment of subjectivity solely in behaviorist terms of economic incentives functions as the key conceptual choice that makes the technocratization of public policy possible. Neoliberal thinking and practices certainly have a significant impact on the ecology. The next section will focus on the different means through which various forms of neoliberal governmentality propose and actualize the economization of the ecology.

The economization of the ecology: Diverse paths

In recent years, the interrelated dual crises of environmental pollution and the over-use of natural resources (including the exhaustion of non-renewable energy and material sources) have globally become objects of neoliberal policy-making. In the area of environmental policy,

markets and market-like mechanisms have increasingly being used, from marketable permits for pollution (viz. cap-and-trade) to price-per-bag policies for shoppers and households, from the privatization of natural resources to the reliance on the futures and derivatives markets in the energy (e.g., oil) and precious metal (e.g., gold) markets—all with an expectation of providing both consumers and producers the proper incentives to protect the ecology (see, e.g., Heynen, McCarthy, Prudham and Robbins, 2007). Yet, and not surprisingly if one adopts the framework presented above, these developments have been contemporaneous with the mounting dominance of neoliberal governmentality within the state apparatus, which at times does not shy away from acting as an active economic player, beyond its usual functions as a rule-setter and regulator. In the petroleum industry, for instance, the public-private partnership model is quickly becoming the standard rather than the exception (see, e.g., Madra, 2010): While national oil companies (NOCs) are becoming increasingly important in the extraction of petroleum, multinational oil companies (MNCs) still control the downstream of the industry (from refineries to distribution networks in consumer markets), and, in many cases, most NOCs seem to be forming partnerships with MNCs. This picture, needless to say, replicates itself in almost all extraction activities (from copper to gold) throughout the globe. The impacts of the prevailing power inequalities on the social and the ecological life notwithstanding, the common thread to all these approaches has been a desire to apply a strict cost-and-benefit methodology in the use of ecosystem services: either by letting the market to do this analysis through the price mechanism or by assigning a monetary value to the ecosystem (the contingent valuation being the most commonly used technique here).

From a historical perspective, in the postwar era, Keynesian macroeconomics combined with welfare economics constituted the framework of mainstream economic theory and policy, and environmental protection took the form of legal regulations, concerned mainly with conserving specific landscapes and biodiversity and establishing maximum permissible levels of toxic components. Although market instruments were also applied, as in the case of Pigovian taxes to deal with environmental externalities (by forcing economic players to internalize environmental costs through taxes; see, e.g., Turner, Pearce and Bateman, 1993), to a large extent, ecology was considered to belong to the public and governments were considered to have a mandate to protect it. Furthermore, the process was dominantly driven by experts and ecology conservationists that typically informed policy through area-specific terminology and language. Hence, the processes of valuation and the establishment of protected areas were both significantly different from those that would be handled through market mechanisms.

Yet, despite their mandates to protect ecology, postwar governments of all stripes (capitalist, socialist, and non-aligned), in part, thanks to the free-flowing cheap oil, were able to sustain high rates of economic growth, where the working populace received an increasing share of the national income, paralleling the sustained productivity increases. But, with the energy crisis of the 1970s, postwar regimes began to experience intensified internal contradictions, and the neoliberal project (with significant variations) worldwide began to gain hegemonic ground through consent and coercion (with varying combinations). Demand management policies that aim to maintain full employment were replaced by austerity regimes that prioritized relieving the pressure on the supply side (through tax cuts) and controlling the inflation rate. This shift of focus in macroeconomic policy, partly justifying itself through the 1970s energy crisis, was accompanied by the ascendancy of an “economic way of thinking” in all realms of social life. The 1970s also witnessed the increasing severity of accumulated ecological problems as well as a radically-augmented awareness and politicization of environmental pollution and over-use of natural resources—the first Earth Summit being organized in 1972 in Stockholm (see, e.g., del Mar, 2011). Within the realm of environmental policy, this shift manifested itself in the increasing use of monetary valuation as a basis for protection decisions and economic policy measures. With the advent of neoliberalism, and especially starting with the 1990s, using markets to protect environmental resources and the privatization of natural resources have increased substantially, along with mechanisms designed to tackle information-related problems in the field of environmental policy.

In their aptly-titled *Free Market Environmentalism*, Anderson and Leal, following the Mont Pèlerin tradition and harmonizing the Chicago and the Austrian traditions, back in 1991 (with a second edition appearing in 2001) proposed forcefully that market environmentalism—the use of market institutions together with well-defined, enforced, and transferable private property rights on environmental assets and services—is the only viable solution towards the protection of environmental resources. The starting point of the book is that environmental problems are to be understood as interpersonal conflicts to be resolved by allocating, and if need be, creating property rights over the use of the ecology. Once the problem is framed in this manner, what fails is not the market mechanism *per se*, but rather the underlying vision of paternalistic government that tries to control the ecology directly by retaining the ownership rights over it and by imposing environmental regulations. Reformulating the environmental problem in the individualistic terms of an exchange relationship represents it as it is a pure economics problem, the remedy to which is nothing but economic measures (see also Adler, 2002). The gist of the

argument is that when property rights are well-defined overall, owners will have an incentive to avoid pollution problems and will therefore gain by making sure that the threat is abated. The flipside of the coin is that the liability for pollution, and possible litigation and prosecution, are powerful motivators for economic actors (individuals or enterprises) to control their actions that may hamper the interests of others. Similarly, it is claimed that the best way of dealing with the case of using natural resources is again through allocating and creating private property rights so that the beneficiaries take the necessary steps to make the best use of natural assets at hand. For instance, if fishing rights in a lake are given to one firm, it is argued that, it will have an incentive not to over-fish and thus refrain from harming the ecology, in contrast to allowing the general public to fish as they wish, in which case their free-riding actions will unavoidably bring about an over-fishing problem—the outcome that Hardin (1968) coined the term the “tragedy of commons.” The state, then, is seen as providing no solution here, as, the possibility of the bureaucracy being bribed notwithstanding (the Virginia point), it will not be able to generate the necessary information in order to deal with the problem at hand in the best possible manner (the Austrian point).

Here, three underlying conceptual shifts pertaining to the treatment of citizen-subjects, the bureaucracy, and the state may be identified. First, citizen-subjects are treated solely as economic agents that behave atomistically. They are assumed to respond to economic incentives (defined in terms of property rights) and legal reprisals, free-ride when the opportunity rises, and be able to engage in a rational manner. With the consolidation of treating the citizen-subject as a *homo economics*, a key conceptual condition of the economization of nature is established. Within this context, it would be best to understand the creation and allocation of property rights merely as a particular form of policy implementation of this underlying drive toward economization. Secondly, when the proponents of the Virginia school of public choice applied this vision of economic actors to the bureaucracy and its constituent actors, they were merely driving the key neoliberal axiom (“individuals respond to incentives”) to its logical conclusions (that the bureaucracy may indeed be prone to corruption and rent-seeking activities), their conclusion being that the negative social welfare effects of governmental failures outweighs those that emanate from market failures. Finally, as the Austrian school perceives the economic problem as one of social mobilization of knowledge, which is by definition tacit (*viz.* fragmented and dispersed), through the interaction of rival entrepreneurial activities, the state will inevitably perform less effectively in that mobilization process—a stance the school developed during their engagement to the so-called “calculation

debate,” a debate that run around the 1930s and 1940s about whether rational economic calculation was possible or not under state ownership of the means of production (see, e.g., Adaman and Devine, 1996). To sum it up, on the one hand, bureaucratic waste, economic rent-seeking, and slackness are seen as endemic problems in the political control of natural resources; on the other, competition in the marketplace is perceived as providing a powerful incentive for actors to acquire and discover information needed to enhance efficiency and above all discovery in managing natural assets.

Differences between the American and the Austrian schools should also be acknowledged, however. Theoretically, for the Chicago approach, the idea of using markets to allocate environmental resources originated in Ronald Coase’s seminal essay from 1960 (Coase, 1960; see also Medema, 1994). The Coasean solution (subsequently formulated by George Stigler) is based on defining property rights for ecological resources and letting people express values through trade. Hence it is buyers and sellers that will evaluate these values in monetary terms. Disputes are therefore settled through bargaining and the exchange of property rights, with no need for governmental regulation. As a result, provided that transactions are costless, externalities will be accounted for within the contractual frame of markets. This Coasean framework has provided the basis not only for the privatization of ecological assets but also for the currently most-frequently used market-based system, marketable permits, the applications of which include air and water pollution control, management of water and land use, and fisheries (e.g., US Environmental Protection Agency, 2000; Stavins, 2008). Yet, the system requires the determination of the permissible pollution level (e.g., the total sulfur dioxide to be emitted in a given area) or the maximum amount of use of an ecological asset (e.g., the total catch level of a particular type of fish in a particular geography); and, in accordance with their trust on the sovereignty of citizens’ preferences, the Chicago approach suggests to apply different techniques (as in the case of the contingent valuation method) to estimate individuals’ valuations and aggregate them to form the value of the ecosystem in question so as then to determine the said cap.

The Austrians, on the other hand, although welcoming the Coasian theorem as a rationalization for privatization (but expressing doubts about the marketable permits system), instead stress that, given interpersonal conflicts over the use of natural resources, under the rule of law and private property over resources a solution to ecological problems would be achieved. If, for example, someone uses the atmosphere as a carbon sink, thereby changing the climate and

making it difficult for another individual to rely on an unchanged climate, the conflict between the two individuals will be an obvious case. Their suggestion is to allocate missing property rights and install legal institutions that will enable goal-seeking individuals to defend against the violation of their rights. If, therefore, property rights are allocated and legislative procedures exist that make it possible for victims to take legal action against a polluter, then environmental protection may be secured with no need for governmental intervention (Rothbard, 1982; Cordato, 2004; Pennington, 2005; Adler, 2009; Dawson, 2011). There will remain no ecological problems according to the American and Austrian neoliberal visions, therefore, provided that the ecology can be fully parcelized by assigning property rights. When pressed, they would suggest that “the lack of property rights today does not mean that a useful property rights solution is forever impossible.” This is based on their hope that “[a]dvances in technology may yet allow the establishment of enforceable rights to ... even the presence of an atmosphere that clearly does not promote damaging climate change” (Stroup, 2008).

The post-Walrasian approach, finally, suggests that in formulating environmental policies (such as setting out environmental taxes) the existence of imperfect and costly information among players should be explicitly acknowledged and intelligently-designed incentive mechanisms be devised so as to tackle them. As they see no structural differences among varying ownership regimes over the efficiency of a system, but rather the way in which incentive schemes in each regime is formulated, and as they see the market just one out of a menu of available mechanisms, they certainly do not have a pre-engagement with private property (or privatization) or marketization or both, but rather a faith in the capability of an expert group who will be in charge of devising such incentive schemes. More specifically, when faced with environmental pollution problems where the regulator lacks viable information about the perpetrator (for example, the pollution abatement costs in the sector to be controlled may be unobservable), the optimal environmental policy requires the devise of a mechanism in which it becomes in the best interest of the perpetrator to truthfully reveal any relevant private information (abatement costs, in the example above) it might have. The bulk of the relevant literature, both applied and theoretical, draws upon Baron and Myerson’s (1982) well-known framework on price regulation of a natural monopolist where its costs are unknown, and is based on the “revelation principle,” first proposed by Gibbard (1973), that sets out the rules that are feasible and subject to incentive constraints in economic problems associated with adverse selection or moral hazard or both (Spulber, 1988; Jebgerg and Lando, 1997; Gottinger, 2001). When faced, on the other hand, with the kind of problems of the tragedy of the

commons type, marked by the overuse of natural resources as the action of each player cannot be observed due to imperfect information (as in the example of the regulator facing severe difficulties of checking whether individual fishermen exceeded their quotas or not), the theory proposes that if players engage in repeated interactions through appropriately-designed “trigger strategies” (a player using a trigger strategy initially cooperates but punishes the opponent if a certain level of defection is observed), a socially optimal equilibrium can be achieved and maintained (Rubinstein, 1979), thereby successfully confronting the problem of overuse.

As signaled above, a major difference of the post-Walrasian approach from the Austrian and Chicago approaches pertains to the status of property rights and the market mechanism. For the latter two, as discussed in length, private property and marketization are the two key institutions for a successful environmental policy. From the perspective of the mechanism-design approach, however, as long as institutions are incentive-compatible, their ownership structures *per se* do not matter; a well-designed institution with public or cooperative ownership could potentially be at least as efficient as an institution with private ownership (Bardhan and Roemer, 1992; Adaman and Devine, 1996). Furthermore, in contrast to Chicago and Austrian economists who would rather favor current unequal patterns of ownership and income, most members of the Post-Walrasian approach would be uneasy with private property on the ground that this may very likely replicate if not reinforce current inequalities (see, e.g., Stiglitz, 1994). Coming to the status of the market mechanism, as suggested above, markets are just one of many available mechanisms, and in the case where information is imperfect then by default the market mechanism will be unable to overcome it. Nevertheless, while this divergence of opinion regarding the efficiency of private property and the desirability of the market mechanism is indeed a difference that matters, and (in a related manner) while politically-speaking Post-Walrasians would opt for more egalitarian solutions, the mechanism-design approach to environmental regulation shares a common underlying assumption with the environmentalism of the Chicago and Austrian schools: individuals respond to economic incentives. They differ only in the way they define the possible universe of economic incentives.

To conclude, this section laid out different paths of the economization of the ecology as an instance of the effects of now more than three-decades-long hegemony of neoliberal theory and practice. In drawing this picture, we followed Foucault in conceptualizing neoliberalism as an ideology, manifested in social, material and epistemological realms, that claims that economic

subjects, perceived as calculative and calculable agents, can (and should) indeed be governed through economic incentives. This framework not only covers the so-called “standard” neoliberal positions of the Austrian and the Chicago schools (with the addition of the Virginia approach), which are on the right end of the political spectrum, defending the current unequal patterns of ownership and income, but also the Post-Walrasian school as well, which on the one hand takes a rather skeptical stance against private ownership and the market mechanism and on the other hand argues for a more egalitarian society, and thus to be positioned on the left of the political spectrum. Therefore, Foucault’s lenses implicate that not only the privatization and marketization, or in short the financialization, of the ecology should be seen as part of the neoliberal theory and practice—on which there is a vast literature (see, e.g., Arsel and Büscher, 2012, for a recent wrap-up)—but equally such mechanisms that do not necessarily rely on the institution of private property or even the market mechanism but nevertheless are based on the same understanding of the individual as a calculative and calculable agent. What if we imagine a society (along the line of Stiglitz, 1994, for example) where the means of production are under the public ownership and a group of experts (the central planning bureau, if one wishes to adopt the old terminology) design incentive-compatible mechanisms to make sure that subjects act properly, viz. find themselves in an environment where their private information will have no return, in the quest of controlling ecological degradation? We have suggested that even such a vision should be seen as a variant of neoliberal ideology. To sum up, to the extent that the logic of economization remains intact, it will be of a secondary importance whether the system is under regulation or not, whether natural resources are fully or partially privatized, whether the state acts as an active agent or not, or whether markets or institutions with incentive mechanisms regulate the behavior of subjects.

In lieu of conclusion

The reduction of ecological valuation through a market mechanism (or various techniques) to a mere aggregation of individual subjective valuations—which is the main premise of neoliberal ideology—may be inappropriate for complex and uncertain phenomena ridden with incommensurabilities and inter- and intra-generational distributional conflicts, such as global warming, where individual valuations will have clear implications for all living beings. Indeed, in making decisions with substantial consequences pertaining to our current life as well as our future (such as the overall growth rate, distributional trajectories, technological path, consumption habits, risk attitude [say, *vis-à-vis* nuclear energy]), the market response or the

aggregation of individuals' valuation through a set of available techniques (e.g., the contingent valuation) may substantially differ from what could be derived through collective deliberation and negotiation of various stakeholders including the scientific community (see, e.g., Özkaynak, Adaman and Devine, 2012). This criticism applies not only to neoliberal positions that favor the current unequal distribution of power but also to the Post-Walrasian one which although concerned with distributional issues keeps relying on individualist ontologies of calculative and calculable agency. Indeed, there is a growing theoretical and applied literature arguing that in incommensurable cases, where all relevant aspects cannot be captured in a single dimension (such as those derived from monetary cost-benefit analyses), a multi-criteria methodology would seem better placed, as it will be possible to involve not only economic but also political, moral, scientific and cultural inputs from a variety of stakeholders (see, e.g., Martinez-Alier, Munda and O'Neil, 1999; Munda, 2008). The key promise of the multi-criteria decision-making tool and other similar participatory and deliberatory dispositifs is that rather than finding a "solution" to a conflictual decision, they shed light on the multifaceted dimensions of the problem at hand and thus facilitate the consensus-building process from below (see, e.g., Adaman, 2012). In this regard, they constitute a formidable path to be explored as an alternative to the surreptitiously normative neoliberal governmental dispositifs, designed by experts from above, under the assumption that all actors are calculative and calculable.

The current indiscriminate application of neoliberal policies over the entire scope of the social field has brought about such political, economic, cultural and ecological devastation that any type of reform suggestion along the line to halt this process is met with much welcoming by many of us—even if some of them are still acting as if economic incentives are the only viable policy tool in town. Consider the case of carbon markets, for example, where the cap is decided either through a scientific body or through aggregating individuals' preferences. The fact of the matter is that, far from addressing the inefficiencies that emanate from opportunistic and manipulative activities, these mechanisms are vulnerable precisely because they end up soliciting manipulative, predatory, and rent-seeking behavior (because they are designed to function under such behavioral assumptions in the first place). In other words, these solutions subject a commons such as global climate into the economic logic of markets and "performatively" turn it into an object of strategic-calculative logic (MacKenzie, Muniesa and Siu, 2007; Çalıřkan and Callon, 2009; MacKenzie, 2009; Çalıřkan and Callon, 2010; see also Spash, 2011). Consider, furthermore, the case of price-per-bag policies. Laboratory

experiments and anthropological evidence both suggest that charging a price for some activity that should in fact be treated as a duty or a commitment may well create perverse results (see, e.g., Campbell, 1998; Bowles and Hwang, 2008). Monetizing the pollution-generating activity instead of limiting the use of plastic bags (along with an awareness program) may well result in an increase of the unwanted activity. Similarly, while nationalization is the trend in areas of natural resource extraction and energy production, many continue to argue for privatization and private-public partnerships instead. Nevertheless, the problem with the private versus public dichotomy, given our reading of the contemporary state as an agent of economization, is precisely that both forms, to the extent that they are informed by the different variants of neoliberal reason, serve to isolate these critical areas from the deliberations and political demands of various stakeholders and the general public, limiting the only channels for communication available to them to the price (or price-like) mechanisms. However, perhaps most importantly, neither can be immune towards all sorts of rent-seeking activities that occur behind the close doors of the technocracy that operates in the area where state shades into market in the various forms of dispositifs.

Needless to say, economic activities that generate pollution and consume energy are not recent phenomena that are exclusive to what is now increasingly being called the neoliberal era. If anything, postwar Keynesian developmentalism was possible precisely because of the availability of cheap oil, and is responsible for an enormous amount of environmental pollution and ecological degradation (Mitchell, 2011). In this sense, it would be wrong to present neoliberal as being the only responsible mode of governmentality for the dual crises of climate change and natural resource depletion. Yet, this does not change the fact that the neoliberal reason (in its free-market and mechanism-design variations) is pushing its agenda in an era where both of these crises are reaching catastrophic levels, and it is highly questionable whether neoliberal methods of handling the environmental pollution and the extraction crisis will be capable of addressing long-term concerns.

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