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Framing Institutional Choice, 1937–1973: New Institutional Economics and the Neglect of the Commons

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ABSTRACT
Progressives the world over cherish high hopes in the development of institutions for collective actions. Among these institutions, commons have a long history in western Europe. While a new institutional economics emerged in the 1960s, commons were not taken seriously in postwar economics before the seminal work of Elinor Ostrom in the late 1980s. How can we explain this belated integration of commons in economics? In this paper, we trace some of the origins of the neoclassical comparative institutional analysis. By advocating an institutional comparison in terms of the costs or the value of production under alternative allocations of property rights, Ronald Coase contributed to the narrow theoretical approach taken by new institutional economists. In the late 1960s, neoclassical economists who came to be interested in environmental questions dismissed commons as inefficient solutions to allocation problems. Within this narrow framework, the private enterprise system more often than not was hailed as the best alternative.

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More than a decade after Elinor Ostrom received a Nobel Prize in Economics for her analysis of the commons, the place of this institutional arrangement in economic policy-making and legal-institutional design is still unclear. Over the past half-century, an extensive body of evidence shows that commons have the potential to be fair, resilient, and efficient systems for allocating resources (Ostrom 1990). First understood as solutions to problems of natural resource management in agriculture, fishing, grazing, forestry, water supply, and wildlife, commons are now recognized as applicable to a wide range of collective action challenges such as urban infrastructure, internet platforms, local art production, etc.

Despite the documented successes of commons in many parts of the world and the hopes that such institutional arrangements generate for better and more sustainable modes of living, they remain marginal in economic discussions (Standing 2019). Part of this is due to the fuzziness of the concept of commons itself and its lack of a consensual

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definition among contemporary scholars and practitioners (De Moor 2011). From a *longue durée* perspective, the development of capitalism led to the disappearance of most commons over the past centuries. Political economy emerged to explain a new global commercial order and to advise governments on how to increase national wealth. It was thus more interested in markets and the role of the state than in local institutions for collective action. Still, commons have never completely disappeared.

In the beginning of the twentieth century, many American economists took institutions seriously, especially property rights. After the Second World War, this 'old' institutionalism with its pluralistic methods gave way to a neoclassical synthesis (Morgan and Rutherford 1998). In the 1960s, a new generation of Anglo-American economists developed an interest in institutions, but they dismissed commons as inefficient. In this paper, we argue that the belated integration of commons in economics is partly due to the path taken by this new institutional economics (NIE) in the 1960s.[1]

Ronald Coase is often credited with advocating a comparative institutional analysis (Williamson 1973; Medema 2014a; Marciano 2018). We contend that Coase framed his comparative analysis solely in terms of costs and output values. Although Coase did not write much about commons, he provided neoclassical economists with an integrated way of thinking about the legal character of institutional arrangements which contributed to making him one of the founders of new institutional economics.

In the context of the cold war, problems of natural resources, like so many other policy issues, were often presented in binary terms: market (private) vs. government (public). Coase provided a new economic language for Harold Demsetz, Steven Cheung, and Douglas North, among others, to justify that the externality problem posed by commons could be solved by privatization. Coase's influence on new institutional economics was very significant. He was awarded the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel in 1991 specifically 'for his discovery and clarification of the significance of transaction costs and property rights', two central pillars of NIE and the new law and economics.[2]

Since they are often crafted by the actors themselves, most narratives about the emergence of NIE reflect a cheerful enthusiasm for the research program.[3] Commentators have highlighted the methodological contributions of Coase (for e.g., Posner 1993; Parisi 1995). Our goal in this paper is to provide a critical counterpoint that highlights the implications of the Coasian approach to the conceptualization of resource management problems. Many legal scholars and economists have criticized the welfarist basis of the Coase theorem and its limitations to environmental problems (see Medema 2021a).

[1]This belated integration is also probably due to the gradual disappearance of commons in the late modern period, and the fact that until recently economists did not engage much in fieldwork that would have allowed them to see these institutions in action. As Ely and Wehrwein remarked in 1940, common property 'is more of historical than practical interest' (1940 [1964], p. 78). Moreover, in the second half of the twentieth century, the Cold War ideology reinforced the binary outlook between the market economy and state planned economy, leaving little space for alternative institutional arrangements, especially in the United States.

[2]https://www.nobelprize.org/prizes/economic-sciences/1991/coase/facts/. As early as 1983, Douglas North recommended Coase for the Nobel prize for laying the foundations of 'the new institutional economics'. (Douglas North Papers, Rubenstein Library, Duke University, Box 48). Coase served as the first President of the International Society for New Institutional Economics in 1996–97, which later became the Society for Institutional & Organizational Economics.

[3]For works relevant to the aspects of NIE discussed in this paper, see Coase (1984, 1992, 1998), Medema (1998), Allen (1999), Williamson (2000), and Ménard (2008). See also various contributions in Ménard and Bertrand (2016).

Our contribution is to study the Coasian legacy in new institutional economics. We are interested in the political economy of this legacy on the question of the commons.

In the first section of the paper, we show how Coase's vision was shaped by the intellectual climate of the London School of Economics during the interwar period. We then explain how he translated his business conception of costs to the problem of social costs and framed the problem of externalities in terms of property rights. In the second section, we retrace some key postwar contributions to environmental economics influenced by the Coasian institutional comparison and explain how they dismissed commons. In the third section, we argue that central figures of new institutional economics sharing Coase's enthusiasm for market solutions drew on his insights in the 1960s to justify the destruction of the commons thereby vindicating capitalism.

1. Ronald Coase

1.1. The Interwar Period

Coase's vision was shaped by the intellectual climate of the London School of Economics during the interwar period. Two aspects of this legacy help to understand Coase's approach and thus the way economists frame the economic-legal nexus to this day: the ideological battle of the interwar period and the sole reliance on costs as a comparative metric.

Recent historiography has shown that many intellectuals on both sides of the Atlantic pushed for a renewal of liberalism in the face of rising sympathies for social planning and the increasing intervention of the state in the first decades of the twentieth century. Many of those who, at times, self-identified as neoliberals, rejected both the early nineteenth-century naturalistic vision of laissez-faire and the idea of socialism (Mirowski and Plehwe 2009; Slobodian 2018; Reinhoudt and Audier 2018; Innset 2020). They defended free trade but also argued that the state had to construct a competitive order — the only system that could guarantee the satisfaction of consumers' desires and preserve individual freedom. While early neoliberals expressed a wide range of political positions, some influential voices like Ludwig von Mises and Friedrich Hayek rejected calls for a third way between a market society and state planning.

The ideological battle was fueled by the anxiety of cosmopolitan liberals over the establishment of Soviet Republics and the rise of fascist governments in many parts of Europe. Yet, academic economists preferred to engage in a technical discussion on the possibility of economic calculation in a socialist economy (see Lavoie 1985). Proponents of capitalism attributed to markets some virtues that they denied to any form of social planning from mild social democratic controls over the labor market to full-blown state socialism. On the other side, market socialists argued that a central bureaucracy could in theory allocate resources efficiently by solving the general economic equilibrium system of equations provided it could learn about individual preferences and production technologies. For our purpose, what matters is that von Mises had argued that private property was essential for the market system to work. He defined socialism as any system based on collective ownership of the means of production and central control by the state (Mises 1936). Hayek reinforced the dichotomy by arguing that planning was incompatible with a free society since it would gradually lead to totalitarian central control over the whole economy (Hayek 1935, p. 21). The binary opposition took many forms and was understood in different terms by different actors: planning vs. competition; socialism vs. capitalism; socialism vs. liberalism; collectivism vs. liberalism, and even planning vs. democracy.

Coase's first paper on 'The Nature of the Firm' was a small contribution to a lively discussion on what could now be described as the microeconomic field of industrial organization. Coase never denied that his first paper had little impact before his other well-known paper on 'The Problem of Social Cost' started to attract attention in the 1960s and 1970s (Coase 1988a).[4] A neoclassical theory of the firm had emerged in the early 1930s on the basis of Alfred Marshall's concept of the representative firm (Bertrand 2016). It was widely accepted that the size of firms in any given industry reflected considerations of cost-efficiency. Coase had been interested in the question of industrial integration for a few years. When traveling to the United States in 1932, he wanted to understand why some large plants could be efficient, while it seemed that running a whole country as one big factory, like Lenin had suggested, was impossible (Coase 1988b; Bylund 2014). Austin Robinson suggested that 'costs of coordination' within the firms could limit its expansion, despite the possibility to realize economies of scale (Robinson 1934). Coase's brilliant insight was to remark that 'there is [also] a cost of using the price mechanism' (Coase 1937, p. 390). Thus, commenting on Robinson, Coase argued that 'a firm will tend to expand until the costs of organizing an extra transaction within the firm become equal to the costs of carrying out the same transaction by means of an exchange on the open market or the costs of organizing in another firm' (Coase 1937, p. 395).

In retrospect, we can see that the young Coase was also making a clever point in the debate that occupied his LSE teachers. The simple opposition between planning and the market was not the whole story: planning also occurred at the heart of the capitalist system. Because managers compared the marginal costs of organizing production internally and outsourcing it on the market, there was an 'optimum amount of planning', even in a 'competitive system' (Coase 1937, p. 389 n3). However, contrary to state planning imposed on society, planning within the firm 'arise[s] voluntary because [it] represent [s] a more efficient method of organizing production' (Coase 1937, p. 389 n3). This point had been made by Coase's mentor, Arnold Plant, in his inaugural lecture as professor of commerce at LSE.[5] Businessmen were no threat to the liberal order since their goal to generate profit could only be achieved if they served the desires of consumers (Plant 1932).

Another close colleague of Plant, W.H. Hutt, tried to capture this vision when he coined the concept of 'consumer's sovereignty'. In a paper on the question of the size of the firm, Hutt argued that 'entrepreneurs are bound to the service of investors by their responsibilities as trustees; they are forced to serve consumers through the limitations of their autonomy imposed by consumers' choice; and consumers' choice is secured free expression through […] 'competitive institutions'' (Hutt 1934, p. 391). Thus, even if in a capitalist society businessmen have control over the allocation of resources, the ultimate power, or sovereignty, resides in consumers (Hutt 1936; see also Desmarais-

[4]According to Google Scholar, Coase's 1937 paper was cited only 14 times before 1959 — the same number of times as Robinson's 1934 paper (on which see below). In comparison, it was cited more than 400 times in the following two decades, whereas Robinson's paper received less than 30 citations in the same period.

[5]On Plant and his relation to Coase, see also Parisi (1995, p. 150), Tribe (2004); Cord (2018); and Marciano (2018).

Tremblay 2020). Hence, LSE economists found a way to partly open the black box of the firm, to acknowledge its reliance on planning, while maintaining their opposition to central government planning. Consumers' sovereignty became a normative pillar of the neoliberal political economy on which an efficient competitive system respecting individual freedom could theoretically be established. Ironically, by establishing how the 'islands of conscious power in this ocean of unconscious co-operation' (Coase 1937, p. 388) exist for the benefit of consumers, this group of economists, to which Coase belonged, reinforced the dichotomy between the private sector and the state. Both the firm and the market were perceived as spheres of individual autonomy, whereas the state was perceived as a coercive and heterogenous agent in the economy.[6]

At LSE, Coase studied various applied economic subjects toward a Bachelor of Commerce degree (Tribe 2022, p. 308). His understanding of the economic system and the virtues of the market were shaped by Arnold Plant in the last months of his formal training (Coase 1992, p. 715, 1993). In his third year, Plant recommended him for a scholarship to study the industrial structure of large firms in the United States. From his teacher and future colleague, Coase acquired an interest in the empirical study of real businesses. He favored a realistic approach centered around the collection of facts on the economy (Marciano 2018).

Coase also received from his mentor inquisitiveness for the institutional framework in which firms operate. Plant had studied the economic impact of property rights on industrial innovation (Plant 1932). Throughout his career, Coase has stressed the importance of the legal system in the real economic world — as opposed to the abstract world of blackboard economics (Medema 2016). What matters for our argument is the particular way in which Coase understood the legal system and its impact on economic relations. In his first important paper, his realistic approach led him to look at the dichotomy between firms and the market in terms of the different legal structures that constitute them. The trade-off faced by the entrepreneur between conducting an activity in-house or externalizing it on the market depended on a comparison of 'the costs of negotiating and concluding a separate contract for each exchange transaction' and the cost of acquiring a 'right of control' over the activity of employees (Coase 1937, pp. 391, 404). Although he did not write it explicitly at the time, we can see in retrospect that Coase opened the door to a study of decision-making in terms of the cost of acquiring different types of rights.

In the late 1930s when he came back to LSE as a staff member, Coase contributed briefly to an original tradition in cost theory (Buchanan 1969; Bertrand 2015a). It is well known that the so-called marginal revolution of the 1870s incorporated the subjectivity of individual preferences in price theory (Backhouse 2008). Later generations of marginalist (or neoclassical) economists, including Philip Wicksteed and Frank Knight, argued that costs should also be assessed subjectively. As a student at LSE, under the influence of Lionel Robbins and Hayek, Coase had been in contact with this

[6]We disagree with Campbell and Klaes (2005) that Coase's first paper shows youthful socialist sympathies. The evidence for this claim is unconvincing. Coase certainly did not hold to a naive view that the invisible hand would optimally allocate resources. Yet, his explanation of the economic role of the firm bolstered the case for capitalism. This is not something that his neoliberal teachers would have objected to. A defense of competition as the organizing principle of society is a neoliberal trope (see Davies 2017). Even if they held different conceptions of competition, it is common to ordoliberals, Chicago economists, as well as LSE economists like Coase.

idea of subjective opportunity cost. In the field of management, Coase linked the assessment of costs to the decision of the entrepreneur. When an option was chosen because it is more profitable, its cost was measured by the value of the best alternative that was not chosen. In a series of articles written in 1938 for accounting practitioners, Coase claimed that

> the cost of doing anything consists of the receipts which could have been obtained if that particular decision had not been taken […] This particular concept of costs would seem to be the only one which is of use in the solution of business problems since it concentrates attention on the alternative courses of action which are open to the businessman. (Coase 1973, p. 108)

At the time, Coase argued that the opportunity costs would be specific to the decision-maker at a given time, reflecting their subjective reading of the uncertainty of the business environment, including their risk aversion, discounting of the future, and their personal assessment of non-tangible costs (Bertrand 2015a, p. 30).

Coase's war experience of working in governmental agencies apparently reinforced his distrust of public intervention (Bertrand 2015b, p. 500). While Britain was still facing stringent price controls, Coase remarked that

> No Government could distinguish in any detail between the varying tastes of individual consumers (…); without a pricing system, a most useful guide to what consumers' preferences really are would be lacking; furthermore, although a pricing system puts additional marketing costs on to consumers and firms, these may in fact be less than the organizing costs which would otherwise have to be incurred by the Government. (Coase 1946, p. 172)

Coase believed that government intervention could not fulfill individual preferences as well as the market. Many of his postwar contributions would focus on challenging the efficiency of government regulation (Rutherford 1994, p. 167). In general, the binary opposition between the free liberal order and the coercive socialist one that colored the worldview of many an interwar thinker carried over to the Cold war.

1.2. The Postwar Period

In the 1950s, Coase moved to the United States. In 1958–1959, while he was visiting Stanford University, he wrote an article on the Federal Communications Commission (Medema 2021b). Coase concluded that a market mimicking mechanism could probably better serve the public interest than a commission appointed by the Federal government. Indeed, how could an administrative agency know about the value of radio frequencies to various firms, let alone the preferences of consumers for the services that these frequencies could provide (Coase 1959, p. 18)? If only property rights could be clearly defined, then an important public good feature of radio waves would disappear, thereby allowing for their efficient allocation through an auction mechanism.

In 1959, Coase moved to the University of Virginia where he joined Warren Nutter and James Buchanan, both graduates of the University of Chicago. After discussing his FCC paper with economists in Chicago, Coase wrote a longer paper that presented his arguments more systematically. In 'The Problem of Social Cost', Coase challenged what he understood to be A.C. Pigou's policy solution to the problems that came to be known as externalities.

According to Pigou, the state had a prima facie case for intervention when the private net benefits of an economic activity were different from its social net benefits. In the case of a factory which generated smoke as a side effect, the level of output should be reduced to bring the total net product in line with the social net product of the activity. This could be done either by making the firm liable for damage, by taxing it, or by banning its activity in residential districts where the smoke caused harm to the nearby residents (Coase 1960, p. 1). For Pigou, a cost–benefit calculation could provide a prima facie case for intervention, but it did not mean that all things considered government intervention was always the best option (Medema 2010; Kumekawa 2017, p. 64). Economics was not so much an advanced science to make precise quantitative analysis (Pigou 1935, p. 108). Moreover, the case for public intervention relied on a conception of public interest that was not always reducible to economic welfare, that is measurable in monetary terms (Pigou 1932, p. 183). Pigou held to a 'pragmatic ethical pluralism' (Kumekawa 2017, p. 57). Many important cases of divergence between private and social net product could not be solved by a modification of the contract between the two parties like disputes over tenancy law, precisely because they affected numerous third parties (Pigou 1932, 192). This was especially the case of complex problems like urban planning, beauty of the public spaces, and the air we breathe. When it came to oil reserves and forests, for Pigou the state had to defend the interest of future generations that could not represent themselves in a bilateral negotiation (Pigou 1932, p. 29; 1935, p. 120).

By contrast, Coase insisted on the reciprocal nature of externalities (Parisi 1995; Medema 1999, p. 217). In his own terms: 'What has to be decided is whether the gain from preventing the harm is greater than the loss which would be suffered elsewhere as a result of stopping the action which produces the harm' (Coase 1960, p. 27). In other words, all productive activities generate externalities, but all production is useful because it satisfies consumers' wishes. Thus, solving the problem of externalities was not a matter of preventing any harm — an impossible task — but of 'avoid[ing] the more serious harm' (1960, p. 2).[7] By emphasizing reciprocity, Coase broke the causal analysis on which the traditional moral and legal imputation of responsibility for action rested (White 2006). While in a Pigouvian analysis, one could identify a polluter and a set of victims, in a Coasian analysis, the liability of the polluter would be irrelevant in the face of the monetary value that its output could fetch on the market.

Coase's reasoning on matters of policy relied on his prior conceptualization of the opportunity costs faced by firms:

> Economists who study problems of the firm habitually use an opportunity cost approach and compare the receipts obtained from a given combination of factors with alternative business arrangements. It would seem desirable to use a similar approach when dealing with questions of economic policy and to compare the total product yielded by alternative social arrangements. (Coase 1960, p. 43)

While Coase translated his understanding of the decision-making process of the business world to the policy sphere, he had to abandon the subjective dimension of opportunity costs (Bertrand 2015b, p. 495). Indeed, to decide which of multiple institutional arrangements yields the largest social value, they need to be comparable to an outside observer,

[7]Coase (1959, p. 26) had made the same claim in his paper on the Federal Communications Commission.

such as a judge or a government agency. In other words, Coase's reciprocity thesis assumed that the level of harm, or the social cost, of each option was objectively comparable (Bertrand 2015a, p. 34).

Yet, Coase's comparative policy framework was still rooted in the world of production: 'The economic problem in all cases of harmful effects is how to maximize the value of production' (Coase 1960, p. 15). In the absence of another metric, the market value of different economic activities becomes the measure of their relative social desirability. His original twist was to see factors of production as 'rights to perform certain (physical) actions'. As he put it: 'We may speak of a person owning land and using it as a factor of production but what the landowner in fact possesses is the right to carry out a circumscribed list of actions' (Coase 1960, p. 44). The costs faced by different actors are thus dependent upon the 'delimitation' and the possibility of 'rearrangement' of the rights either through the legal system or in a private exchange.

Coase was foremost interested in the impact of the legal system on the economic relations and the welfare of individuals. He made the following counterfactual claim: if the initial delimitation of property rights could be rearranged easily, then private parties in a dispute could trade these rights. As in any voluntary trade, an exchange of rights would leave both parties better off and allow for an increase in the total value of production (Coase 1960, p. 15). This intuition was later generalized by George Stigler in the famous Coase Theorem (see Medema 2011). Over the years, the theorem acquired a life of its own, quite independently of — and sometimes in contradiction to — Coase's initial intention (Ferey 2015; Frischmann and Marciano 2015). Economists have been particularly interested in the 'efficiency claim' of the theorem: 'If the costs of transacting are zero, resources will be allocated efficiently independent of how rights over those resources are initially distributed' (Medema 2020b, p. 1046). Coase was careful not to claim that transaction costs were null in the real world (Coase 1959, p. 27 n54; see also 1992, p. 717).

In fact, the 1937 and 1960 papers are unified by the idea that owing to transaction costs, the least inefficient institutional arrangement might differ depending on the circumstances (Medema 2020b, p. 1069).[8] This is a corollary of the Coase Theorem which states that absent transaction costs, the institutional structure does not matter for attaining efficiency. Yet, this corollary also highlights that in a Coasian comparative analysis, only costs matter for determining the best social arrangement!

Since he was interested in the effect of different arrangements on the total welfare, Coase had to take a *social* point of view in his 1960 paper that assumed an objectivist conception of costs (Bertrand 2015b). Welfare economics assumed that a benevolent dictator or a social welfare function was the proper standpoint to make such a judgment. Coase opened the door to consider the legislator or the judge as an alternative vantage point. In that perspective, the economic question of the optimal allocation was transmuted

[8]Coase did not use the expression of 'transaction costs' in his 1937 paper. This did not prevent Williamson (1975, p. 3) from arguing that 'transaction costs are appropriately made the center piece of [Coase's 1937] analysis'. Moreover, contrary to what Allen (1999) and other followers of Coase argued, Coase never understood the impediments to the delineation of rights as transaction costs. For instance, Cheung (2020) believes that Coase had formulated the essence of the Coase theorem when he would have written 'the delineation of rights is an essential prelude to market transactions'. In fact, Coase's wrote 'delimitation' and not 'delineation' (Coase 1959, p. 27). Furthermore, there is no hint that Coase considered the delimitation of rights as part of transaction costs. For a genealogy of the concept of transaction costs, see Klaes (2000).

into the question of the definition and distribution of rights. In a world of positive transaction costs, the initial distribution of rights, as well as any rearrangement that occurs due to regulatory or judiciary intervention had distributional consequences. Coase did not elaborate on his conception of property rights, but he seemed to have implicitly held to a bundle of rights conception (Alchian 1965, p. 820; Drobak 2016). At the very least, he acknowledged that 'the rights of a landowner are not unlimited'. What mattered to him was that property rights could be fragmented and the 'right to carry out a circumscribed list of actions' could be separately rearranged, and potentially sold (Coase 1960, p. 44).

Since Coase was convinced that the competitive system led to better satisfaction of individual preferences, it followed that the principal role of the law would be to define, enforce, and allow for the smooth transaction of private property rights. This was the solution he proposed for externalities. In his own words: 'A private-enterprise system cannot function properly unless property rights are created in resources, and, when this is done, someone wishing to use a resource has to pay the owner to obtain it' (Coase 1959, p. 14).

In sum, Coase created a new conceptual space for institutional solutions to economic problems, but the narrow way he conceived of the possibilities for collective action and the role of the law ended up reinforcing a dichotomous worldview. As heir to the British utilitarian tradition, Pigou had compared the relative effect of leaving certain activities to voluntary action with that of making them a responsibility of the State, but his welfare economics was broad enough to account for moral judgments and a concern for third parties that could not sit at a negotiation table between two producers. He was rationalizing the early British welfare state (Backhouse and Nishizawa 2010). In contrast, Coase challenged the place of the government in postwar liberal democracies and encouraged economists and policymakers to choose the best institution by considering only cases that were amenable to a cost–benefit comparison based on the market value of outputs. At the end of the day, the private enterprise system more often than not was hailed as the best alternative: 'It is my belief that economists, and policy-makers generally, have tended to overestimate the advantages which come from governmental regulation' (Coase 1960, p. 18).

2. Economizing on the Commons: The Rise of Environmental Economics

A century of industrialization in North America, strong population growth, and rising real incomes were bound to increase pressure on natural resources. During the Cold War, the threats to human existence posed by the possibility of nuclear annihilation contributed to raising global consciousness about the fragility of life and its dependence on the environment (Locher 2020). In this section, we explain how in conceptualizing two apparently different problems: fisheries and water pollution, neoclassical economists rejected commons, advocating for either government regulation or privatization. These two problems, together with open-access farming were then lumped together in Hardin's popular tale of the tragedy of the commons. Coase's paper on the Problem of social cost only started to attract sustained attention from economists in the late 1960s when environmental concerns became important in the public sphere (Medema 2014b, 2020a). Thus, while the direct influence of Coase is at first minimal, we show in the third section how these early environmental analyses paved the way for the new institutional economists to reject commons using more straightforwardly Coasian arguments.

2.1. Fisheries in Common-Property

In 1951, the Canadian economist Scott Gordon was contracted by the Department of Marine and Fisheries of Canada to study the problems of overfishing in the Atlantic and the poverty of fishermen in its coastal towns (Locher 2020, p. 204). Gordon then generalized his empirical observations using basic microeconomics in a landmark paper which has been highly influential on economic literature and on environmental policy (Bjorndal and Munro 2012, p. 21). Gordon observed a paradox: fishing can provide a rent, but quotas are such that fishermen are generally poor, often working below minimum wages. This tragic situation resulted from policies designed by biologists. To replace their ecological models of fisheries focused on identifying the maximum sustainable yield, Gordon proposed an economic analysis of the resource that accounted for the cost of fishing. To Gordon, the rent was being dissipated because of the 'common-property nature of the resources of the sea' (Gordon 1954, p. 134). In what would later be categorized as a typical case of market failure, competition between the producers would lead to their ruin due to a problem of appropriability. Save for the lucky catch, fishermen could only make money when they 'banded together into a local monopoly preventing entry and controlling their own operations' (Gordon 1954, p. 134). For Gordon, the problem was the lack of property rights on the resource. The solution was in principle simple: 'Under unregulated private exploitation, [Common-property resources] can yield no rent; that can be accomplished only by methods which make them private property or public (government) property, in either case subject to a unified directing power' (Gordon 1954, p. 135). Gordon also argued that the same problem of 'open resource' was at stake in the disappearance of the buffalo of the western plains, the over-exploitation of 'common pool of oil', as well as the common pasture in medieval England.

With hindsight, Gordon's analysis confused resources in open access and regulated commons: 'Everybody's property is nobody's property'. He did acknowledge that in medieval England common pastures were governed by 'elaborate rules' which prevented the 'abuses of excessive individualistic competition', but he did not consider this to be a possibility for other types of common resources. Likewise, when he came to consider the 'modes of tenure among primitive people', he opposed common tenure to any system of regulation — arguing instead that 'stable primitive cultures' protected their resources through private property rights (Gordon 1954, p. 134). Thus, for Gordon, resources in commons belonged to a Hobbesian or Lockean pre-institutional state of nature. Gordon brought the problem of common-property resources to the attention of neoclassical economists, but he also restated the typical Cold War binary policy options of private and public property.

Economic analysis of fisheries grew into an important field in the following years. In 1969, another Canadian economist, Anthony Scott, organized a conference at the University of British Columbia. He presented a co-written paper which compared, from a theoretical point of view, various institutional arrangements in the hope of identifying the optimal regulatory regime for fisheries. They identified many reasons why fisheries had been 'common property' for a long time. With explicit reference to Coase (1937, 1960), they compared the single firm, the decentralized 'market in rights' and the central agency with the powers to tax and allocate fishing licenses. They rejected the market in rights because externalities would prevent the markets from reaching a competitive equilibrium and because the initial distribution of rights would create fairness issues (Scott and Southey 1970, pp. 51–52). Commenting on their paper, Coase dismissed the usefulness of their theoretical search for an optimal institutional solution. Considering the number of decisions involved in managing fisheries, it was not clear to him if any of the institutional solutions considered would not involve so high a cost that it might be better to do nothing (Coase 1970, p. 60). Coase also expressed doubts about the usefulness of the concept of 'common property resource', arguing instead that his 'social cost analysis applies as well to fisheries as to any other industry' (Coase 1970, p. 61).

2.2. Managing Water Pollution

While large rivers had been at the heart of American industrialization in the nineteenth century, water recreation increased in importance in the postwar affluent society. Water pollution became a prominent environmental issue in the 1960s. A decade after its foundation, the American economist Allen Kneese joined Resources for the Future, the first natural resource think tank. In his landmark study *The Economics of Regional Water Quality Management* (1964), Kneese combined an engineer understanding of the material flows, an institutional sensitivity, and a welfare economic analysis (see Nishibayashi 2019).

Kneese argued that water pollution was a typical case of external diseconomy, creating a discrepancy between private costs and social costs, thus leading to a misallocation of resources (Kneese 1964, p. 40). First, he considered the possibility to internalize the externality by 'altering the character of the right to the water — making it salable', but he dismissed this institutional solution. In theory, a Coasian bargaining solution between a polluting firm and a fishing firm might be as 'efficient' in reducing pollution as a fine imposed on the polluting firm by a public agency, but Kneese noted that the distributional consequences were not equivalent: 'On equity grounds it might be considered justifiable to compensate the fisherman for his loss of the opportunity to fish' (Kneese 1964, p. 44). Moreover, Kneese argued that a market for pollution would be complex and thus expensive to organize due to the 'widespread and diffuse' nature of water pollution in densely developed areas (Kneese 1964, p. 46). In addition, equity concerns could not be disregarded: the damage done by industrial waste in streams 'destroy[ed] public values that are not marketable' (Kneese 1964, p. 4). Kneese also considered a 'basin-wide firm' inspired by Coase's 1937 paper, but he dismissed this model in favor of basin-wide local agencies that would set water quality standards and incentivize firms to achieve them by imposing 'effluent charges' corresponding to the marginal damage caused by waste (Kneese 1964, p. 82).[9] Inspired by German water boards (*Genossenshaften*), Kneese's proposal for basin-wide agencies showed how existing institutions could solve the problem of conflicting uses of water resources.[10]

[9]Kneese's 'effluent charges' will be assimilated to 'Pigouvian taxes' in the 1970s (Berta 2020), but when he put this proposal forward, he did not present it as a Pigouvian idea (Banzhaf 2020).

[10]These water board cooperatives could retrospectively be classified as commons (Nishibayashi 2019). Kneese's book was cited by Ostrom and Ostrom (1965), but there is no evidence that it played a significant role in Elinor Ostrom's thinking at the time. She started to collect empirical case studies of institution for collective action in the 1980s (Locher 2016,

In sum, Kneese and Scott proposed a comparison between institutions inspired by Coase, but they rejected the solution that came to be identified with Coase: the trading of (well-defined) property rights on the resource. As Kneese put it 'Processes of private exchange cannot be expected to assign accurate relative values to alternative uses of the resource' (Kneese 1971, p. 155).

The problem of the conflicting use of water between recreation and industrial waste disposal was also studied by the Canadian economist John H. Dales in a very influential paper published in 1968, alongside a book-length version of the argument. In both the paper and the book, Dales observed that the shadow pricing solution to the externality problem of water pollution along a river posed many problems. Drawing from Coase's observation about the reciprocal nature of externalities, he remarked that the downstream community could perhaps gain 'advantage from the upstream pollution' because it consumed the goods produced there (Dales 1968a, p. 798). Dales explicitly rejected Kneese's (1964) proposal to calculate optimal effluent charges due to interdependence between the parties involved. The separation of the polluter and the 'pollutee' victim of inshore water of the Canadian Great Lakes was particularly difficult. Since lake water stayed around for a long time, people who depended on the lake system 'tend[ed] to pollute themselves', leading to 'a sort of Hobbesian war of all against all' (Dales 1968a, p. 793).

Inspired by Coase's idea of an 'optimal amount of harm', Dales argued that there was an 'optimal amount of pollution' to be determined in a social trade-off between the amenity use of clean water and the necessary waste disposal resulting from the production of commodities demanded by consumers. Dales argued that a system of government-sold temporary, but transferable pollution rights could efficiently reduce pollution to the desired optimal level. His proposal for a market in pollution rights was the intellectual foundation for the emissions trading schemes, also known as cap-and-trade, which have been established around the world in the last decades (Gorman and Solomon 2002; Berta 2020).

Dales drew upon Coase's idea to consider production factors as rights to perform certain actions (Dales 1968a, p. 792). He also followed Coase in insisting on the clarity in the definition of property rights, as 'what is not owned cannot be priced since prices are payments for property rights or rights to the use of an asset' (Dales 1968a, p. 792). In that, he is consistent with the NIE focus on the conditions that facilitate or impede transactions as determining institutional choice (more on this below). Dales went further than Coase in explicitly defining ownership as a 'bundle of legally-defined user rights to assets' (Dales 1968a, p. 795). First, he considered four types of bundles encountered in the history of land ownership: common property, restricted common property, fixed tenure, and full ownership. Among the examples of 'common-property ownership', Dales mentioned wild game, medieval commons, high seas, freeways, air, and water (Dales 1968a, p. 795). Sharing the same type of property right could bring together economic problems from widely different contexts: 'Medieval men who witnessed the overstocking of unrestricted common pastures would understand automobile congestion on unrestricted common

2018). Even then, the German water boards are not featured in her analysis, perhaps because they do not fit her methodological commitment to individualism: the members of the cooperatives are not individual citizens, but municipalities and large industrial enterprises (see Fair 1961).

roads' (Dales 1968b, pp. 64–65). Dales cited Gordon (1954) to argue that 'common-property ownership [was], from an economic point of view, virtually non-ownership'. For Dales, treating something like a 'free good' would make it 'valueless' and 'over-used' (Dales 1968a, pp. 795–796).

2.3. The Tragedy of the Commons

In 1968, the biologist Garett Hardin proposed a wide-ranging narrative that would be used by social scientists, including economists, to diagnose the failure of some institutions. 'Picture a pasture open to all. It is to be expected that each [rational] herdsman will try to keep as many cattle as possible on the commons', argued Hardin (1968, p. 1244). As each of them is expected to behave in the same manner, 'each man is locked into a system that compels him to increase his herd without limit — in a world that is limited. Ruin is the destination toward which all men rush […] Freedom in the commons brings ruin to all' (Hardin 1968, p. 1244). The Malthusian naturalistic drive in Hardin's story was obvious. He treated what others would identify as an institutional problem in terms of purely natural and thus ineluctable dynamics. The herdsman story was a metaphor for the problem of overpopulation which worried many in the 1960s, including Hardin, a prominent eugenist (Lam 2011; Locher 2013).

The problem of overpopulation receded, but the other cases of the tragedy of the commons mentioned by Hardin acquired more importance over the years. Besides the case of open grazing grounds, Hardin argued that the tragedy of the commons was happening to ocean fish stocks and to US National Parks. He also claimed that air and water pollution could be explained by the tragedy of the commons. In all cases, he only envisaged the dual solution of privatizing the resource or nationalizing it and imposing strict controls.

Like the prisoner's dilemma and the free rider, Hardin's tragedy of the commons became a popular narrative during the Cold War (Rodgers 2011, p. 10). Abstracting from much of the institutional reality, they captured the idea that as long as humans were selfish calculating machines, voluntary action could not lead to socially desirable outcomes (Amadae 2003). As Fabien Locher put it: 'The persuasive force of the tragedy of the commons was that it gave a concise and yet versatile form to these various facets of an US environmentalism that still lacked general theories' (Locher 2016, p. 305). With respect to the argument of this paper, it's important to note that Hardin provided a narrative that united three sets of problems: water pollution, overexploitation of fisheries, and farming commons.

However, those who studied carefully the problems of natural resources were quick to point out the conceptual blunders in Hardin's paper. He might have cited Adam Smith and Thomas Malthus, but Hardin was apparently unknowledgeable of the more sophisticated analyses of collective action problems made recently by the likes of Richard Musgrave, James Buchanan, Anthony Downs, and Mancur Olson. Neither was he aware of the work of Gordon, Coase or Dales.

As Ciriacy-Wantrup (1971) pointed out, Hardin's tragedy of the commons confused a certain type of scarce resource with the governance system of these resources (Frischmann, Marciano, and Ramello 2019). Ciriacy-Wantrup referred to them as 'fugitive resources', but following Ostrom and Ostrom, economists later adopted the expression of Common-Pool Resources (CPR).

Both Vincent Ostrom in the 1950s, and Elinor Ostrom in the 1960s, had studied water governance in California, but they did not seem to have used the expression of CPR in print for a while (see Toonen 2010, p. 194). In 1968, Elinor Ostrom referred to her 1965 dissertation as a 'case study of the process of constituting public enterprises to deal with common pool and public good problems' (Ostrom 1968, p. 101). In the late 1960s, Ostrom and Ostrom did research on the public administration of the Great Lakes for the Batelle Institute, a private non-profit research body. They remarked that common-pool resources such as 'wildlife, fishlife, oil, groundwater, lakes, streams, and the atmosphere' offered 'joint and alternative benefits', but also generate 'negative spill-overs' (externalities). Their management was problematic as long as ownership of the resource was 'held in common' and a large number of individuals had a right to use the resource while the voluntary consent of each of these members of the community was required to do anything about it (Ostrom, Ostrom, and Whitman 1970, p. 163).

A few years later, Ostrom and Ostrom (1977b, p. 12) crystallized the standard economic understanding of CPR, as goods that have 'alternative use', but are hard or impossible to exclude, such as 'water pumped from a ground-water basin, fish taken from an ocean, [and] crude oil extracted from an oil pool'.[11] They represented these goods in a 4-cell table alongside 'toll goods', 'public goods' and 'private goods'. Although they did not provide a reference, their table echoed the one used by Musgrave and Musgrave (1973) in their public finance textbook. In the standard Musgravian terminology, CPR are rival, but non-excludable goods (Desmarais-Tremblay 2017). With public goods, externality, and common-pool resources, economists established a typology of problems of market failures that could be conceptually separated from the discussion on the types of institutional solutions. In other words, the problem of 'common property resources' posed by Gordon (1954) was broken into the technical problem of 'common-pool resources' and the institutional problems of the property regime and the management structure.

Yet, in the 1960s, Hardin like Gordon before him confused open access regime and commons. Under certain conditions, open access regimes could perhaps lead to an over-exploitation 'tragedy', but they were far from covering the broad variety of commons arrangements found in German land law, Roman law, and Anglo-Saxon common law. As Ciriacy-Wantrup and Bishop (1975) tried to explain to economists, 'common property' rights are social institutions that have been successfully used for centuries in many countries to manage scarce resources. When she came to study the governance problems of CPR in the 1980s, Elinor Ostrom drew in part on their paper to make the case for common property as an alternative form of arrangement to private property and government-owned property (E. Ostrom 1985; Schlager and Ostrom 1987; see also Ostrom 2000). In the meantime, the 'tragedy of the commons' was used by many as a catchphrase to make a simple diagnostic of voluntary action failure, calling for either privatization or nationalization. Yet, ironically, it might have contributed to the popularity of the expression of 'commons'.

[11]See also Ostrom and Ostrom (1977a) and Ostrom (1977).

3. New Institutional Economics

In the second half of the twentieth century, the neoclassical apparatus centered on rational maximizing individuals was applied to new problems beyond its traditional sphere of the determination of commodity prices (see, for instance, Ostrom and Ostrom 1971; Furubotn and Pejovich 1972). As Lionel Robbins's definition of economics became more prevalent in American economics in the 1960s, individual choice under scarcity came to define the economic outlook (Backhouse and Medema 2009). The evolution of institutions did not escape this lens. We have argued that Coase contributed to this new literature by proposing a cost–benefit-based comparison between institutions, often simplifying the alternatives to voluntary bargaining and imposed government allocation. Transaction costs became a generic concept that could be used to extend the remit of the cost metric to any social or economic decision.

3.1. Taking Rights Seriously

In a landmark working paper written independently of Coase's work, Armen Alchian posed the question that drove the economic theory of property rights, a central component of what will become the new institutional economics: 'How do variations in property rights affect the cost and reward systems of those who operate under them?' (Alchian 1961 [2006], p. 10).[12] In the neoclassical world characterized by scarcity, Alchian called for a study of the effects of property rights on the incentive structure faced by individual agents.

For Alchian, water, airspace, and the radio frequency spectrum could be public property, but they were 'essentially unowned' (Alchian 1961 [2006], p. 21). The problem with public ownership was that 'the costs of any decisions or choice are less fully thrust upon the selector than under private property', making any cost-saving action taken by one owner less effective and diluting its benefits (Alchian 1961 [2006], p. 41). Although Alchian compared the costs and benefits of organizing production under different allocation of property rights, contrary to Coase (1960), the goal of his paper was not to identify the institution that maximized the value of output.

At the University of California in Los Angeles, Alchian attracted scholars that would give its Economics Department the reputation of being the 'Chicago West' (Friedman and Friedman 1998, p. 209). Harold Demsetz joined the faculty in 1960. In 1963, Demsetz moved to the University of Chicago before going back to UCLA in 1971. Meanwhile, in Chicago, Demsetz befriended Coase and eventually became one of his disciples (Randall 1974, p. 35). Demsetz explicitly connected externalities, transaction costs, and property rights. He argued that social interdependence generated costs and benefits to individuals. Some of these effects remained in the form of externalities as long as the costs, including transaction costs, of 'bringing [them] to bear on the decisions' would be larger than the benefits of doing so (Demsetz 1967, p. 348). This was, for instance, the case under communal ownership, defined as the absence of the right to exclude that is found in private and public property: 'communal property result[ed] in great

[12]For an insightful account of how Alchian's contribution to the economics of property rights emerged from his work on public utilities at the RAND corporation, see Isaac (2016).

externalities' because transacting and policing costs were high and incentives to increase the productivity of the assets were low (Demsetz 1967, p. 354).

The concept of transaction cost was further developed by the Chinese-American economist Steven N.S. Cheung. After completing graduate studies at UCLA where he was taught by Armen Alchian, Cheung spent a few years at the University of Chicago where he also befriended Coase (Cheung 2016). Cheung connected Coase's 1937 and 1960 papers by highlighting the role of contracts and by broadening the concept of transaction costs. For Cheung, firms chose the type of contracts according to 'transaction costs, natural (economic) risks, and legal (political) arrangements' (Cheung 1970a, p. 50). Cheung stressed that transaction costs should include both the cost of defining and policing exclusivity and the costs of negotiating and enforcing contracts for the exchange of property rights (Cheung 1970a, p. 67). He reinterpreted the central message of Coase's 1960 paper as the observation that 'the reason why some activities are not the subject of contracts is exactly the same as the reason why some contracts are commonly unsatisfactory — it would cost too much to put the matter right' (Coase 1960, p. 39, cited by Cheung 1970a, p. 66).

Following Coase, the economic theory of property rights developed by Alchian, Demsetz, and Cheung allowed them to challenge the prima facie case for government intervention based on the presence of externalities. For Demsetz, if property rights were well defined by courts, then externalities could be dealt with by market transactions (Demsetz 1964, p. 12). Demsetz gave one of the first formulations of the efficiency thesis of the Coase theorem: 'Under competitive conditions and assuming zero exchange costs, these transactions will result in an efficient solution to the scarcity problem' (1964, p. 12).[13] In 1968, Demsetz went further: He argued that in a world of positive transaction costs, the presence of externalities meant that the gains from internalizing the externality must be smaller than the transaction costs. In other words, the presence of externalities was Pareto optimal. Following this line of argument, the Coase theorem was later used as a tool to defend the status quo and, for instance, to discredit efforts to reduce environmental pollution (Samuels 1974).

Cheung (1970a) frontally attacked the concept of externality in economics. Picking up on Gordon's problematization of the fisheries, Cheung followed Demsetz (1964) in conceptualizing 'common pool' as a problem of externality: 'the alleged externalities associated with the 'common pool', or with all property arrangement without clear delineation of rights, are muddy concepts' (Cheung 1970b; see also Demsetz 1964, p. 17). For Cheung (1970a), externalities were effects that were not specified in contractual arrangements because of the absence of exclusive rights or because of prohibitive transaction costs.[14]

Thus, while both Alchian and Coase had been interested in the influence of property rights on the cost structure faced by individuals, it was under Coasian influence that Demsetz and Cheung argued that the best institution could be chosen based on a costs

[13]With explicit reference to Coase, Demsetz formulated in 1967 the efficiency and the invariance theses of the Coase theorem. See also Alchian (1965, p. 820).

[14]At the end of the decade, Dahlman (1979) also argued that the presence of externalities was evidence of substantial transaction costs. For Dahlman, if markets were defined comprehensively, externalities would vanish (Lagueux 2010). Besides, Dahlman (1979, p. 161) suggested that the legacy of Coase should be to conduct more cost-benefit analyses to decide which institution is best suited for organising the allocation of resources and dealing with environmental problems.

comparison. Moreover, it was also Demsetz and Cheung who developed Coase's intuition about the costs of transaction into a powerful tool of neoclassical economics. They used it to conclude in favor of the superiority of the private property status quo. Externalities did not call for government intervention. Quoting Coase at the end of his analysis of marine fisheries, Cheung warned of 'the real danger that extensive Government intervention in the economic system may lead to the protection of those responsible for harmful effects being carried too far' (Coase 1960, p. 28, cited by Cheung 1970b, p. 108).

3.2. Taking on History

For economists interested in institutions, history provides a repository for testing or justifying their theories. Commons probably first came to the attention of economists through their disappearance in the British enclosure movements. Marx famously argued that 'the robbery of the common lands […] and its transformation into modern private property under circumstances of reckless terrorism' was one of the sources of the so-called primitive accumulation (Marx 1867 [1990], Chapter 27). Another source was the pillage of land held by native people (Foster, Clark, and Holleman 2021). Both of these arguments about the underpinning of capitalism were challenged by new institutional economists.

During the interwar years, the young Douglas C. North read 'lots of Marx' as an undergraduate student at Berkeley. By his own account, he 're-learned' economic theory in the early 1950s and 'became a very rigid neoclassical, Chicago type economist', but Marx's ideas continued to influence him (Horn 2009, p. 164). In the 1960s, a wave of Marxist economic history in Britain revived interest in the agrarian origins of capitalism (on which, see Tribe 1981). Writing in *The Economic History Review* in 1970, Douglas North and Robert Paul Thomas offered an alternative narrative about the growth of the western world in the Early modern period, one in which slow institutional changes led to efficiency gains. They proposed a Malthusian model in which population dynamics were driven by the availability of resources until exogenous technological change allowed new institutions to break the Malthusian cycle. Following Demsetz (1964, p. 350), for North and Thomas, institutions such as a system of property rights were established by individuals when the benefits of doing so were larger than the costs. Benefits increased when new technology allowed economies of scale, or when transaction costs could be reduced, for instance by internalizing an externality (North and Thomas 1970, p. 6; see also Cheung 1970a, p. 68). The manorial system of the High Middle Ages worked well as long as labor was relatively scarcer than land. Population increased in the twelfth century, leading to a decline in real wages. The value of land would increase if its returns could be captured. North and Thomas argued that the first wave of voluntary enclosure resulted from this pressure to transform 'common-property use of the land' and convert it into 'private exclusive ownership' (11). After another Malthusian cycle, in the sixteenth century, the population had increased again, leading to a decline in real wages and an increase of returns in agriculture, especially in the production of wool. North and Thomas hypothesized what *would* have happened:

> [T]he increase in the price of wool would have caused individuals holding land in common to use it inefficiently by each attempting to pasture more sheep. The cost to the individual of

> pasturing another sheep on the common approached zero, but the cost to society of everyone doing so was clearly positive. The common would tend to become overgrazed and the total output of wool would actually decline, providing a classic example of an externality associated with common-property resources. Individuals with the power to enclose the common could avoid this occurrence by enclosing areas and denying access to all others. The extinguishing of the rights of the common allowed the new owners to increase their private output (and that of society) at the cost of persons excluded from the common, who were obviously worse off. However, since the pasture was now more efficiently used, the costs and benefits to society were brought closer in line with those accruing to the individual. (North and Thomas 1970, p. 13)

Without the need to refer explicitly to Hardin, they offered the tragedy of the commons as a counterfactual story of what would have happened if enclosures had not been possible to internalize the externality associated with a pasture in common.[15] In Scotland and in the sparsely populated North of England, enclosures happened first because the transaction costs of negotiating a change of property rights were lower. In the South of England, the biggest wave of enclosure happened in the eighteenth century when the support of Parliament reduced transaction costs (North and Thomas 1970, p. 14). Whereas Hardin had framed his tragedy in terms of utility gains and losses accruing to the ranchers, North and Thomas framed their version of the story in the Coasian language of externality, costs, and property rights.

In 1972, Bennett D. Baack defended a dissertation on the English Enclosure movement in the late fifteenth and early sixteenth centuries under the supervision of North. Cheung who had moved to the University of Washington in 1969 was also a member of the committee. In his historical survey, Baack recognized various forms of property rights, and collective mechanisms that prevented overgrazing on common pastures, such as stinting. But when he came to provide his own explanation, he drew from Cheung, Demsetz, North, and Thomas. The historical question became: why were exclusive private property rights not established earlier?[16] For Baack, an enclosure movement emerged when exogenous shocks reduced the costs or increased the benefits of establishing new, more exclusive, forms of property rights (Baack 1972, pp. 38–39). Baack's dissertation did not have a comparable impact to that of other works discussed here, but it confirms that at the turn of the decade the Coasian-infused analysis of Cheung and Demsetz provided a theoretical framework for the historical study of the commons.

With the explicit aim of reclaiming from the 'left' the 'study of the underpinnings of capitalism', Alchian and Demsetz also defended the efficiency gains from the enclosure of the agricultural commons. Writing in the *Journal of Economic History*, they argued that '[t]he enclosure movement, for example, may have significantly reduced the cost of carrying on transactions among those possessing rights of use, and this may have eased the task of putting resources to their most productive uses' (Alchian and Demsetz 1973, p. 22).

[15]In the later book version of their argument, North and Thomas acknowledged that historical commons did not completely match 'the economist sense' of 'common-property': 'Customs and precedents limited its usage to preclude overgrazing and other hazards implicit in common use' (North and Thomas 1973, p. 19).

[16]After sharing an office with Cheung at the University of Chicago, D. McCloskey also used Coase to reverse the historical question concerning the enclosure of common lands in England: What needed explaining was not why land was enclosed, but rather why land was not enclosed earlier if the common system had been so inefficient. Indeed, if property rights were well defined and exchangeable at low costs, rational English villagers would have proceeded to voluntary enclosures long before the eighteenth century (McCloskey 1972, p. 17).

In hindsight, the economic theory of property rights is not an exception to the observation made by the political theorist C.B. MacPherson that 'theories of property [...] have concerned themselves mainly with justifying (or attacking) property in land and capital and labor' (MacPherson 1978, p. 12). Demsetz (1964) illustrated his point about the superiority of a system of private property with a narrative about the economy of the Native American people. Like Gordon (1954), he made his case for the institution of private property rights by referring to a dysfunctional state of nature. John Locke (1690 [2003], Chapter 5) famously argued that the native people of America lived in a state of nature devoid of private property. For Locke, natives could not have rights on the land because they did not improve it. European settlers were justified in grabbing the land because the natives had been 'wasting' it (see also Tully 1993, Chapter 5).

Three hundred years later, Demsetz (1967, p. 351) argued that before the arrival of Europeans, natives hunted freely for their own consumption. In this setting, the incentive to restrict oneself to a sustainable hunt was low. Demsetz assumed that the communal system meant that 'every person ha[d] the right to hunt, till, or mine the land'. Moreover, since everyone was assumed to have a right, the cost of reaching a consensual agreement and enforcing it must have been prohibitive (Demsetz 1967, p. 354). Together these factors led to overexploitation: 'If a person seeks to maximize the value of his communal rights, he would tend to overhunt and overwork the land because some of the costs of his doing so were borne by others. The stock of game and the richness of the soil would be diminished too quickly' (Demsetz 1967, p. 354; see also Alchian and Demsetz 1973, p. 20). According to Demsetz, the fur trade with Europeans increased the stakes of good husbandry for the Innu who established exclusive private rights on parts of their territory (in what is now Northeastern Québec) (1967, pp. 352–353). The realignment of incentives led to the internalisation of the externality as the rising value of fur increased the benefit of private property (p. 356). In contrast, similar institutional changes were not implemented by tribes living on the Southwestern plains because of the lower benefit and higher costs of establishing private hunting rights (p. 353). Thus, according to Demsetz, common property disappeared where it paid off to privatise. The implication would be that if (unregulated) commons persisted elsewhere, then it must have been the most efficient institution under the prevailing conditions (Banzhaf, Fitzgerald, and Schnier 2013, p. 243).[17]

Besides their role in justifying capitalism, these narratives about overexploitation of natural resources under communal ownership were also meant to speak about the contemporary environmental issues of over-fishing and water pollution. For instance, Demsetz (1964) also briefly discussed the 'petroleum and fishery 'pool' problems'. For Alchian and Demsetz (1973, p. 20),

> since the state has invited its citizens to treat lakes and waterways as if they are free goods, that is, since the state generally has failed to exclude persons from exercising communal rights in the use of these resources, many of these resources have been overutilized to the point where pollution poses a severe threat to the productivity of the resource.

[17]More recent anthropological and historical accounts show how Demsetz misinterpreted (or was unaware of) the sometimes successful ways in which native people managed their commons (Greer 2017). As Morin (2018, p. 576) puts it: 'Although Demsetz tried to understand the communal norms of indigenous people, his initial bias against collective ownership prevented him from recognizing the importance of the rules that were in place prior to the arrival of Europeans'.

Because communal rights led to both the depletion of resources and their inefficient use in production, only two solutions remained: public or private property. Between the two, Demsetz's preference was clear: '[T]he valuation power of the institution of property is most effective when it is most *private*' (Demsetz 1964, p. 19). In the Cold War Manichean view, the only alternative to an increase in private property was to yield more power to a totalitarian state: 'The attempt to resolve scarcity-created problems by reducing the scope of private rights must inevitably result in a more centrally regulated or indoctrinated society' (Alchian and Demsetz 1973, p. 24).

4. Conclusion

Living in advanced capitalist societies, most twentieth-century Western economists took institutions for granted. To many, the only alternative to a market-based economy was a state-controlled authoritarian and inefficient system. The Manichean ideological outlook of the Cold War had roots in the interwar debates about the renewal of liberalism. In this context, Coase tried to understand the role of the institution of the firm in a capitalist economy serving the interests of individual consumers. From a study of the business world, he came to policy questions and brought with him a cost metric. Provided that one cared only about relative costs and benefits, Coase suggested that externality problems could be solved by individual bargaining if only private property rights were well defined.

Meanwhile, decades of industrial growth had left many natural resources overexploited. Independently of Coase's work, Gordon started a discussion on the problems of 'common-property resources', a generic category that he suggested applied equally to fish stocks, oil pools, and pastures. Gordon's 1954 conceptualization directly influenced most economists in the 1960s and 1970s who grappled with the over-exploitation of common pool resources.

At the same time, Demsetz, Cheung, and North, among others, drew on Alchian's and Coase's insights to develop a new theory of institutions centered on property rights. Coase did not single-handedly invent or promoted the concept of cost in economics. He was criticizing policy conclusions derived from welfare economics, a body of literature that other economists had access to independently of Coase's paper. Yet, Coase influenced other economists in choosing the institutional arrangement that either minimized total costs or maximized the value of production. What mattered were not simply the costs of various inputs in a production process, but the cost associated with one allocation of property rights compared to another.

Hardin's tragedy of the commons was probably not a revelation to economists who were familiar with the literature on market failures and public goods. Yet, his simplistic narrative echoed the diagnostic of failure of 'common-property' arrangements made by Gordon and others, reinforcing the Cold War binary choice between private and public property. With their more sophisticated theory, early New Institutional economists identified commons as fundamentally deficient arrangements lacking the economizing capacities that a competitive system based on exclusive private property possessed. They extended the market theory to new objects, but like the market failure approach they were attacking, their analysis reveals more about what is necessary to make markets work, than how radically different arrangements like commons might work.

By focusing on the role of transaction costs and the impact of property rights on incentives, New institutional economics necessarily leaves other things in the shadow. Some of the dimensions of economic and social life thus obscured, such as power dynamics or the possibility for collective agency, are common to all strands of neoclassical economics and stem from methodological individualism and the conceptualization of agency in terms of voluntary, rational, and self-interested individual behavior (see Toboso, 1995).

Still, other dimensions of institutions are directly veiled by the reductive Coasian comparative framework, such as the values embedded in institutions, or the impact of the distribution of wealth on economic outcomes (See Randall 1978; Hovenkamp 2011). As MacPherson (1978) argued, 'property is a political relation between persons'. The initial distribution of rights and any reallocation thereof are subject to political processes (Vira 1997).

In many ways, Elinor Ostrom's work also belongs to new institutional economics and thus suffers from the same limitations, but it constitutes more than a conservative vindication of capitalism. In the 1970s, together with her husband, she made an important distinction in economics between a type of resource (CPR) and the institutional arrangement to manage it. Her astute knowledge of institutional diversity came from years of studying applied problems of public administration and from large-scale meta-analyses of commons conducted in the 1980s, drawing on a wide range of empirical material, notably from anthropology. After Hardin, she exhorted economists to leave the 'dichotomous world of 'the market' and 'the state'' and recognize how 'diverse private-for-profit, governmental, and community institutional arrangements (…) operate at multiple scales' to successfully govern common pool resources (Ostrom 2010).

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