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From Progress to Innovation:

Neoliberalism and the expansion of Intellectual Property

By

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A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Sociology

University of Warwick, Department of Sociology

October, 2020
Never has there been a young movement that knew exactly what it wanted, or that wanted what it achieved

H. Kantorowicz, Der Kampf um die Rechtswissenschaft (1906, cited in Foulkes 1969)

This principle—“forget the past, except for experiences promising to be helpful for the future, and look to the future only”—may be the overriding rule in all economic theory

Fritz Machlup, Knowledge, vol, III, p. 408
# TABLE OF CONTENTS

## I. INTRODUCTION
- The Problem of Intellectual Property in Capitalism ............................................. 1
- Framing the research: Neoliberalism and the expansion of IP .......................... 6
- Dissertation Outline .................................................................................. 10

## II. RESEARCH PROBLEM AND METHODOLOGY: CONCEPTUAL CHANGE AND THE EXPANSION OF IP ........................................... 14
- The expansion of Intellectual Property: Copyrights, Patents and Trademarks) .............................................................................................................. 14
  1. Expansion of Copyright ........................................................................ 14
  2. Expansion of Patents ......................................................................... 16
  3. Expansion of Trademarks ................................................................ 18
- Research Problem: current explanations regarding the expansion of IP and their shortcomings ..................................................................................... 23
  1. IP expansion as a result of economic and technological changes 24
  2. IP Expansion as a result of institutional capture and rent-seeking behaviour: ................................................................................................. 27
  3. IP Expansion as a result of ideological/conceptual change ........ 30
- Methodology: Explaining conceptual change in Law .................................. 35
- Overcoming the limitations of current approaches ................................... 36
  1. Contradictory empirical evidence ...................................................... 36
  2. Need for historical backing ................................................................ 40
  3. An excessively broad concept of ideology ......................................... 42
- Toward a concept-based approach to ideology .................................... 46
- An integrated approach to the expansion of IP .................................... 51

## III. SCIENCE, WARFARE AND THE RISE OF IP ................................. 53
- Introduction .......................................................................................... 53
- Chapter outline ...................................................................................... 54
- 19TH Century Science: between internationalism and nationalism 55
  1. The 19th Century Patent Controversy .............................................. 59
  2. The UK’s 1875 Commission on Copyright reform ......................... 66
- Planning for war: The Neoliberal counter-revolution of science ....... 70
- Conclusion .......................................................................................... 81

## IV. ‘NEW’ LIBERALISM AND THE INTERNATIONAL ORDER .................. 84
- Introduction .......................................................................................... 84
- Chapter outline ...................................................................................... 84
- IP and 19th century globalism................................................................. 87
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. The collapse of the 19th-century liberal order</td>
<td>92</td>
</tr>
<tr>
<td>E. German International Law theory as an antecedent of Neoliberalism</td>
<td>99</td>
</tr>
<tr>
<td>F. Eunomics and Freakonomics</td>
<td>107</td>
</tr>
<tr>
<td>G. Conclusion</td>
<td>114</td>
</tr>
<tr>
<td>V. IP AND THE BIRTH OF BIG BUSINESS: REFRAMING MONOPOLY, COMPETITION</td>
<td>119</td>
</tr>
<tr>
<td>AND CORPORATION</td>
<td></td>
</tr>
<tr>
<td>A. Introduction</td>
<td>119</td>
</tr>
<tr>
<td>B. Chapter Outline</td>
<td>120</td>
</tr>
<tr>
<td>C. Intellectual Property in the context of Corporate Capitalism</td>
<td>121</td>
</tr>
<tr>
<td>D. Economic Power and Political Power: The Invisible Government of</td>
<td>133</td>
</tr>
<tr>
<td>Business</td>
<td></td>
</tr>
<tr>
<td>E. Defending Competition or competitors? The Rise of Chicago Antitrust</td>
<td>144</td>
</tr>
<tr>
<td>F. Chicago’s Influence on IPRs</td>
<td>152</td>
</tr>
<tr>
<td>G. Conclusion: Economic and Political Power</td>
<td>158</td>
</tr>
<tr>
<td>VI. HOW KNOWLEDGE BECAME CAPITAL</td>
<td>163</td>
</tr>
<tr>
<td>A. Introduction</td>
<td>163</td>
</tr>
<tr>
<td>B. The making of the Knowledge Society: From the politics of Big</td>
<td>169</td>
</tr>
<tr>
<td>Science to the End of Ideology</td>
<td></td>
</tr>
<tr>
<td>1. Cold War Science and the Congress for Cultural Freedom</td>
<td>169</td>
</tr>
<tr>
<td>2. Towards the economics of knowledge production: Machlup invents the</td>
<td>173</td>
</tr>
<tr>
<td>knowledge society</td>
<td></td>
</tr>
<tr>
<td>3. Human Capital: Knowledge becomes Capital</td>
<td>176</td>
</tr>
<tr>
<td>4. The Post-Industrial Society</td>
<td>178</td>
</tr>
<tr>
<td>5. From the Post-Industrial to the Network Society</td>
<td>185</td>
</tr>
<tr>
<td>C. The Globalised Knowledge Society and its discontents</td>
<td>187</td>
</tr>
<tr>
<td>D. The technological and legal infrastructure of Knowledge Capital:</td>
<td>192</td>
</tr>
<tr>
<td>Exploring the layers of the “knowledge as capital” metaphor</td>
<td></td>
</tr>
<tr>
<td>E. Conclusion: From Progress to Innovation</td>
<td>196</td>
</tr>
<tr>
<td>VII. CONCLUSION</td>
<td>200</td>
</tr>
<tr>
<td>A. From Progress to Innovation</td>
<td>200</td>
</tr>
<tr>
<td>B. A note on methodology: Why conceptual change is important</td>
<td>206</td>
</tr>
<tr>
<td>C. The failure of Neoliberalism</td>
<td>210</td>
</tr>
<tr>
<td>D. Rethinking IP as a tool for &quot;epistemic trust-busting&quot;</td>
<td>217</td>
</tr>
<tr>
<td>VIII. REFERENCES</td>
<td>232</td>
</tr>
</tbody>
</table>
DECLARATION

This thesis is the original work of the author and is submitted to the University of Warwick in partial fulfilsments of the requirements of the degree of Doctor of Philosophy (PhD). The research was performed at the Sociology Department of the University of Warwick from September 2016 to October 2020, under the supervision of Prof Steve Fuller and Dr Nicholas Gane.

The dissertation has been composed by myself and has not been submitted in whole or in part as consideration of any other degree qualification at this or any other university. Where other work has been used it has been acknowledged. No part or section of the thesis has been published before. A previous version of section F, Chapter V was presented at the “Connected Power Workshop” at Clare College, University of Cambridge in April 2017.
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To my parents,

For teaching me how to love
ABSTRACT:

Intellectual property law [hereon IP] is a particularly dynamic area of capitalist development. While the presence of IP in modern societies is pervasive, scholarly accounts of its explosive growth remain historically and disciplinarily bounded. This dissertation seeks to craft a more thorough account of the expansion of IP, by (1) tracing the changes in the concept of property in modern legal, economic and political discourse; (2) linking these conceptual changes to the process of expansion of IP; and (3) investigating the two-way relationship between the process of expansion of IP and the conceptual shifts in ownership.

The methodology of this desk-based research involved first surveying the literature regarding the expansion across disciplinary boundaries, covering mainly economics, political science and legal theory. Next, the dominant explanations given in each discipline to account for IP expansion were identified and contrasted in their strengths and weaknesses to integrate them by using methods adapted from conceptual history (mainly Begriffsgeschichte and the Cambridge Historical School). Four results chapters explore a series of political controversies linked to conceptual innovation starting in the late 19th century and covering the 20th century. The approach showcases how the network of concepts to which we owe our current understanding of IP developed in a context of social, political and economic turmoil. Our perspective regarding the political significance of IP is thus illuminated by the consideration of the historical context.

A key finding is that the expansion of IP was made possible by a series of conceptual changes that resulted from the ideological efforts of neoliberals to rethink the conceptual categories of classical liberalism during the first decades of the 20th century. Building on this,
the work offers a prognosis of where the concept of property might be headed, as well as a normative evaluation of these developments.
I. **INTRODUCTION:**

**A. THE PROBLEM OF INTELLECTUAL PROPERTY IN CAPITALISM**

This dissertation strives to achieve a better understanding of contemporary capitalism through the study of a phenomenon at the centre of one of its most dynamic areas: the expansion of Intellectual Property law [hereon IP]. Thus, this research aims to show how the process of expansion of IP relates to changes in the concept and practice of property in contemporary capitalism. Thus, the general research aims are the following:

1. To trace the changes in the concept of property in modern legal systems.

2. To link these changes to the process of expansion of IP.

3. To investigate the two-way relationship between the process of expansion of IP and the conceptual shifts in ownership.

Briefly stated, the methodology developed in this dissertation is the following. First, the literature regarding the expansion of IP is surveyed across disciplinary boundaries, for only in this way can the shortcomings of each discipline be overcome. Consequently, the relevant literature in economics, political science and legal theory is analysed. Next, the dominant explanations given in each discipline to account for this phenomenon are identified and contrasted in their strengths and weaknesses to integrate them by using methods adapted from conceptual history.

Then, a series of political controversies are explored in each chapter, as these provide the context for conceptual innovation. This process of conceptual change started during the late 19th century and
developed during the 20th century. Thus, this dissertation aims to showcase the extent to which the network of concepts to which we owe our current understanding of IP developed in a context of social, political and economic turmoil. By unearthing this context, it becomes possible to widen our perspective regarding the political significance of IP.

One of the novel discoveries derived from using this method is that the expansion of IP was made possible by a series of conceptual changes that resulted from the ideological efforts of neoliberals to rethink the conceptual categories of classical liberalism during the first decades of the 20th century. Building on this, the work seeks to investigate where the concept of property might be headed and provide a normative evaluation of these developments.

Since the 19th century, IP has expanded worldwide, both at the level of national legislation and through the proliferation of international agreements (Drahos and Braithwaite 2002; Helfer 2004; May and Sell 2006; Seville 2006). Over this period, IP’s role in the organisation of the economy came into question. Thus, new rationales were needed. Likewise, the task of justifying IP could not be done in isolation from all the additional conceptual work needed to actualise legal and economic theory to the new circumstances of production. In this sense, this period is fundamental for understanding further developments in IP theory and regulation during the 20th century.

The process of IP expansion has three key features, not always clearly differentiated in the literature: first, the commercial value of intangible goods increased, and with it, its relevance in the economic system. Second, new kinds of intangible goods were subsumed under IP. Third, the IP rights [IPRs] holders’ protection heightened in terms of duration and scope.

Indeed, one of the most striking features of contemporary capitalism is the fact that, in what seems a relatively short time, IP has moved from being a fringe aspect of capitalism to be one of its most notable
(and notorious) features. In the course of our daily lives, we will often encounter IP: in the digital content we consume, embedded in gadgets and appliances that are ever-present in our leisure time and working life.

Consequently, since the mid-90s, the study of IP in the Anglophone legal culture has been driven by a set of debates regarding a vast array of conflicts brought by the expansion of the different forms of IP, such as Copyrights, Patents and Trademarks. Many criticisms have been voiced against the expansion of IPRs: for its damaging effects on cultural production (Benkler 1999; Lessig 2004), for its pernicious effects on freedom of speech (J. M. Balkin 2008; Netanel 2008a), on scientific research (Johns 2006; O’Neill 1990), for appropriating traditional knowledge and biogenetic resources (Dutfield 2004), for hindering access to medicines (Gibson 2009; Helfer 2015).

Contemporary critics’ arguments against the global expansion of IP can be synthesised in the notion that it has meant a radical enlargement of the scope of what can be owned. IP currently encompasses “things” that could not have been owned fifty years ago, such as software, DNA sequences, algorithms, traditional knowledge, etc. These criticisms tend to disregard an obvious fact: there is nothing novel about this. The range of what can be property has changed many times before. The history of IP law is the history of this process!

Nonetheless, they are correct insofar as they underline the speed and political significance of the changes that IP has undergone. The problem is that they leave unexplored a vital element of this process: the relationship between the expansion of IP and changes in the concept of ownership, i.e. what it means to own something. This dissertation is devoted to clarifying this issue.

Thus, the rest of the dissertation will explore a set of ideological controversies stemming from massive changes in the underlying
political and economic conditions in which IP developed: the entanglement of science, society and economy, the collapse of the international order of the 19th century, the rise of corporate capitalism and the development of the knowledge society. Then, the conceptual innovations developed by agents to cope with these novel conditions will be analysed. Finally, their contribution to the process of expansion of IP is assessed.

The method required to study these ideological controversies consists of three elements. First, the approach proposed here starts by widening the scope, insofar as to fully understand the evolution of any given concept, it is necessary also to study the concomitant changes in related concepts. This demands the research to go beyond IP law strictly speaking to other areas of law and even other fields, to find areas of semantic dispute that are relevant for understanding how the concept of property has changed. Thus, this approach requires interdisciplinary investigation across related topics, making visible knowledge that might have been left out in the fringes of disciplinary quarrels.

Second, the method seeks to identify relevant historical conjunctures in which conceptual innovations came to be formulated and deployed by interested agents. These conjunctures are chosen both due to the amount of conceptual indeterminacy brought about by changes in the technological and economic context and the presence of innovative uses of concepts related to property.

Third, the method aims at exploring how, within the selected conjunctures, these conceptual innovations affected the meaning of the concept of property and the role this conceptual shift played in the expansion of IP. This is done by examining the use of the concepts in the works of key theorists from different disciplines, policy papers as well as discourses voiced in political and disciplinary controversies. From these, innovative uses of the relevant concepts are sought out and analysed.
A pivotal factor for studying conceptual innovation will be agents’ ability to influence speech among those whose utterances are deemed the most effective in transforming legal language.\(^1\) Accordingly, investigating knowledge production becomes central to the task of unveiling the role of conceptual change in the process of IP expansion. As conceptual indeterminacy increases with technological change, the pressure exerted upon judges and policy-makers by different agents rises along with the augmented necessity for guidance regarding how to solve novel cases or conflicts. Experts coming from different disciplines will exert influence upon judges, administrative officials and policy-makers. This might bring a change in the relationship between academic disciplines, due to shifts in their relative epistemic authority. Netanel (2008b) captures this phenomenon when he claims that the growing influence of mainstream economics (a mixture of neoclassical economics with new institutional economics) in Anglo-American legal culture has fostered the expansion of IP. Nonetheless, the approach proposed here is more sceptical regarding the possibility of controlling conceptual change: no discipline or group of agents is likely to fully control the outcome of their engagements with decision-makers and other disciplines. Accordingly, conceptual change does not need to be intended by any of the agents involved in it. In fact, it might even be contrary to their goals (Bourdieu 1987, 852–53).

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1 Steven Teles, while analysing different long-term strategies used by conservatives in the US to influence legal culture, stresses the importance of elites:

(…) changes in the form of governance have made elite higher education, through its credentialing of expertise and control of the production and legitimation of ideas, an important source of political power. Because cultural capital – the habits, skills and bearing that allow one to be taken seriously in elite circles – is transmitted through these institutions, an effective challenge to the dominant regime must sink roots in those institutions or produce alternative institutions also capable of producing not only knowledge but also reputations, prestige and distinction.

(Teles 2008, 17). [notes omitted]
In this sense, controversies regarding the boundaries between academic disciplines provide a privileged epistemological standpoint for mapping conceptual change: in the context of disciplinary controversies, theoretical commitments come to the surface, either because of scrutiny by the rival discipline or by reformulation to shield them from criticisms (S. Fuller 1991, 193–95).

In the next section, the relevant historical context and conjunctures are briefly described, along with the rationale used to identify them.

**B. Framing the Research: Neoliberalism and the Expansion of IP**

One of the fundamental contributions of this dissertation is the claim that to understand the expansion of IP it is essential to place it within the context of a broader transformation of the international political and economic order. Against other accounts of the expansion of IP (e.g. Lessig 2004; Netanel 2008b; Boyle 2008), which are focused in the US and identify the origins the expansion in the last quarter of the 20th century, this dissertation turns to a subject largely ignored in IP scholarship: the works of the early 20th century German-speaking European economists and political theorists and their American counterparts that would later become the forefathers of Neoliberalism. This shift in focus will provide the necessary perspective for an alternative account of the expansion of IPRs and its relationship with the concept of ownership that will take up the bulk of the following chapters.

As a result of a variety of studies on Neoliberalism in the last decade, the context, scope and immanent tensions of the neoliberal project have surfaced (Burgin 2012; Jackson 2014). This has allowed studying the relationships between the international development of IP and Neoliberalism, hitherto ignored.
Regarding the broader context of Neoliberalism, it is now accepted that the primary concern of the intellectuals that established the core doctrines of Neoliberalism in the early decades of the 20th century was the collapse of the 19th century liberal world order (Dekker 2016; Reinhoudt and Audier 2018; Slobodian 2018; Whyte 2019). In this sense, the collapse of this world order and the possibilities of its restoration motivated Neoliberalism’s political project at its origins. Before or during the WWII, most of the European neoliberals (and their intellectual adversaries) migrated either to the US or the UK, where they ended up working at top universities (Craver 1986; Fleming and Bailyn 1969; Horowitz 1987; Klausinger 2006; Reisch 2005; Scherer 2000; Telman 2016; Vaughn 1998). Thus, a transatlantic network consolidated. Via this network, their ideas spread and became part of the political Zeitgeist. As a result, their theories permeated the intellectual climate of Anglo-American political theory, economics and legal theory.

By taking the cultural or “civilisational” (Dekker 2016) aspirations of the “neoliberal thought-collective” seriously, it is possible to see why science, economy and politics where not isolated issues for them and thus could not be discussed separately. In this sense, the goal of providing a new basis and institutional framework for liberalism at a global scale provides the background for the process of IP expansion, the latter being one key aspect of the former. This aspect of neoliberal thinking helps to frame discussions about IP during the 20th century. Primarily, it highlights the importance of technological innovation and its relationship with economic concentration for the stability of the world order.

Thus, addressing the intersection between economics, science and politics among the leading theorists of the so-called neoliberal thought collective becomes fundamental. The chapters that follow are devoted to this task. Hence, the focus moves away from the traditional

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2 For a thorough development of the notion of “Neoliberal Thought Collective”, see the introduction in Mirowski and Plehwe (2009).
narrative placing the ideological causes for the expansion of IP in the latter decades of the 20th-century anglophone legal culture. Instead, it centres in the set of ideological controversies spurred by the collapse of the international order the development of industrial capitalism during the late 19th and early 20th century and the post-war politics of the Cold War.

In particular, it is necessary to explore how this novel form of economic organisation brought a series of interrelated controversies, involving not only the nature of IPRs but the role of private property in modern economies.

One set of controversies is related to the question of how to organise science in the context of industrial capitalism (Chapter III). The second set of controversies stems from the collapse of the international world order at the beginning of the 20th century (Chapter IV). The third set of controversies takes place in the context of unprecedented economic concentration due to the emergence of industrial firms (Chapter V). The fourth set of controversies are related to the rise of the so-called “knowledge society” (Chapter VI).

It will be argued that the concept of property changed on two dimensions: the political and the epistemological. In each of these dimensions, the changes are signalled by the shifting relationship between property and a set of interlocking concepts. On the one hand, the concept of knowledge, science and technology. On the other, monopoly, market, labour and firm. In turn, the political and the epistemological dimensions of property are manifested in three interrelated aspects of the Enlightenment idea of Progress: social progress; scientific progress and economic progress.

The political aspect of social progress has to do with achieving peace by putting an end to war and ending oppression. The epistemological aspect has to do with the creation of an international republic of science, in which everyone contributes to the collective pursuit of knowledge as the fundamental calling of humankind.
The epistemological aspect of scientific progress consists in discovering the political economy of knowledge production. This would bring perpetual advancement in our collective knowledge of the universe, in the same fashion that the discovery of political economy had brought about seemingly endless economic progress.

The political aspect corresponds to the relationship between autonomy and increased knowledge. Scientific knowledge meant enlarging our mental or cognitive capacities, allowing us to achieve a fuller sense of freedom than before.

The epistemological aspect of economic progress entailed that we could devote increasing resources to the pursuit of knowledge, which in turn would foster a higher degree of control over nature. The political aspect consisted in overcoming our conditions of scarcity, uplifting us to ever higher degrees of abundance.

The expansion of IP coincided with the crisis of these three aspects of the idea of Progress. These were questioned in the context of the controversies explored in the dissertation. Thus, it will be argued that classical liberalism failed to solve the tensions involving the different aspects of Progress. Correspondingly, these are central for understanding the concerns of early neoliberals regarding IPRs.

Considering the sceptical attitude of early neoliberals towards IP, the fact that it expanded during the same period in which their ideas became dominant in the world demands an explanation. It will be argued that the solutions they proposed to the challenges posed by industrial capitalism generated a "decoupling" between IP and Progress as a regulative ideal, illustrated by the replacement of the notion of Progress for innovation as a goal of IP. In turn, this reflected a deeper decoupling between property and autonomy.

The replacement of progress by innovation as a goal was a slow and unintended process, which resulted from the interrelated conceptual shifts made by neoliberals to solve the problems ailing classical liberalism.
The central hypothesis of the dissertation is that the process of expansion of IP coincided with the collapse of the 19th-century international liberal order and the political economy of classic liberalism. Thus, the expansion of IP has been concomitant with the birth and development of Neoliberalism, understood as the political project of revamping classical liberalism to the novel political and economic conditions of the 20th century. Hence, understanding the political significance of IP expansion requires taking the perspective of the crisis of liberalism and the birth of Neoliberalism as a political project.

Studying the expansion of IP from the standpoint of Neoliberalism provides a novel entry point to this problematic. Indeed, early neoliberals rethought the conceptual framework of classical liberalism along two dimensions: the political and the epistemological. Consequently, the expansion of IP has shifted the meaning of property along these two dimensions.

C. DISSERTATION OUTLINE

Based on the methodological requirements outlined in the previous section, the following chapters explore the development of the concept of property in different contexts. There, novel circumstances rendered uncertain the accepted role of property rights. Hence, each chapter will investigate how a network of interrelated concepts was redeployed to adjust property rights theory to changing circumstances. As a relatively novel form of property, IPRs were particularly susceptible to being affected by changes in the general concept of property and how property rights were understood.

Correspondingly, the dissertation is divided in the following fashion: first, a methodology chapter (chapter II). Then, the body of the dissertation, consisting of four chapters (chapters III, IV, V and VI). A concluding chapter (chapter VII) will explore the wider theoretical consequences of the conceptual shifts traced in the previous four
chapters. As mentioned earlier, the solutions proposed by neoliberals to address the challenges posed by industrial capitalism unintendly generated a “decoupling” between IP and Progress, which reflected a deeper decoupling between property and autonomy.

These changes in the political and the epistemological dimensions of property will be explored in the context of the crisis of the idea of Progress, manifested in three aspects or dimensions: social, scientific and economic. Since the Enlightenment, IP has been inextricably linked to Progress. As part of the efforts to achieve the social, economic, and epistemological goals of the Enlightenment, IP began being theorised by thinkers such as Locke, Diderot, Condorcet, Kant, Fichte and Hegel. In this sense, IP is the quintessential Enlightenment institution.

The expansion of IP during the following century coincided with the questioning of these three aspects of the idea of Progress, due to tensions and contradictions inherent in industrial capitalism. The failure of classical liberalism lay in its incapacity to acknowledge and deal with these tensions. Correspondingly, they are central for understanding the concerns of early neoliberals.

Each aspect of the idea of Progress was questioned in the context of a particular IP-related controversy.

The first controversy, to be explored in Chapter III, is the entanglement of science, society and economy. This process had an ambivalent status. On the one hand, it meant the use of science to increase the welfare of humans and achieve international cooperation among knowledge workers and ultimately, humankind. On the other hand, science was also a tool of technological domination, that could be used and was used to wage warfare. At the same time, war was problematic for neoliberals, since it menaced the functioning of a developing global economy and opened the door for the planning of science, economy and society. This entanglement challenged the notion of scientific progress. The chapter aims to explore the
epistemological and political consequences of this process. Neoliberals needed to preserve the autonomy of science while deflating its aspirations. Thus, they abandoned the Enlightenment’s aspiration of enlarging our (individual and collective) abilities through scientific knowledge.

Chapter IV explores the collapse of the international order at the turn of the 20th century. The Great War shattered classical liberalism as a political project and made clear the necessity to recast it under new foundations. The international order neoliberals imagined provided the institutional framework under which the global expansion of IPRs would take place later. It will be argued that two distinct modes of Neoliberalism developed in parallel during the interwar years, each of them becoming dominant at different points in time. The fact that the international system of IP protection was consolidated and expanded during the period in which neoliberal ideology became hegemonic is explained through the interplay between these two modes of Neoliberalism.

The third controversy (Chapter V) developed in the context of increasing economic concentration as well as the recurrent economic crises since the beginning of the 20th century up to the post-war period. These two problematic aspects of industrial or corporate capitalism made it necessary to rethink crucial categories of law and economics which are central for understanding how we conceptualise IP to this day. It will be argued that a set of interlocking changes in the concepts of monopoly, corporation and markets, brought about by the dominance of Chicago-style neoclassical economics facilitated the expansion of IP in the last decades of the 20th century.

The fourth controversy, to be explored in Chapter VI, is the consolidation of the military-industrial complex during the Cold War. This development rendered inadequate neoliberals’ earlier defence of science as an autonomous practice that was better left to its own devices. In the context of a State-led competence over world
dominance among the two great post-war powers, it wasn’t plausible to portray science in the terms that Polanyi and Hayek had done during the 1930s. As a result of the conceptual efforts by Neoliberals to cope with these developments, a theory of knowledge production emerged from the interplay of three theoretical constructs: knowledge society, post-industrial society and human capital theory. The upshot of this new theory of knowledge production was the replacement of Progress as a normative goal of IP for that of innovation. As a result, knowledge is considered a form of capital, with a stock that is continuously devaluing and must be replenished by a permanent flow of new knowledge.

The conclusion (Chapter VII) will be devoted to establishing a parallel between the decoupling of IP and Progress and the decoupling between property and autonomy in neoliberal thinking. In this sense, it will be argued that Neoliberalism has failed in its own terms: its aspirations of revamping classical liberalism have amounted to abandoning autonomy as a goal. Neoliberals’ epistemological defence of the market, developed to cope with the crisis of industrial capitalism, is incompatible with a commitment to autonomy. For neoliberals, property is only a means to achieve the end of allowing the market to coordinate the use of dispersed knowledge. The ultimate bearer of rationality is the market, not individuals. Thus, individual autonomy is only contingently linked to property rights.
II. RESEARCH PROBLEM AND METHODOLOGY:
CONCEPTUAL CHANGE AND THE EXPANSION OF IP

This chapter starts by outlining the expansion of IP in each of its primary forms: copyrights, patents and trademarks (Section A). Then, the dominant explanations regarding the expansion of IP, offered by economists, political scientists and legal theorists, are surveyed and criticised (Section B). Next, a method that can address those criticisms is proposed (Section C). The shortcomings of the main explanations in economics, political science and law constitute the research problem that the dissertation seeks to address. Thus, out of the identified shortcomings, a methodology is proposed to overcome the available explanations of the expansion of IP.

A. THE EXPANSION OF INTELLECTUAL PROPERTY:
COPYRIGHTS, PATENTS AND TRADEMARKS

1. Expansion of Copyright

A copyright is an exclusive right granted for a limited number of years to make specific uses of a work. These uses include reproduction, control over derivative works, distribution, public performance, and some moral rights (e.g. attribution). After the protection term has passed, the work enters what is known as the public domain, which forms the stock of works that are not subject to any exclusive rights. Also, Copyright is intended to protect the original expression of an idea, but not the idea itself. Thus, the work must be fixed or expressed (this is known as the expression-idea dichotomy and marks a fundamental limit to Copyright).

Another requirement for obtaining a copyright is that the work must be original, i.e. not a copy. Typically, Copyright is subject to limitations based on public interest considerations. There are open and closed systems of exceptions. In the former, there is an open-ended
authorisation under certain conditions for using the work. The US fair use doctrine is such an open system of exception. In the latter, such as the German or the French copyright systems, there is a closed list of permitted uses that someone might engage in without authorisation.

Usually, obtaining a copyright only requires the act of creation. Registration (e.g. filing a document, paying a fee, deposit of copies of the work) usually has effects in the burden of proof if there is litigation.

In the case of Copyright, the availability of cheap technology for the production and dissemination of informational goods has generated pressure to intensify IPR-based regulation. This pressure has produced a dynamic that increasingly restricts the abilities of users to access and use copyrighted material without authorisation, even for traditionally accepted uses.

In the US, the expansion of Copyright has eroded the traditional boundaries of the doctrine of Fair Use, which is the doctrine that describes the uses that are allowed under copyright law without requiring the copyright holder’s permission. The increasingly fuzzy limits of the doctrine, plus the costs of litigation operate as a deterrent for users to rely on it instead of licensing (Netanel 2011). Meanwhile, the Internet allows the control over historically unregulated non-commercial uses of copyrighted goods (e.g. lending a copy of a book). The prime example of this dynamic is the prohibition against circumventing technologies that forbid uses authorised under the Fair Use doctrine (J. Litman 2001). Most controversial among this kind of legislation is the American “Digital Millennium Copyright Act” (DMCA). This legislation contains anti-circumvention dispositions banning the use, manufacture and distribution of devices primarily designed or produced for bypassing technological controls, or devices even marketed with the knowledge that they will be used for this purpose. Similarly, the continuous extension of copyright duration terms has
curtailed the replenishing of the public domain, making new works unavailable for public use (J. Litman 1990).

Put bluntly, (corporate) copyright holders continue to argue for the expansion of Copyright based on the logic that “the strength of intellectual property rights must vary inversely with the cost of copying” (Boyle 2008, 60–61). Those who oppose increasing property-based protection mechanisms contend that this reasoning leads to the conclusion that “a network is either controlled or illegal. The better and cheaper the network, the tighter the control needed.” (Boyle 2008, 80–81). In this sense, information technologies have been a central site for conflicts regarding the nature and appropriate scope of Copyright in the face of technological development. The scale and intensity of the political controversies around these issues has made commentators and scholars refer to them as the “Copyright Wars” (Patry 2009; J. Litman 2009; Lessig 2006; J. Litman 2018)

2. **Expansion of Patents**

A patent confers its holder an exclusive right for making, using, or selling an invention for a term of years, in exchange for disclosing the invention.

Typically, patents require an application to the country’s Patent Office or equivalent administrative body (e.g. the US Patent Office). Thus, patent applications are public documents. This way, the goal of disclosing the invention is fulfilled. The application must contain a description of the invention and how it works. Also, it must show that the invention meets the patentability criteria, i.e. that it is new, useful, and non-obvious. If the application is successful, then a patent is granted. If not, the applicant can litigate first before the office and then before courts.

As is the case with Copyright, the subject matter of Patents also expanded vertiginously during the second half of the 20th century (Moffat 2004, 1490–91; May and Sell 2006, 145–46). They now
encompass plants, non-functional product designs, computer software, algorithms, genetic information, business methods and, more generally, “anything under the sun” made by humans, as the Diamond v. Chakrabarty 1980 decision established. Another milestone in this development was the creation of the Federal Circuit in 1982. The Federal Circuit is an appellate court with exclusive jurisdiction over appeals based on interpretations of the Patent Act. Since its creation, this Court’s agenda has been the strengthening of patents (Merges 2000, 2224–28).

Likewise, patent applications at the US Patent and Trademark Office [PTO] increased fourfold in the period between 1984 and 2007 (Burk and Lemley 2009, 21). Unsurprisingly, the rise in the number of applications brought with it an upsurge in litigation:

[In the US] the number of patent suits filed each year doubled during the 1990s and continued to increase steadily during last decade, growing from around 2,500 in the year 2000 to over 3,500 in the year 2011. Since 2011, a change in joinder rules has propelled the number of suits still higher to over 5,000 in 2012 and over 6,000 in 2013, before falling back to around 5,000 in 2014. (Bessen and Meurer 2005, 848) [notes omitted]

Among the phenomena related to this “patent litigation explosion” (Bessen and Meurer 2005), one of the most infamous are the practices of non-practising entities [NPE] or, as they are more commonly known, "patent trolls": these are actors whose "core activity involves licensing or litigating patents, rather than making products" (R. Feldman 2018, 4). As the PTO office is overburdened with patent applications, the amount of time they can devote to the study of each application is minimal, which in turn generates a tendency to favour applicants

Patent examiners have notoriously heavy caseloads and they are rewarded by the civil service system only for an initial response to a patent application and for finally disposing of an
application. As a result, an examiner has no incentive to spend more time on harder cases. Quite the contrary – their incentive is to dispose of cases as quickly as possible (...) [and] the easiest way for an examiner to dispose of a patent application is to grant rather than to deny a patent. (Burk and Lemley 2009, 23)

This results in overbroad and unclear patents, which in turn generate uncertainty and make it easy for NPEs to sue in search of extrajudicial settlements. Recent empirical work has concluded that “roughly half of the patent suits filed in the last few years [is] filed by trolls” (R. C. Feldman and Lemley 2018, 8).

3. Expansion of Trademarks

Trademarks are a recognisable sign, design or expression identifying products or services. They can be obtained either through its use in the market or through registration with the relevant administrative office. Modern trademark law usually requires the mark to be distinctive. The trademark holder can prevent others from using the other mark when there is a risk of confusion. For example, there might be confusion regarding the origin and manufacture of the goods. Most recently, Courts might consider that there is confusion even when the other mark has the potential to affect the value of the trademark.

As for Patents and Copyrights, the subject matter for Trademarks also enlarged during the second half of the 20th century. Initially, the rationale behind granting trademarks was allowing consumers to quickly identify goods and services in an increasingly complex market economy, thus creating incentives for producers to invest in protecting their goodwill. Rochelle Dreyfuss has argued, echoing Thorstein Veblen's (2007) theory of conspicuous consumption, that as the cultural role of consumer goods changed within Western societies, trademarks developed a “surplus value” (1990, 402). This value results from the expressive dimension of trademarks. In other
words, it obtains when users prefer products for reasons different from the fact that the owner of the trademark produced them.

Consequently, trademark owners have sought to extend traditional principles to appropriate this additional value. The logic behind this is relatively straightforward: "(...) surplus value must go somewhere. Since trademark owners created the value through their investments, it is they who should garner whatever rewards are available" (1990, 403). As a result, trademarks now encompass things as source-identifying colour, product configuration and even the shape of a building. After 1995, with the Federal Trademark Dilution Act, there is cause for action even if likelihood of confusion – the traditional criterion – is lacking (Moffat 2004, 1494–95).

This expansion the subject matter of different forms of IP has caused their forms of protection to overlap. Even though Copyright, Patents and Trademarks originally covered distinct types of objects, agents seeking to increase their protection have sought protection from multiple branches of IP (e.g. copyright and trademark for a cartoon or copyrights and patents for software). At the same time, channelling doctrines, which served to distinguish between the different realms of IP subject matter and thus to maintain the boundaries between them, have eroded (Moffat 2004).

The expansive trend in IPRs has also been observed in empirical studies of US appellate courts’ behaviour. Neil Netanel (2011), building upon empirical studies on fair use decisions conducted by Pamela Samuelson (2008), Matthew Sag (2012) and Barton Beebe (2008), surveyed federal court cases going from 1995 to 2010³

Netanel concluded that there are two competing trends in fair use jurisprudence: one "market-centred" approach and a "transformative uses" approach (2011). Under the former, fair use should only be

³ His dataset includes "all opinions that make substantial use of the four statutory factors of fair use, whether the opinion is majority, dissent, or concurring, in cases that appear in LexisNexis or Westlaw, regardless of whether the case is certified for publication" (Netanel 2011, 731)
available when the defendant can prove that high transaction costs preclude licensing and that the use serves an identifiable public benefit⁴

Under the alternative paradigm, represented by Campbell v. Acuff-Rose (1994), the central issue is whether is possible to frame the defendant's use as transformative, as opposed to inquiring if it was reasonably possible for the defendant to obtain a license.

Netanel found that between 2006 and 2010, most of the reviewed cases embraced the latter, thus reversing the dominant trend up to 2005. Likewise, empirical studies of the US Supreme Court's decisions show a similar trend. Gregory Mandel (2017) conducted an empirical investigation comparing the activity of the US Supreme Court against that of the US Congress regarding IPRs for the period going from 2002 to 2016⁵; Congress showed a clear tendency to enact statutes that strengthened IPRs (and a remarkable capacity for statute-enactment, when compared to other issues). On the other hand, the US Supreme Court showed a more ambivalent attitude towards IPRs; with regards to patents and trademarks, the Court tended to make decisions that weakened IPRs. On the contrary, in the case of Copyright, it followed the Congress' tendency. During the period surveyed by Mandel, the US Supreme Court decided nine copyright cases, six of which ended in increased protection of holders'

⁴ Netanel traces the intellectual origins of this approach to an article by professor Wendy Gordon (1982). The US Supreme Court cited Gordon's article in two major cases: First, in Sony v. Universal (1984), there, the US Supreme Court decided commercial uses by the defendant carry a presumption of harm to the potential market for the plaintiff work and thus that commercial uses amount to unfair exploitation of the plaintiff's monopoly privilege. A year later, it was cited in the majority of Harper & Row (1985) where it repeated the Sony dictum and added that the harm to potential market is the most important of all factors determining fair use. Given that rationale, it assumed that fair use is inappropriate as a defence unless it can be assumed that a reasonable copyright holder would have consented to the use. Additionally, the Court defined commercial use based on whether the user stands to profit from the exploitation of the copyrighted work without paying.

⁵ The methodology consisted of independent coders reviewing both the statutes passed by Congress and the Court decisions in the relevant period, coding them as fostering, weakening or neutral with regards to IPRs.
rights. Furthermore, all four of the Court’s most cited copyright decisions reinforced protection (Mandel 2017, 820–21).

For the period going from 1954 to 2006, Mandel surveyed previous empirical research (Sag, Jacobi, and Sytch 2009), showing that both Congress and the Supreme Court acted consistently in favour of strengthening IPRs. Comparing the historical trend against the results observed, Mandel suggests that, 2002 marks a turning point in IP jurisprudence. Since then, the Court has increased its attention to IP (as a function of cases heard) and adopted a new consensus concerning limiting IPRs in the case of patents and trademarks. Thus, according to Mandel, Copyright is the only area of IP where the tendency to increase IPRs protection continues.

In short, despite some countervailing trends, empirical research largely confirms the expansionary trend in IP more generally, especially in Copyrights, which is the area of IP that directly impinges upon information technology industries.

Arguably, the starkest changes have come at the level of international law. As the US industry became a net-exporter of IP-related goods, it started to exert pressure on US authorities to elevate the standards of protection of IPRs worldwide. The strategy adopted by US firms was to achieve regulatory capture that would ensure that the US government would use trade sanctions against countries that failed to adhere to the new standards. Instrumental to this was the new Trade Act of 1974, were firms got the right to petition the government to issue trade sanctions against foreign countries. The act also created a system of advisory committees that ensured that the interests of US-based industry would be heard in framing global trade policies. Countries that wished to secure access to the US market had to sign trade deals that incorporated trade sanctions.

Additionally, US firms, such as Bristol-Myers, DuPont, FMC Corporation, General Electric, General Motors, Hewlett-Packard, IBM, Johnson & Johnson, Merck, Monsanto, Pfizer, Rockwell
International, and Warner Communications., reached out to their European and Japanese counterparts to lobby for more robust IP protection. The result was the TRIPS agreement (Agreement on Trade-related Aspects of Intellectual Property Rights). Signed in 1994, was one of the founding agreements of the WTO. It aimed at harmonising the standards of IP protection among member states by establishing minimum standards for scope and duration of IPRs. This effectively forced upon developing countries the standards that were beneficial to the more developed countries. Crucially, TRIPS included a dispute settlement mechanism allowing for countries to bring trade sanctions against non-compliant members:

Unlike most international agreements, the WTO incorporates a full-blown dispute settlement mechanism, even an appellate body. It does not have sheriffs or bailiffs and as such lacks the insignia of coercive law enforcement that characterises sovereign states. Instead, WTO law empowers a state that won a dispute to retaliate against the losing state if it fails to comply with the ruling. Importantly, only the disputing state can take retaliatory measures, rendering this an empty weapon for countries with little economic prowess, but making it an even more powerful tool for states with big economies.

It still takes a state to bring a case, but certainly in the United States, private parties have secured powerful levers over the US government to ensure that this enforcement mechanism will be used (Pistor 2019, 125)

In short, IP has been expanding for over a century. The last decades have seen an unprecedented acceleration of this trend. Furthermore, the expansion of IP signals significative changes in capitalist economies. As a result, we will encounter IP in our lives, be it as consumers, citizens, workers or owners. In this sense, understanding the expansion of IP is fundamental for understanding how contemporary economies work.
B. RESEARCH PROBLEM: CURRENT EXPLANATIONS REGARDING THE EXPANSION OF IP AND THEIR SHORTCOMINGS

Despite the sustained attention and scrutiny directed at the expansion of IP, a satisfactory explanation on the nature and dynamic of this trend is still lacking. Given its relevance to the development of capitalism, this omission is unforgivable. There is no clear account of the mechanisms involved in the process. At the same time, if there is any hope of reversing or ameliorating the expansion of IP, it is necessary to understand the forces fuelling it. Finally, without a satisfactory explanation, no cogent evaluation of contemporary trends in IP can be available.

Consequently, our understanding of any additional effects the expansion of IP might have is clouded. In particular, understanding the mechanisms behind the process of expansion of IP would allow us to understand its impact on the concept of property. More generally achieving a proper explanation of the forces behind the process of expansion is necessary to understand some of the most distinctive features of contemporary capitalism.

Furthermore, the studies focusing on the expansion of IP are short of historical rigour (Hughes 2005; Mossoff 2006). More urgently, even though most legal scholars regard changes in the way in which IP has been conceptualised as a critical factor in the expansion of IP, this aspect of the expansion process remains under-theorised. This section aims to expose this gap by critically reviewing the different accounts of this process available in the specialised literature.

This section describes three types of explanations outlining the dynamics behind the expansion of IP. The literature focusing on the expansion of IP is grouped into three broad categories based on the causal mechanisms deemed to be driving the process: (i) economic
and technological changes; (ii) institutional capture, and (iii) ideological change.

Next, it will be argued that the shortcomings of these accounts can be resolved by integrating them into a comprehensive account that incorporates their insights while avoiding their blind spots. This task requires acknowledging the role that conceptual change plays in the evolution of legal systems. In particular, a more detailed understanding of the role that legal, political and economic concepts play in mediating between institutions and the agents engaged with them is needed. Thus, after exploring the shortcomings of current accounts of the expansion process, a framework for integrating them and overcome their limitations will be developed through a more thorough investigation regarding the nature of concepts and their role in the evolution of institutions and legal systems.

1. **IP expansion as a result of economic and technological changes**

One widespread explanation for the expansion of IPRs is that this process is a reaction to technological changes, which have altered the economics underpinning the historical balance between the interest of IPRs holders to control access to their assets and the public interest of accessing these assets. For example, the widespread adoption of the Internet and other technologies is what is behind the expansion of Copyright: decreased costs in sharing demand an increase in institutional protection.

Under the school known as New Institutional Economics [NIE hereafter], the emergence and evolution of property rights are a function of the increased value of resources, plus the development of new technologies and markets that allow for that value to be captured. This framework underlies recent work in mainstream economic history stressing the importance of institutions for economic development, and especially property rights (North 1979; e.g. B. Z.
Khan 2005). This approach to property rights is based on a synthesis of the works by Ronald Coase (1937), Harold Demsetz (1967) and Oliver Williamson (1996). Contrary to classical institutionalism, NIE is committed to methodological individualism. Unlike neoclassical economics, its practitioners eschew hypothetical benchmarks in which all limitations are assumed away. Consequently, existing institutions are regarded as lacking (Rutherford 1994). Thus, the relevant question under this approach is whether there is a feasible, cost-effective alternative that can be implemented (Klein 2000).

Among the key contributions of NIE is their theoretical effort of fleshing out the features of the market as a distinct social institution (Swedberg 2003 Ch 5).

A normative claim lies beneath NIE's descriptive claim about how property rights emerge. NIE assumes that the process of internalisation of externalities that characterises the emergence of property rights is efficient, and thus desirable. This later normative claim has been generalised in the law and economics literature as the general assumption that common law rules evolve to increase efficiency (Frischmann 2007). Even if Demsetz and Coase did not make this claim themselves (Coase 2004 ch. 1; Demsetz 2008), it is essential to understand their theories to see how they impinge the understanding of IP in mainstream economics.

Coase first introduced the notion of transaction costs to explain the existence of firms in a market economy and develop a framework to explore whether a firm had achieved an efficient or optimal size. In 1937, when the original paper was written, these issues were of burning urgency, given the unprecedented degrees of market concentration that capitalist societies were experiencing under industrial capitalism. These developments made it seem like a planned economy was inevitable, given the natural tendency of capitalism towards monopoly. Coase’s paper showed that firms would not grow indefinitely, but only insofar as the cost of bringing additional
transactions within the firm was lower than the cost of relying on the market mechanism for the same purpose.

Demsetz had three arguments for explaining the origin and evolution of property rights in terms of changes in the underlying cost structure. The first notes that property rights generate better incentives for the development of resources when compared to open-access systems of resource allocation. The reason is that property rights concentrate risk and rewards of investment on individual agents. Second, property rights reduce rent dissipation, avoiding premature consumption and waste of resources (i.e. what is now known as the "tragedy of the commons" (Hardin 1968)). Finally, property rights reduce the number of agents that must negotiate in spillover cases, i.e. negotiations are conducted between the owner of the resource and those affected by its use.

Demsetz’s fundamental insight is the idea that property rights would emerge when changes in the relative value of resources make it cost-effective to internalise costs. Thus, this approach links the expansion of IPRs to the development of market-based responses to technological change. Policy papers regularly espouse this view by arguing for the necessity of securing property rights in the face of the development of new technologies. The best example is the “Intellectual Property and the National Information Infrastructure” Report, in which technological change is seen as the critical reason for strengthening IP protection.(Lehman 1995, 212)

One of the main shortcomings of NIE is that it leaves unaddressed the issue of how social agents can affect the process of institutional and legal change for their own goals. For that reason, it is somewhat optimistic and sanguine about the possibility of institutional capture, which if pervasive, would significantly undermine the claims regarding the correlation between economic efficiency and more substantial property rights. For example, according to Herbert Hovenkamp, the US has experienced three technological revolutions that increased productivity, thus triggering the kinds of institutional changes that NIE
would predict. First, going roughly between 1750 and 1830 (interchangeable parts, the steam engine, and the cotton gin), second between 1870 and about 1900 (railroad expansion, electricity, the internal combustion engine, and machine production) and third between 1960 and 2000 (personal computing, modern telecommunications networks and the Internet).

During the first of these periods, patent issuance (beginning in 1790) was less than one hundred per year for the first part and roughly in the two- to three-hundred range during the remainder. During the second growth period annual patent issuance jumped considerably and roughly doubled over the period. During the third period the number of issued patents roughly tripled. However, the rate also increased fortyfold (from five hundred to twenty-four thousand) during the period from 1830 to 1870, which was of more modest innovation-induced growth, and it roughly doubled during the period 1900–1960, another slower period. The growth rate of patent issuance has been at least as large during periods of low growth as during high growth periods. (Hovenkamp 2015, 189)

This indicates that there must be other factors at play in the expansion of IP other than technological change. Institutional capture and rent-seeking seem to be pervasive features of the system. Is to these factors that we now turn.

2. \textit{IP Expansion as a result of institutional capture and rent-seeking behaviour:}

Public Choice Theory [PCT] scholars provide a bleaker outlook regarding the emergence of property rights. In a nutshell, PCT extends the methods of neoclassical economics to the study of political decision-making (for an outline of different approaches to PCT, see Rowley and Schneider 2008 ch. 1 & 2). It has two main
components: social choice theory, stemming from Arrow’s theorem and interest group theory. These two elements are marshalled to reconceptualise politics as markets, thus extending the discoveries obtained by studying the former into the latter.

This school has developed two relevant insights regarding the issues discussed here. First, PCT scholars’ insistence that any form of market failure affecting traditional markets will also apply to other institutional arrangements, including the “political market” and second, their focus on interest-groups and their effects on institutions (Buchanan and Tullock 1999; Farber and Frickey 1991; Olson 2003; Tullock 2005).

One of the most notorious features of the development of IP during the 20th century is the role that corporate interests have played in directing regulation. As PCT predicts, more cohesive and better-equipped interest groups are in an advantageous position to influence the political decision-making process and thus tend to adopt rent-seeking strategies (Dourado and Tabarrok 2015). In the case of Copyright, since 1962, the US Congress has extended rights’ duration terms eleven times, compared to two times during the previous 150 years (Lessig 2004, 236). Particularly relevant in this respect has been the US Congress’ practice of delegating the drafting process to different corporate stakeholders, which has resulted in expansive rights being carved by narrow exceptions, negotiated to accommodate the needs of the different corporate stakeholders present at the bargain (J. Litman 1986). Similarly, due to the lobbying efforts directed at the executive branch of government, the US has consistently pursued the adoption of regional or bilateral trade agreements that both aim at securing and expanding IPRs. At the same time, these agreements allow the US to impose trade sanctions so that the same bloated rights are adopted in other jurisdictions. For instance, under TRIPS, the US Government can execute trade sanctions against countries that do not comply with the standards and thus fail to protect US Intellectual Property (Matthews 2002; Drahos and Braithwaite 2002).
In the case of patents, responding to the US Supreme Court’s scepticism towards the patent system, the US patent bar, supported by the New York Bar Association organised and drafted a statute which eventually resulted in the 1952 Patent Act. This process "exemplifies a tradition in which Congress virtually turned the drafting of complex IP legislation over to private producer interests" (Hovenkamp 2015, 204). The resulting Statute added a new section limiting patent misuse claims (Lemley 1990). Against the Supreme Court's stricter "inventive genius" test, which required the invention to be the result of a "flash of creative genius" (Cuno Engineering v. Automatic Devices Corp., 1941, USSC), the Statute introduced the non-obviousness requirement for patentability. The latter states that for an invention to be patentable, it only needs to be non-obvious for a practitioner versed in the relevant field), which greatly facilitated obtaining patents. Likewise in the 1960s, corporate lobby generated the political leverage for the creation of a Presidential Commission, which in 1975 recommended the creation of what would later become the Federal Circuit. Interestingly, Giles Rich, one of the patent lawyers involved in the campaign for the 1952 Patent Act, became one of the founding Judges of the Federal Circuit.

Thus, PCT relates the expansion of IP to the capacity of organised groups to direct regulation. However, despite its pretensions of being a realistic approach to politics and its focus on organised agents, it has trouble explaining why those that seek to capture institutions rarely do so by appealing directly to their interests. Rather, the policy changes that they seek are usually grafted into a wider ideological perspective and legitimised through political argumentation. In this sense, the main shortcoming of PCT comes from its difficulty in explaining how language mediates the interaction between the organised groups and the institutions they intend to capture. Indeed, it is through political language that interest groups can maintain their grip over institutions and secure the legitimacy of their rent-seeking arrangements over the long run (Freeden 1998; 2013).
Furthermore, PCT fails to explain the fact that interests do not directly map onto policy outcomes (Mukand and Rodrik 2018; Rodrik 2014). Nor it can explain why some actors might even act against their interests due to ideological considerations. A second-order consideration, essential for this research, is also left out of the picture when ignoring the mediating role of language in politics: the role of language in determining (at least partially) the limits of what is possible (i.e. in the sense of what is conceivable). Indeed, conceptual innovation might make possible changes that were previously unimaginable or unthinkable in a literal sense (Ball, Farr, and Hanson 1989 Editors’ Introduction, Chs. 1 & 2).

Indeed, focusing on the mediating role of language in institutional evolution decouples the latter both from economic and technological factors, as well as from political and economic interests. Thus, it requires understanding institutional evolution as a relatively autonomous process, as well as one in which contingency plays an important role. In short, as Peritz (2000) notes, focusing on language forces us to understand institutional change as “contestable social and political choices, not as products of (super)natural, historical, economic, or logical necessity” (2000, 8).

3. IP Expansion as a result of ideological/conceptual change

Alongside NIE’s and PCT’s explanations regarding the expansion of IP, the importance of ideologies/conceptual frameworks as organising principles as well as rhetorical and legitimising devices has been stressed by some IP academics, such as Neil Netanel and James Boyle. Their work is inspired by Critical Legal Studies (CLS). They complement the explanations offered by NIE and PCT by highlighting the importance of conceptual and rhetorical moves behind the concerted lobbying efforts of corporate interests described by PCT and technological changes described by NIE.
These authors argue that corporate agents have sought to install in the public debate the idea that IP should only be understood through the lens of traditional (liberal) private property theory. Thus, that unauthorised uses of IP are akin to stealing or trespassing. This is the core of what Boyle calls the “maximalist ideology” (Boyle 2008, 198). Very briefly, the maximalist ideology requires that IP should be treated as physical property and courts should narrowly interpret exceptions to IPRs. The logic sustaining this dogma is the idea that all value must be appropriated through a property entitlement. Since intellectual assets are valuable, then it follows that they should be protected through a property entitlement.

According to Boyle, the maximalist ideology has concrete manifestations. For instance, he identifies its core elements in the report on "Intellectual Property and the National Information Infrastructure" (Lehman, 1995). This report is arguably the most important policy paper for the regulation of Copyright in the context of the Internet. According to Boyle, the report views IP “just like other property. Rights are presumptively absolute. Any limitations on them, such as fair use, are taxes on property owners, subsidies to the society at large” (Boyle 2008, 55).

Similarly, Netanel argues that the rhetorical framework used to secure and legitimise institutional capture is based on a “property metaphor” (Netanel 2008b, 12). This metaphor consists of rendering different forms of IP as property and unauthorised uses of IP as theft or piracy. According to Netanel, the use of the metaphor goes back to 18th-century natural law, as exemplified by William Blackstone and his arguments for perpetual Copyright.

Netanel claims that, despite a long jurisprudential tradition recognising IP as state-given grants or privileges for the public interest in anglophone legal cultures, American courts in recent decades have fallen prey to the rhetorical force of the property metaphor. The reasons for this shift have been economic: the passing
of the US from a net importer to a net exporter of informational goods in the early 20th century, alongside with the transformation of the economy into one in which “information and communication is a highly valued resource” (Netanel 2008b, 16). These two economic trends have made the rhetorical moves by industrial interests more plausible.

Thus, under the dominant approach to IP, IPRs operate as a mechanism for the creation of markets in intangible goods, which require full proprietary control over the assets. The upshot is that IPRs' terms should be extended to mimic tangible property. Since the goal is the creation of markets and preserving the value of current intangible goods (as opposed to the traditional incentive theory which focuses on the production of new goods), there is no reason to limit the duration of IPRs. Likewise, limitations to the rights of IPRs holders should only operate exceptionally in cases of market failure. An example of this is the US Supreme Court's decision *Harper & Row* arguing that fair use doctrine should mimic efficient markets and thus only proceeds when transaction costs are too expensive).

More importantly, he argues that a “neoclassicist economic view” provides the theoretical fuel behind the property analogy and thus, the expansion of IP (2008b).

According to Netanel, Neoclassicist economics entails a view of “creative expression as a commodity and of copyright as a mechanism to further allocative efficiency (and thus fails to) account for copyright's role in democratic governance” (1996, p. 362). Likewise, the neoclassicist view “draws upon elements of both neoclassical Chicago School economics and new institutional economics property theory” (Netanel 2008b, 17). Thus, in what follows, we will refer to this view as the "neoclassical-institutionalist synthesis" or NIS. According to Netanel, this approach began being applied to Copyright in the early 1980s and since then has become prevalent at both the level of policy and caselaw.
At first glance, it would appear that the work of Boyle and Netanel is the missing piece necessary to fill the gaps left by NIE and PCT's accounts of the expansion of IP. Alas, on further examination, their approach has shortcomings that ultimately renders it insufficient for understanding the process of IP expansion. The critical shortcoming of the Boyle/Netanel approach is that it relies on an excessively broad definition of ideology. Consequently, the alleged genetic relationship between ideology and IP expansion remains unclear beyond an intuitive narrative. This leads them to misrepresent how the neoclassical-institutionalist synthesis fosters the expansion of IP. What Netanel’s account leaves out is how each element of the synthesis fosters opposite and complementary attitudes towards legal change. The reason why NIS fosters the expansion of IP is that each of the two economic theories that constitute it is used selectively, either for fostering market-based reforms or later to oppose attempts to regulate the markets that have been thus created.

On the one hand, as mentioned before, NIE portrays law as the result of the slow, piece-meal adaptation of the legal system to economic circumstances, a process of law working itself efficient. Then, by stressing the slow dynamics of institutional evolution, NIE is used to deflate any reformist proposal directed at regulating or curtailing markets. On the other hand, neoclassical economics is used to stress the contingent nature of legal arrangements, thus promoting the creation of markets for informational goods. Thus, when the objective is the creation of markets, neoclassical economics is used to legitimise the expansionary move. When the objective is opposing the regulation of these markets, the argumentative mode shifts to NIE and its anti-reformist bias (this theme is further developed in Chapters IV and V).

Also, both authors fail to engage seriously with the vast literature on the intellectual history of economics, its interaction with law and other social sciences. Nor do they substantiate their narrative on how this alleged "paradigm shift" came about. Particularly striking is the
absence of any mention of Neoliberalism. They seem to write as if the process of IP expansion occurred in a vacuum instead as part of significant shifts in the ideological landscape. Indeed, studying the expansion of IP through the lens of Neoliberalism as a political project goes a long way for understanding how NIS is used to foster the creation of markets and opposing their regulation.

Inconsistency and paradoxical thinking might be seen as strange and undesirable oddities when considering disciplinary production of knowledge. This is not the case when entering the realm of politics and ideology. To understand the expansion of IP, one must look beyond the disciplinary confines of law and economics and explore the broader political conditions under which it developed.

Likewise, their explanations seem to assume a great deal of effectiveness of agents in controlling the development of legal language, rendering their approach unable to address the complexities of how this language evolves.

Furthermore, the claim that there has been an ideological change lacks historical backing, as the use of the term "property" to refer to intellectual goods has a long history in anglophone legal tradition (Hughes 2005). Likewise, their analyses stress the last quarter of the 20th century, which obscures the fact that the ideological language that they denounce has a much older history. Thus, they fail to obtain insights by investigating its early development.

Finally, there has been empirical work showing results that seem to go against the notion that ideological/conceptual change is a relevant factor in the process of IP expansion (Mandel 2017).

The following section addresses these shortcomings. While doing so, a method for investigating the role of conceptual change in the process of IP expansion is developed. In other words, the shortcomings of current methods point the way forward.
C. METHODOLOGY: EXPLAINING CONCEPTUAL CHANGE IN LAW

The three approaches outlined in the previous section (NIE, PCT and CLS) go a long way towards describing the process of expansion of IP. Nonetheless, the three approaches have evident shortcomings. In what follows, it will be argued that it is possible to achieve a proper understanding of this process by integrating the three approaches by exploring and answering the arguments outlined in the previous section against ideological/conceptual change as a relevant factor in the expansion of IP. This is so because each of these shortcomings suggests a way of integrating the three approaches. Thus, by answering these arguments, an integrated framework will emerge.

Integrating the three approaches requires highlighting the interplay between technology and institutions (NIE), the role of political actors (PCT) and the mediating role of language and ideology (CLS).

The resulting framework consists of an explanation of the role that conceptual change plays in the evolution of legal systems. The reasons are threefold: First, concepts connect agents with institutions. Second, institutions evolve (at least partly) through conceptual change. Third, it is through conceptual links that institutions fit within the wider ideological framework that directs their way of working. Thus, if agents wish to direct the process of institutional change, they must do it through language. In particular, they must embed the changes they wish to exert in a relatively coherent vision. This means revising the meaning of some key concepts, adapting them to the new situation. These three claims will be argued for in section IV.B. Before turning to these arguments; it is necessary to see why an account of the role that conceptual change plays in law is necessary to understand the process of IP expansion.
D. OVERCOMING THE LIMITATIONS OF CURRENT APPROACHES

1. *Contradictory empirical evidence*

A critical shortcoming of the CLS approach to explaining the expansion of IP is that findings of recently conducted empirical research seem to counter the claims made by Boyle and Netanel regarding the relevance of ideology for explaining the US Supreme Court attitude towards IP. Even though their argument would still hold regarding the legislative branch, Gregory Mandel's (2017) findings deserve careful attention, for they are comprehensive in character and they highlight some important aspects of how ideology is to be understood as a factor of legal change.

In recent years, he has conducted several empirical studies aimed at explaining contemporary trends in American IP law from the standpoint of PCT. Against CLS-inspired claims that a paradigm shift in ideological and legal discourses has driven the process of IP expansion, he argues that elite-public opinion seems to be the most relevant factor explaining US Supreme Court’s attitude towards IP. Following the literature in the field, he proposes a tripartite body of factors that can influence legal decisions: legal reasoning, justice ideology and public opinion.

Mandel argues that the two first factors cannot account for the observed trends in IP cases, leaving the third factor as the only suitable candidate. First, he dismisses legal reasoning on the basis that "many Supreme Court intellectual property cases raise novel issues and cannot be framed as being decided based solely, or even primarily, on reasoning from binding legal authority" (Mandel 2017, 843). Furthermore, Mandel claims that the lack of constitutional restraints on Congress authority to legislate on IP issues weakens the case for legal reasoning as a relevant influence in the Court's
decisions. Mandel's reasoning is as follows. In matters related to IP, the US Supreme Court has practised a deferential approach towards congressional authority (i.e. it has allowed for its expansion by legislative means). Thus, it should show a similar propensity to strengthen IPRs in trademarks, patents and copyrights. Given the fact that it has recently shown an opposite tendency with regards to patents and trademarks, then it follows that the legal outcome in these cases does not depend on the content of legislation, whose goal is to reinforce IPRs, not weaken them.

As the astute reader might have noticed, Mandel discards legal reasoning as a factor determining judicial outcomes based on a stringently positivist conception of what constitute authoritative sources of law, and a narrow - as well as outdated - conception of what legal reasoning entails. Indeed, there is nothing extraordinary in Mandel's claim that judges do not rely exclusively on legal rules to adjudicate: most theories of law and legal reasoning agree on a certain amount of judicial discretion (even if legal theorists disagree on its sources). However, this does not mean that judges are not engaging in legal reasoning.

Second, Mandel dismisses Justices' ideology as a factor influencing court decisions based on a narrow definition of ideology. Mandel found that it has almost no effect in IP decisions (Mandel, 2017, p. 845). The reason for this is that he follows what in the political science literature is known as the "attitudinal model" or "attitudinal paradigm". Thus, he defines ideology as a set of beliefs and preferences across the political spectrum (going from liberal to conservative) (Mandel 2017, 845).

Having discarded legal reasoning and ideology as relevant factors in judicial outcomes, Mandel concludes that the factor that best correlates to judicial outcomes is elite public opinion. Furthermore, he argues that this result is consistent with a vast body of empirical evidence gathered by "legal empiricists, political scientists and legal
historians” (Mandel 2017, 849). He considers two possible explanations for the causal relationship between elite public opinion and Supreme Court rulings. One is that the Court seeks to satisfy public preferences to gain legitimacy. The other is that judges are affected by the same factors that are at play in changes in elite public opinion.

Justices, like everyone else, have a variety of personal, social and work relationships that can be expected to shape their perceptions and beliefs. In the case of Supreme Court Justices, these relationships tend to be among societal “elites”, individuals of higher education and socioeconomic status than the general public. For the Justices, this would likely include lawyers and legal communities in particular (Mandel 2017, 856–57)

Mandel inclines for the latter alternative on the basis that IP cases are not particularly salient to the broader public. This would not be the case for elite public opinion, where the issue of IP is much more relevant.

An interesting point to note about Mandel’s conclusions is that he has an opposite conception of legal reasoning to that of CLS-inspired scholars such as Boyle (2008). While the latter describes legal reasoning as continuous with general reasoning, the former equates legal reasoning with strict formalist deduction. Likewise, CLS scholars tend to espouse an all-encompassing definition of ideology, while Mandel holds the restrictive definition of the attitudinal model.

Accordingly, based on the attitudinal model of ideology, Mandel discards ideology as a factor in judicial outcomes, only to reincorporate it under the guise of "elite public opinion", as if public opinion was not ideological. It is necessary to examine what he suggests about the Justices' legal education to see why this is so. Mandel notes that current Justices graduated from Law School between 1959 and 1986. During that period, IP courses were not yet
commonly covered in law schools’ curricula. Thus, he continues, they must have had little prior experience in the field. According to Mandel, this would mean that Justices are unlikely to have developed an ideological stance with regards to IP (Mandel 2017, 848).

However, it might be that their current position regarding IP is due to changes in the legal culture that ensued in the period before they graduated. Indeed, this time coincides neatly with the period in which Chicago School Law and Economics developed and became a central school in legal scholarship (Duxbury 2001; Medema 2010; Merrill and Smith 2001). Furthermore, there is strong empirical evidence suggesting that exposure to the ideas of the Chicago School of Economics alters judges’ approach to law. For example, attendance in Henry Manne’s economics training program has made federal judges:

(...) use more economics language in their opinions, issue more conservative decisions in economics-related cases, rule against regulatory agencies more often, vote in a pro-merger direction in antitrust cases, and impose more/longer criminal sentences. (Ash, Chen, and Naidu 2019, 1)

Thus, it seems plausible that Justices with little previous experience in IP cases would have filled that gap by analogy to the then emergent conceptual framework regarding property rights. If this is correct, rather than denying it, Mandel’s empirical findings underline the importance of ideological/conceptual change as a relevant factor in the expansion of IPRs. Interestingly, in a recent paper on the causes of polarisation of opinions regarding IP, Mandel shows that “cultural frameworks” are key for understanding how individuals interpret empirical findings and assess risks. This suggests that the reason for excluding ideology as a causal factor in court decisions stems, as mentioned earlier, from a narrow definition of ideology (Wittlin, Ouellette, and Mandel 2018)
2. **Need for historical backing**

Justin Hughes (2005), has argued that the claim that conceptual frameworks have a causal role in the process of IP expansion is not supported by historical evidence. He differentiates between two claims being made by those who denunciate the "propertisation" of Copyright and other forms of IP: first, that treating different forms of IP as property is a precondition, or has a causal effect on how judges and policy-makers understand IP; and second, that equating IP to regular property can also be used as evidence of a paradigm change or conceptual shift (p. 1003 – 1005). Hughes (correctly) notes that the argument that using the label "property" affects how it is perceived by judges and legislators has no force whatsoever, since Copyright has been known and referred to as "literary property" for 200 years.

American legal minds in the late nineteenth and early twentieth centuries were using “literary”, “artistic” and “intellectual” virtually interchangeably to refer to a kind of “property” in expressive works. (...) [Thus], unless we can be shown how a special grip on the mind comes from “intellectual property” or the combination of copyrights and patents under one umbrella, this long history of calling copyright “property” must be acknowledged (There is a parallel history of calling patents “industrial property” or “property”) (Hughes 2005, 1008)

Hughes argues that during the 18th century, the idea of natural property rights over abstract goods emerged and became entrenched in anglophone legal culture. During 16 year-long discussion preceding the drafting of the Statute of Anne, the concept of Copyright as property and its normative underpinnings were contested.

This is reflected in two telling facts: first, that the term "property" was dismissed from the title originally proposed by London booksellers.

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6. He discusses copyrights, but his argument also applies to other forms of IP, such as patents and trademarks.
Second, in the replacement of the term "securing" for "vesting" to avoid the implication that the legislation aimed at securing a right which already existed under common law. According to Hughes, the Statute uses language that strongly suggests property rights on intangibles (e.g. when talking about "shares of books"). Indeed, he argues that English Courts came to adopt an increasingly loose understanding of the term "book" in English copyright law "to include single pages of music, single-page letters, pamphlets, and so forth" (Hughes 2005, 1013), which eventually came to be replaced by the even broader term "work". Thus, he follows, since we can understand 18th and 19th-century legal discussions about IP as property, the burden of proof is on those who assert that "when eighteenth and nineteenth century legislators and jurists said 'property', they did not mean what we mean (or what our ill-informed judges and legislators mean)” (Hughes 2005, 1041). Thus, such an assertion requires historical backing.

Hughes’s argument gives us a hint of what is really at stake: the issue is not whether the word or term "property" was used or not, instead the question is whether the concept "property" has changed its meaning since its adoption.

Thus, answering Hughes's arguments requires an historical account of how it is that the ideologies, conceptual frameworks or schemes denounced by Boyle and Netanel (i) are subject to change and (ii) by changing, have allowed for the expansion of IP. In particular, it is necessary to show how the contested nature of the meaning of property has allowed political actors to exploit the concept's ambivalence strategically at different historical conjunctures. For example, Machlup and Penrose, reviewing the historical development of the arguments for and against patent systems point out that

(...) those who started using the word property in connection with inventions had a very definite purpose in mind: they wanted to substitute a word with a respectable connotation,
“property”, for a word that had an unpleasing ring, “privilege”. This was a very deliberate choice on the part of politicians working for the adoption of a patent law in the French Constitutional Assembly (1950, 16)

Machlup and Penrose’s historical study on patent-related controversies highlight the importance of ideological frameworks and rhetorical moves. Thus, it is necessary to develop a clear definition of ideological change, which is not as extensive as CLS scholars would have it, nor as narrow as the attitudinal model of PCT scholars argue. In turn, this requires investigating further what it entails for a concept to change its meaning.

3. **An excessively broad concept of ideology.**

As mentioned earlier, the main shortcoming CLS-inspired approaches to ideological or conceptual change is that legal scholars have adopted a definition of ideologies/conceptual frameworks that is too broad. For example, Boyle claims that the maximalist ideology entails a "larger way of seeing the world", a "vision of economy and culture, a frame of mind about how the world of cultural exchange operates, and eventually a blueprint for our systems of communication" (2008, p. 56). He also describes the maximalist ideology as an "organising set of principles", a "master narrative" (2008, p. 59 - 60) and a "worldview" (2008, p.198). The same broad conception of ideology is present in his first book (1997), where he talks of "ways of thinking" that become the "default mode for dealing with issues of ownership and control of information" (p. xii). Across the book, he talks indifferently of "visions", "paradigms", "structures of thought", "rhetoric", "clusters of belief", "conceptual maps". He also talks about the "cultural, ideological, and intellectual presuppositions behind legal forms" (p. 13-14), "policy discourses that give legal materials determinacy" (p. 14). He refers to ideologies as "stories" as well as "languages or power". These constructs decide the issue "the
moment [it] is described" (p. 13). Alongside this impossibly wide definition of ideology, Boyle deploys an equally extensive conception of law:

I take the position that to understand law fully, one must see it as much more than a collection of rules, or even a collection of social effects. Instead, law should be seen as a complex interpretive activity, a practice of encoding and decoding social meaning that merges imperceptibly with rhetoric, ideology, "common sense," economic argument (of both a highly theoretical and a seat-of-the-pants kind), with social stereotype, narrative cliché and political theory of every level from high abstraction to civics class chant. (Boyle 1997, 14)

The problem with this view of the law, which seems to be well entrenched in the tradition of CLS (Minda 1995; Craig 2019), is that it overstates the continuity between a specific legal conceptual framework and other forms of discourse and reasoning.

Netanel, in turn, draws his concept of ideology from Clifford Geertz and Jack Balkin (Netanel 2008b notes 26 and 41). Both Geertz and Balkin aim at subsuming the study of ideology under the study of culture, which in turn would allow them to produce a non-pejorative (i.e. post-marxist) conception of ideology which could be used in the context of social science research (J. M. Balkin 1998; Geertz 1973). Netanel’s account of ideology fails on both terms: it is both pejorative as well as so wide that it is impossible to be made operative.

The most glaring shortcoming of their broad concept of ideology is their omission of any treatment of the relationship between Neoliberalism and contemporary mainstream economics, represented by the neoclassical-institutionalist synthesis. Ironically, their concept of ideology is so broad that they fail to acknowledge the conspicuous presence of Neoliberalism in the process of IP expansion. Thus, even if Netanel correctly identifies the two poles of mainstream economic thought that legitimise the process of IP
expansion, he fails to realise their connection with the political project of Neoliberalism. The connection between neoclassical economics and Neoliberalism has been amply documented (Burgin 2012; Mirowski and Plehwe 2009 ch 4.), the connection between New Institutional Economics and Neoliberalism appears less clear. Thus, a brief account of the connection between NIE and Neoliberalism is due.

Against what they call “legal centralism” (Cooter 1996), NIE scholars stress the fact that the kinds of legal phenomena with which legal positivism has concerned itself (formally sanctioned acts of legal authority such as statutes, judicial decisions, administrative acts) are only the superficial crust of any institutional environment: more decisive are the decentralised mechanisms that evolve out of the successive interaction of individuals. Under this approach, institutions are deemed as achieved equilibria that have reached an optimal solution as a result of a long evolutionary process. In this sense, NIE inverts the hierarchy of legal sources established by legal positivism. Whereas for the latter formal sources are the most relevant form of law, for NIE practitioners the crucial phenomenon is custom, i.e. the bulk of tacit and informal arrangements that have arisen to cope with problems of cooperation (Ellickson 2001).

This feature of NIE makes a member of what might be called “holistic” critiques of legal positivism. Examples of this approach are Michael Oakeshott (2007), Harold Berman (2013; 1995) and Lon Fuller (1978). The upshot of holistic approaches to Law is that it is only within a language, and thus, within a culture that it is possible to understand legal institutions. This is the deep meaning of such expressions as “legal tradition” or “legal culture”. Therefore, the only way of understanding law, in this integrative or holistic sense, is from
within. Efforts can be made to translate from one language-culture to another, but something is always lost in translation.\(^7\)

Mentioning Harold Berman and Lon Fuller is not casual. Both authors support their views of law by analogy to Michael Polanyi’s characterisation of scientific knowledge (Berman 2013, 41–43; nn. 18; 61–63; L. L. Fuller 1978, 118–21). Polanyi was also an acknowledged influence on Oakeshott (Oakeshott 1962, 8; n. 1).\(^8\) Edmund Burke is also an acknowledged (and more obvious) influence (especially in Oakeshott’s case).\(^9\) These intellectual affinities suggest a further one: Friederich Hayek. The connection between a holistic critique of legal positivism and Hayek’s legal and political thinking is not a spurious one: indeed, it has been thoroughly documented and explored (Anderson 2005; Covell 1992; Ogus 1989; Postema 2011).

Not surprisingly, Hayek commended the work of Arnold Plant and Ronald Coase, as well as the work of "an extensive 'property rights school' (Alchian, Becker, Cheung, Demsetz, Pejovitch), (...) [whose investigations] have opened new possibilities for future improvements in the legal framework of the market order” (Hayek 1988, I:36).

This is a notorious irony: holistic approaches to Law have been proposed as a progressive alternative to law and economics (Dworkin 1986; Postema 2015; Tamanaha 2017; Twining 1996), without

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\(^7\) For the same reasons, these holistic approaches to law end up collapsing the distinction between law and morality. This latter aspect is usually seen as the essential feature of such approaches: in reality, it is just a consequence of the absolute primacy of the internal point of view.

\(^8\) However, Oakeshott’s idealism drew him to a far more radical conservatism (Mitchell 2001; Wells 1994).

\(^9\) If relating Lon Fuller to Michael Oakeshott seems farfetched, consider the following letter that the former wrote to HLA Hart: “On the problem of legal method implicit in The Forms and Limits it occurs to me that there might be some affinity for the study or ordinary linguistic usage. In effect, what is proposed by Austin … is that the philosopher trace out the complex implications of ordinary language, the theory being that much wisdom will thus be uncovered. How about tracing out the implications of our institutions, such as adjudication? Michael Oakshott [sic] does indeed in his inaugural address suggest studying the ‘intimations’ of our traditions”. Lon Fuller to HLA Hart, cited in Lacey (2010, 15)
realising that holistic responses are usually (and more successfully) deployed for conservative reasons.

Of course, Neoliberalism looms large outside the Californian mainstream against IP from which Boyle and Netanel come from (for example, see the works collected in Kapczynski and Krikorian 2010). Unfortunately, legal scholarship on the link between Neoliberalism and the expansion of IP has yet to catch up with the more nuanced accounts of Neoliberalism that have been developed among intellectual historians and social scientists. This gap will be filled in subsequent chapters of this dissertation.

**E. TOWARD A CONCEPT-BASED APPROACH TO IDEOLOGY**

The chief obstacle for achieving a workable definition of ideology is the general lack of consensus regarding the exact relationship between ideology and language. This relationship requires a clear view of the ontology, structure and function of concepts and their relationship with language and cognition. Diverging goals of different disciplines severely affect academic discussions on these issues. The kind of concepts that are more salient for each discipline, as well as the explanatory work expected from them, determine to a great extent how concepts are defined. For instance, while cognitive scientists may encounter more regularly or be more interested in concepts involved in different cognitive functions, philosophers might be interested in concepts related to epistemology, moral reasoning and so forth. Similarly, intellectual historians tend to be concerned with making sense of historical records and discovering the past meanings of concepts. On the other hand, legal theorists are usually concerned with the role concepts play in legal reasoning and more generally, the organisation of legal materials into categories that can be put to work
in practical issues. Consequently, it is best to flesh out the central theoretical commitments of this work from the outset and relate them to the aims of this research.

This research aims at uncovering how changes in the concept of property might have played a role in the process of expansion of intellectual property in the context of 20th-century Anglo-American legal culture. That goal drives the following picture of the nature of concepts and their relationship to language. Thus, it is assumed that concepts are neither abstract nor static entities. They exist insofar as concrete (and fallible) agents use them in specific contexts for achieving some purpose. Thus, to investigate conceptual change, one must identify these agents. Then, their goals, as well as the contexts and the controversies in which they were involved, must be examined. In this way, the conceptual changes that (intendedly or unintendedly) resulted from the uses of concepts in those controversies can be identified.

Any useful theory of conceptual change must deal with the fact that there are many sources of indeterminacy regarding the meaning of concepts. First, concepts have an open texture, i.e. “the rules or conditions that govern their application do not determinately cover every possible case” (Weiskopf 2013, 142). Second, concepts usually have qualitative or combinatorial vagueness. This means that there is lack of agreement regarding which properties an entity must possess in order to fall under a concept, unless some precise standard fixing the boundaries of its application is adopted (e.g. concepts with a precise technical meaning) (Keefe and Smith 1996; Keil and Poscher 2016; Poscher 2011). Finally, a concept’s application conditions within a context can be such that it may not have a settled domain of application. Thus, if there are no agreed exemplars for a concept, its use can always be contested by other users (e.g. concepts such as "freedom", "health", "cruelty" are of this kind). Such concepts are known as essentially contested concepts (Gallie 1955).
Conceptual indeterminacy is vital for understanding the dynamic nature of conceptual frameworks and hence conceptual change. As conceptual indeterminacy increases, members of a community are less likely to draw the same inferences from a concept: either because there is lack of agreement regarding the appropriate inferences, or because there are less restrictions on innovative uses of a concept (i.e. agents can draw novel inferences from its use). In these situations of increased conceptual indeterminacy, the stability of a previously shared conceptual framework becomes more improbable.

Disciplines, to function as such, require stable and bounded conceptual frameworks. For this reason, disciplines need different kinds of mechanisms to deal with conceptual indeterminacy. These will vary across fields. Examples of such mechanisms are setting epistemic goals for the discipline (i.e. a definition of what kinds of phenomena are worth investigating) (Brigandt 2012); determining of a theoretical canon to ensure that new generations share the relevant conceptual framework (J. M. Balkin and Levinson 2000); and mechanisms to assign epistemic authority, to distinguish between relevant and non-relevant uses of a concept, etc.

Despite these mechanisms, a certain degree of "conceptual drift" will necessarily occur. To see why the example of legal concepts is fitting. First, given the open-textured nature of concepts in general, in the case of any legal concept, it is impossible to regulate in advance which entities or facts will count as an instance of the concept in the relevant sense. This is particularly clear in the case of technological changes and scientific discoveries, where new entities are brought into existence. Thus, questions about whether they should be subsumed under existing concepts will usually arise. Questions such as: is a gene an invention? Is a computer program a text? etc. are common currency in the history of IP.
Also, new events (e.g. the introduction of new technologies in the market) can (although they need not) bring with them combinatorial vagueness, since novel cases can spur disagreements regarding the properties an entity must possess to be subsumed under a legal concept. Even previously settled issues can be revised in these situations. If unresolved, these disagreements can eventually render the realm of application of a legal concept a contested issue (e.g. the controversies regarding the concept of fair use in Copyright).

Intellectual historians have been concerned with investigating the political language of past ages. Hence, they have devised methods to trace linguistic and conceptual changes in political language. In what follows, it will become clear that these methods can be very fruitfully used to understand conceptual change in law. Correspondingly, this dissertation draws from the methods of the German school of conceptual history or *Begriffsgeschichte* (mostly associated with the work of Reinhart Koselleck in the anglophone world) and the so-called “Cambridge School” of intellectual history (mostly associated with the work of Quentin Skinner and JGA Pocock)\(^\text{10}\).

The starting point to account for the relationship between conceptual indeterminacy and conceptual change is the distinction – central to practitioners *Begriffsgeschichte* – between language (*langue*, Sprache) and speech (*parole*, Rede). The former, since it is the means of communication of human groups, must be roughly the same for all users: it cannot be radically affected by specific agents if it is to be useful as a means of communication. Speech, in turn, corresponds to how agents use language in different situations. Thus, put simply, meaning at the level of language (or semantic level) is agent-independent. On the contrary, meaning, at the level of speech (or pragmatic level) is agent-dependent. In this sense, agents’ mental

\(^{10}\) Although usually considered opposing approaches to intellectual history, their methods are more fruitfully understood as complementary (Richter 1995 ch. 6; Palonen 1997; 2002; Wagner 2003).
states are relevant only insofar as they are necessary to understand utterances at the pragmatic (speech) level, while they play only an indirect role concerning the social facts that give expressions the semantic content they have. Thus, considering the distinction between language and speech, what must be explained is how changes in legal language result from events at the level of speech.

Among intellectual historians, J.G.A. Pocock has led the path in using “languages” as the central unit of analysis (Pocock 2009, xi). He conducts his investigations by focusing on the alternative political languages available to political theorists. Although his terminology has varied over time, by political languages he means roughly the “set of linguistic conventions placing constraints on how politics might be conceptualised, and on the ways in which its institutions and practices might be legitimated” (Richter 1995, 127).

Pocock’s choice of language as the central unit of analysis has taken him to study “how authors were understood by readers, and how the response of the latter both shaped and was shaped by the original author’s speech act” (Pocock 2009, xiv). In this sense, he has focused on the process of linguistic innovation arising from the relationship between the agent behind a speech act, those who responded to it, and the linguistic context in which the interaction occurs. This approach takes into account not only the intended but also the unintended consequences of conceptual innovation. In the terms discussed here, his research has been concerned with how agents, operating at the pragmatic level of speech, generate changes at the semantic level of (political and legal) language.

Now, the relationship between different “languages” (in Pocock’s sense) and ideologies can be put into focus: ideologies are not the sort of entity that we can observe directly in the world. Rather, they can be studied indirectly by observing the inferences that bounded agents make when using a concept in a determined linguistic context. These inferences define the role that each concept plays within a
specific conceptual framework, i.e. they constitute the rules which govern the use of the relevant terms or expressions at the semantic level.

In sum, concepts are the contents or "intensions" of expressions. The meaning of a concept is determined by its role within a conceptual scheme or framework, i.e. by the set of inferences the concept allows within the conceptual scheme. Concepts allow different material inferences (Klatt 2008; Brandom 1994) when embedded in different conceptual frameworks. Accordingly, a conceptual scheme can be defined as the relationship between concepts, such that concepts within a conceptual scheme are inter-defined in a theory-like manner. In this sense, conceptual schemes are what distinguish different forms of reasoning. For example, the forms of reasoning that characterise disciplines are based on alternative conceptual schemes. Thus, the inferences that a concept allows, changes both across as well as within disciplines in a synchronic fashion. In short, at any given moment, agents have available alternative conceptual frameworks: this leaves theoretical space for innovative uses of concepts, even if at the semantic level, a concept's meaning is agent-independent.

F. AN INTEGRATED APPROACH TO THE EXPANSION OF IP

These theoretical forays will serve as the foundations for a framework that accommodates the three models for the expansion of IP (i.e. ideological/conceptual change, technological developments, and institutional capture). Our proposed framework is the following: First, like the NIE model claims, economic changes (for example due to technological change) drive institutional and conceptual innovation:

11. For a detailed argument showing that under an inferentialist theory of concepts it is possible to distinguish between having a concept and endorsing it, see Sartor (2009)
new economic contexts bring with them novel and unforeseeable situations, requiring institutional adjustment to the new conditions, which in turn increases conceptual indeterminacy. In these situations, as PCT forecasts, interest groups will make innovative uses of concepts in the context of the novel cases (i.e. at the level of speech) and strive for the adoption of the conceptual framework that better suits their own goals. If successful, their efforts will result in conceptual change (at the level of language) as CLS scholars argue.
III. SCIENCE, WARFARE AND THE RISE OF IP

More than anything else the question of science and war has made scientists look beyond the field of their own enquiries and discoveries to the social uses to which these discoveries are put

JD Bernal (Bernal 1973, 186)

A. INTRODUCTION

This chapter starts placing the process of expansion of IP within the context of the development and consolidation of Neoliberalism as a political project. It will be argued that the role of IP within early Neoliberalism was deeply ambiguous. This ambiguity is related to unsolved tensions in the relationship between science, technology, state and society in the context of industrial capitalism. In particular, it is due to the centralising tendencies IP has for scientific knowledge production, as well as its linkage with modern warfare and nationalism.

Backing this claim requires addressing IP from the standpoint of the intersection between economics, science and politics. Thus, a second goal is to show how the controversies related to the development of the international system of IP protection illustrate the tensions ailing the liberal cosmopolitanism of science during the mid and late 19th century. It will be argued that these controversies touched upon all the key themes that would, later on, become the core of neoliberal thinking during the first half of the 20th century: the interaction between markets and property rights, the role of science and technology within the economy and the interaction between the national and international order. As a result, debates about IP became part of the broader political controversies between different strands of internationalism and nationalism.

The argument put forward here goes against mainstream accounts of the expansion of IP in two ways. First, against narratives linking the process of IP expansion to 20th-century US-based law and
economics, it shifts the focus to the late 19th and early 20th century Europe. Second, this chapter aims at capturing the more profound significance of the neoliberal project and the role that IP has played in it. In particular, it highlights the significance of science for warfare and the economic organisation of society.

The lesson to be drawn from this chapter is that even if the classic rationales for IPRs have remained constant in time, the way these have been understood has not remained static. Indeed, there have been different ways of conceptualising what “Progress” entails and whether securing Progress requires more, less or no IP at all. Likewise, what constitutes the “public interest” (Alexander 2010) also shifts as the conceptual landscape changes in the new economic and political circumstances. In short, the lesson is that the conceptual constructs that shape IP law derive their meaning from the different forms of articulating science and technology, political economy and legal thinking.

**B. Chapter Outline**

First, the chapter explores changes that scientific practice experienced during the 19th century. Then, it describes how the tensions arising from these changes were approached in the context of IP (patents and copyrights) before the passing of the Paris and Berne Conventions. First, in the controversies regarding patent reform, i.e. the so-called “19th-century patent controversy” and secondly, in the work of the UK’s 1875 Commission on Copyright reform. Finally, the chapter analyses the political significance of IP as a tool for regulating science for Neoliberals writing in the 1930s and 1940s.
During the 19th century, science experienced a series of radical changes that altered its place within society. As a result, the idea of scientific progress became contested, and the issue of how to achieve it became an open question. Consequently, IP law, as the institutional means by which nations sought to pursue scientific and technological progress became unsettled.

A crucial change Science experienced during this period was its professionalisation. This trend brought about increasing disciplinary differentiation, further theorisation, and extensive data collection. A flood of scientific production made necessary the creation of institutions such as the contemporary scientific journal. Likewise, scientific production greatly benefited from the development of newer and cheaper means of transportation and communication. As the globe emerged as an object of scientific study, the study of regularities in nature required the systematic coordination of research, as well as collection of data across different corners of the world. Thus, international cooperation between scientists became faster and closer:

One of the most spectacular reflections of scientific internationalism in the nineteenth century was the development of international congresses and associations. From one or two congresses held annually in the 1850s, their number grew steadily to an average of thirty at the turn of the century. International scientific and scholarly associations proliferated at the same rate during that period, rising to more

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12 A word coined during the same period as part of the emergence of "pure science" (Ross 1962)
than 500 on the eve of the First World War. (Schroeder-Gudehus 1990, 911)

In short, during the 19th century, a host of international research networks sharing discoveries and pooling resources developed. The massification of new communication infrastructures (i.e. electric telegraphy and later radio and telephone) was a necessary condition for these research networks to operate and they required hefty investments on the part of the state.

These developments gave rise to the increasing intertwining between science and the economy. This was one of the most contentious aspects of the transformation of science. Even though science had always benefited from international trade and scholars relied on it for the exchange of specimens, techniques and news (Fara 2009), during the 19th-century science, technology and economic development became inextricably entangled.

Indeed, science became the primary tool available for governments for securing technological and economic advantages. Thus, the aspirations of establishing an international network of researchers had to be accommodated within the parameters set by the political imperative of securing national supremacy and colonial control.

Likewise, between 1870 and 1900, there were drastic reforms in the higher education system. The US saw the rise of graduate instruction and scientific courses (e.g. Yale, Harvard and Columbia). New universities such as Cornell, John Hopkins, Stanford and Chicago were founded on the German model (G. R. Stone 2015, 4). In the UK, universities had to follow the trend in order to remain competitive (Pritchard, 1998: 104). Consequently, between 1866 and 1874, the UK saw the creation of ten university research laboratories, devoted to the pursuit of “industrially consequential science” (Johns 2009, 276).

This development proved highly polemical. From one perspective, science was a motor for international cooperation and
interdependence. From another, it was a tool for rooting the technological and economic superiority of competing nations. Consequently, as the 19th century ensued, discussions about the nature of science acquired an increasingly political bent. For example, Max Weber, in his “Science as a vocation” lecture, noted the entanglement between industry, state and university, a process he dubbed the "Americanisation of the university":

Now we can see very clearly that the latest developments across broad sectors of the German university system are moving in the same direction as in America. The major institutes of science and medicine are "state-capitalist" enterprises. They cannot be administered without funding on a huge scale. So we see the situation that exists wherever capitalist operations are to be found, namely, the "separation of the worker from the means of production." The worker, in this instance the assistant, is dependent on the resources that are provided by the state. He is as dependent on the institute director, therefore, as an employee in a factory is dependent on his boss-for the institute director believes in good faith that this institute is his institute and that it is his to manage. The assistant's situation, then, is as precarious as that of every "quasi-proletarian" existence and as that of an assistant in an American university.

Our German university life is becoming Americanized in very important respects, as is German life in general. I am convinced that this development will continue to spread to disciplines like my own where the artisan is still the owner of his own resources (which amount essentially to the library), just as the old craftsman of the past owned the tools of his trade. This development is in full swing. (Weber 2004, 3–4)

The same year, writing from the other side of the Atlantic, Thorstein Veblen identified the same tendencies:
It is one the unwritten, and commonly unspoken commonplaces lying at the root of modern academic policy that the various universities are competitors for the traffic of merchantable instruction in much the same fashion as rival establishments in the retail trade compete for customs [Veblen, The Higher learning in America, cited in (Bok 2003, 1)]

As tension at the international level escalated, the cosmopolitan aspirations of the scientific community and the realities of international relations became increasingly harder to accommodate. In this sense, the picture of the 19th century as the highpoint of scientific internationalism is not without caveats. Indeed, the idea of scientific progress was marshalled both to further cosmopolitan as well as nationalist political projects.

Discussions about patent reform also shared this ambiguity. A particularly relevant aspect of the entanglement of science and the economy was the issue of warfare. Scientific progress was seen as essential for keeping up with competing nations. At the same time, liberal accounts of science tended to underplay the relationship between warfare and science, stressing the importance of scientific autonomy for the progress of science instead.

These anxieties regarding the relationship between science and warfare continued to spur the political imagination of political commentators and actors well into the 1940s, as the issue of central planning became one of the most urgent questions in civil society and academia. Indeed, as Johns (2006) argues, the normative ideals that are today commonly (although rather naively) associated with modern science, (e.g. in the work of Robert Merton (1942)), are in great measure a result of the debates surrounding intellectual property and science during the first half of the 20th century.

In short, 19th-century science was part of a complex set of relationships encompassing imperialism, international trade and industrial technology. Consequently, the collapse of the legal and
political order sustaining these relationships highlighted the novel character of science in industrial societies. In this context, Neoliberalism was developed as a theoretical effort to cope with the radical changes in science, economy and society.

The need to understand and criticise the development of science in industrial capitalism became a key concern for early neoliberals and shaped their attitudes towards IP. Developments in the social sciences made this issue particularly urgent. Historical and sociological enquiries into scientific practices (e.g. Bernal 1973; Zilsel 2003) questioned the notion of scientific autonomy. As a result, proposals for political control of science proliferated as the century came to an end and the world submerged in a series of high-scale international conflicts (Reisch 1994).

In what follows, the chapter details how these concerns about the new role of science within modern society were previously aired in the context of the so-called “19th-century patent controversy” and in the proceedings of the UK’s 1875 Copyright Commission. The arguments that took place in those occasions are representative of the uncertain status of IP in science, law and political economy during the last decades of the 19th century. The debates regarding international IP have been systematically read in terms of the opposition between “free-traders” and “protectionists” (e.g. Machlup and Penrose 1950). On this reading of the patent controversies, the former wanted to abolish patents while the latter wanted to strengthen them. The next section complicates this narrative by reading the copyright and patent controversies as a conflict that developed amidst the societal crisis generated by the advent of globalised industrial capitalism.

1. **The 19th Century Patent Controversy**

During the 19th century, leading industrial powers in America and Europe began developing their modern IP systems. This
modernisation entailed going from privilege-based to entitlement-based logic. Before the consolidation of modern IP systems, the granting of privileges was discretionary, and its application was costly and haphazard. Likewise, grants were heterogeneous in their conditions, such as duration and usually included ad-hoc clauses. As the 19th century came to an end, IP systems became more stable and bureaucratic in its functioning. Thus, IPRs became standardized legal rights. Likewise, the bundle of entitlements conferred by them became uniform. At the same time, IPRs provided more protection, their duration and subject matter was extended. For example, in the UK

At the start of [the 19th] century, literary copyright covered only books, calico designs, sculptures and engravings, lasted only twenty-eight years and infringement was largely a matter of reprinting or making identical copies. By 1911, copyright covered a broad variety of cultural products, lasted for fifty years after the death of an author and prevented all secondary uses of such works, except those which fell into certain specific and fixed categories. (Alexander 2010, 292)

Likewise, in the US, the mid-19th century witnessed the first patent litigation explosion. After an initial acceleration period going from 1850 to 1870, the number of patents issued continued to increase steadily until 1910. Also, after the passing of the 1836 patent act, large-scale enforcement campaigns were launched. In these, relatively few patent grants accounted for most of the litigation activity. Also, the owners of the patents lobbied strongly to have their rights asserted. In some cases, their patents extended beyond the initial period (until extensions where abolished in 1861) (Bessen and Meurer 2005).

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13 For a detailed account of the evolution of modern patent systems, see Bracha (2004).
The rationalisation of IP systems made the tensions inherent in their logic more evident, putting IP at the centre of political controversies involving more sweeping socio-economic transformations that took place during the same period. Indeed, the advent of industrial capitalism opened the question regarding under which conditions scientific and technological progress would come about. Global capitalism and the competition among nations over the status of industrial power forced intellectuals to rethink how to serve the interest of the public and secure progress. In this sense, IP law was removed to its core by the entanglement between science and the economy.

At the international level, the development of industrial powers was embedded within the development of global capitalism and modern international law (see Ch. 2). In this context, the differences in the regulation of patents at the domestic level made international trade increasingly difficult (May and Sell 2006, 111–15). Royalties charged to users of patented technologies were seen as tariffs that hindered commerce and thus were opposed to the political economy of laissez-faire. The existence of divergent IP systems further hampered trade. Thus, it became increasingly clear that free trade required either making the rules uniform across nations (this was the posture taken by the reformist camp) or their complete abolition.

These tensions are illustrated by the development of Patent Law as a tool of public policy for industrial development and international trade. For its advocates, Patent Law, elaborated systematically as a tool for scientific and technological advancement, would bring geopolitical advantages to the competing nations, while at the same time creating an international forum of scientific cooperation. This had been the position of towering figures of classical liberalism such as Adam Smith, David Ricardo, Jeremy Bentham and JS Mill (Hadfield 1988). On the contrary, those who called for the abolition of patents argued that their haphazard application and their costly, arbitrary, and
bureaucratic character, made them a hindrance for science and technology.

What all parties were after in this debate was to discover the proper shape that a modern capitalist society should take and the role that science and a system of intellectual property would have under such a society. In this sense, it is incorrect to read the so-called “19th-century patent controversy” (Machlup and Penrose 1950) only as a debate between free-traders and protectionists.

The debate over patents overlapped “orthogonally” with the traditional left-right divide. Thus, it generated strange bedfellows. Abolitionists, which included free traders, socialist internationalists and most of the scientific establishment, saw IPRs as obstacles for the construction of a world economy and unified science. On the one hand, abolitionist free traders (of which publications such as ‘The Economist’ were key allies) saw IPRs as a mechanism to protect vested interests in the national context, to the detriment of the global economy. Patents were a hindrance to knowledge production, impeding the natural advancement of scientific progress in an analogue way to tariffs blocking economic progress.

Underlying this picture of patents as an obstacle to science, was a picture of invention and progress as endemic to capitalism. Under the correct institutional setting, anyone could potentially become an inventor. What was important was to secure the conditions for making their work efficient and effective. Principles of modern political economy, as they had manifested in industrial economies would secure progress, as long as no-one interfered with them.

In this sense, 19th free-trade abolitionists coined the original version of the current techno-utopian trope stating that “information wants to

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14 This is the label by which current scholarship identifies a set debates that took place between 1850 and 1875 across European nations and culminated in the signing of the Paris and Berne conventions. It also worth noting that the colonies acceded to the provisions of the conventions through a declaration of the reigning power. The dispositions allowing for this are still in place (Peukert 2012).
be free”. Like its contemporary version, this trope was based on the idea that the workings of industrial capitalism guaranteed a continuous stream of innovation. Even if patents had been useful to bring about the new industrial society, now they were an obstacle to it. Indeed – the abolitionists claimed – the current economic conditions, along with the new ways of organising science and technology, made patents a harmful vestige of the past.

In short, free-trade abolitionists argued that the new context rendered the use of patents anachronistic. The modern principles of laissez-faire political economy needed to be extended to the realm of science and technology. Patentees were monopolists undermining the public interest. The credo was that all monopolies and tariffs had to be eliminated. Only thus, inventions would find their real value in the marketplace. Those more moderate among the abolitionists argued for patents to be replaced by a system of rewards, that would be cheaper to administer and would avoid the creation of harmful monopolies.

On the other hand, socialists and scientists in the abolitionist camp saw IPRs as obstacles for the construction for the international cooperation of knowledge workers. For them, patents represented the core of the increasing entanglement of science and business. They constituted obstacles for the rational organisation of science for they forced scientists to compete rather than cooperate. At the same time, patents made scientists develop their activities within the strictures of the profit motive, instead of seeking more societally beneficial applications of science.

Against the abolitionists, reformers blamed the evils of the patent system on its weakness. The solution was then not to abolish the system, but to consolidate it. For this, they deployed the language of the natural rights of inventors. Only acknowledging these rights made possible the circulation of ideas, on which civilization rested. Furthermore, reformists proposed an alternative “political economy of
inventions” (Johns 2009, 277) opposite to the one proposed by abolitionists: it was by granting rights to inventors that industrial monopolies were broken.

In Schumpeterian fashion, inventors challenged the status-quo by creatively-destroying older forms of production through innovation. In this way, the reformists framed the debate as one between the independent workman-inventor and capitalists, i.e. “Brains vs Capital” (Johns 2009, 278)

Like in the abolitionist camp, there were divergent motivations among the reformers. Some saw IPRs as tools for national development, which in turn was essential to prepare for warfare. Others were more concerned with the devastating effects that unfettered market forces had on societies. IPRs were desirable not only because they protected national industries, but because they protected the jobs that came with them (Chang 2002)15. Others believed that the harmonization of IP was both a precondition and a vehicle for the sustained international scientific collaboration. The use of IP regulation for the advancement of national industrial interests menaced to render the dream of an international republic of science impossible. International science required a modern, international system of IP, not its abolition.

In the UK, patent system shortcomings started to be seen by contemporaries as a menace to its industrial power and consequently to its political dominance. Other nations, such as the US and Germany, with their new policies for the development of science and technology, threatened to overcome the UK’s economic dominance (Retallack 2008 ch. 3).

In this context, the UK’s Great Exhibition (1851) made evident the necessity of protecting the inventions to be showcased, amidst fears of piracy. The UK parliament passed a transitory law to appease

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15 Here we can see a prolegomenon to the ambiguous political character of the so-called warfare-welfare state.
these concerns. After that, it was clear that scientific development required modernising patent law.

Consequently, following the exhibition, Parliament launched a series of investigations into the patent system, finding it (unsurprisingly) lacking. Reform was suggested. The suggested reforms included lowering fees and establishing a “scientific” board of examiners\(^\text{16}\). In 1852, as soon as the new patent system was in place, calls for its total abolition were voiced among free traders. These debates eventually found their way into Parliament, which, once again, commissioned a report (1862). The report stated that “the flaws of the system were intrinsic to the very nature of patenting” (Johns 2009, 270–71).

A similar example was the World Exhibition hosted by the Austro-Hungarian empire in 1873. US and German inventors declined their participation due to concerns related to lack of protection for their inventions. Like in the UK, the empire adopted a temporary law, which lasted for the duration of the exhibition (May and Sell 2006, 118). As these examples show, patents could be seen as a tool for national industrial development, as well as part of the institutional framework required for building international scientific cooperation.

Similarly, Germany had its own patent controversy, which touched upon the same issues regarding the organization of science and technology in modern society. In 1863, the Kongress deutscher Volkswirthe (Congress of German Economics) issued the following statement:

Considering that patents hinder rather than further the progress of invention; that they hamper the prompt general utilization of useful inventions; that on balance they cause more harm than benefit to the inventors themselves and, thus,

\(^{16}\) The word “scientist” had been recently coined in the meetings of the British Association for the Advancement of Science, which would later campaign for patent reform (British Association for the Advancement of Science 1831)
are a highly deceptive form of compensation; the Congress of German Economists resolves: that patents of invention are injurious to common welfare. (cited in Machlup and Penrose 1950, note 8)

After the creation of the German Reich in 1871, each state adopted different patent systems. One of the most controversial issues was the protection of the domestic market. The fear was that patent protection would facilitate the entrance of American patentees into the German market. To curtail these fears, Germany finally adopted a system similar to the US, adding some features designed to accommodate its domestic needs (Gilgen 2011). Among these were comparatively high fees to tax foreign inventors, exceptions to critical industries, working requirements (B. Z. Khan 2005, 294–95).

In short, what was at stake during the patent controversy was the concrete institutional framework that would be conducive to achieving the ideal of scientific, technological and economic progress that patent law was supposed to achieve. The problem was that, due to the entanglement between science and industry, the concept of Progress had become contested.

2. The UK’s 1875 Commission on Copyright reform

Like patents, the character of Copyright became unsettled during the last decades of the 19th century. As the century came to an end, it became increasingly evident that copyright law required change.

Two issues forbade reaching an easy solution and made systematization even more urgent: international trade and colonialism. Indeed, the existence of colonies made international harmonization of IP even more urgent for European empires, since a global market in patents and innovations was rapidly developing during the second half of the 19th century (B. Z. Khan 2013).
There were many arguments against Copyright. The classic argument against Copyright claimed that it was a legal monopoly that needed to be abolished. Others conceded that it was a form of property, but one that belonged to the public, who had purchased it by granting the author a limited term of protection. Another group saw Copyright as a tax on knowledge because it caused the cost of books to rise.\textsuperscript{17}

In the UK, despite the passing of the Statute of Anne and the decision reached in \textit{Donaldson v Becket}, the arguments regarding the nature of literary property remained open by the late 19th century (Seville 2010, 827).

It was the shift from the national to the international context which made possible in the UK for a consensus to materialise in the form of the 1911 Imperial Copyright Act, which systematised the various discrete statuses regulating copyright-related issues and tried to solve copyright-related issues in Britain’s colonies.

In 1875, Benjamin Disraeli appointed a commission to assess the state of Copyright. Changes in the book market, driven by new technologies, as well as the increasing relevance of international and colonial trade, found copyright statutes wanting. Since they were required to evaluate “all aspects of copyright law that arose before them” (Alexander 2010, 120), the legitimacy and justification of copyright law were inevitably questioned. Likewise, arguments about whether ownership was natural or a creation of law and what constituted the public interest where re-opened, just as in the 18th-century debates following \textit{Donaldson v Becket}.

In the context of the Commission’s hearings, the nature of ownership, the bargain between authors and society and the role that law may

\textsuperscript{17} These were compared to taxes on newspapers, which in turn were regarded as a form of censorship by radical newspapers, which kept publishing in defiance to the law, and left most of the working class unable to purchase newspapers (Seville 2010, 847)

\textsuperscript{18} Overturning the earlier \textit{Millar v Taylor} (Rose 1988)
play in it were discussed. More concretely, proposals for replacing Copyright law with a royalty system were evaluated.

A particularly relevant aspect about the enquiry of the commission is the fact that one of the Commissioners, Sir Louis Mallet, who would later dissent from the recommendations of the Commission, used neo-classical economics to evaluate whether copyright law indeed benefited the public through the privileges that extended to authors. Based on that analysis, he argued that the current copyright system failed in securing the goal of producing the "best possible literature at the cheapest possible price" (Alexander 2010, 122). Thus, he favoured the royalty system that some of the experts appearing in front of the Commission had suggested.

On the other hand, characters such as Herbert Spencer and Thomas Huxley appeared before the Commission opposing the royalty scheme on the basis that it represented not free trade, but rather an intervention devised to cheapen books artificially. In this sense, they made it analogous to "Socialism": it entailed applying to literary property a scheme that amounted to communism in other areas of the economy:

We have a Commission, appointed by a Conservative Government and presided over by a Conservative Peer, recommending a form of legislation with regard to literary property which is denounced as the most pernicious communism when applied to land; and, while the measures of our earlier history concerning 'forestallers and regraters', and fixing the price of bread and other material necessities, are considered as monuments of the obsolete errors of our less enlightened ancestors, we find the same commission in effect advising that the price of literary commodities should be fixed by the State.\(^ {19}\)

\(^ {19}\) TE Scrutton, cited in Alexander (2010, 127)
The Commission’s enquiry signals an essential shift in the mode of argumentation. Unlike the 18th century, the claims of literary property serving the public interests could not be longer be grounded solely on the abstract arguments of legal and political philosophy. Claims about the expediency of modern copyright systems now had to answer to the empirical tribunal of modern social sciences and most importantly, economics.

The Commission also enquired about the issue of international and colonial copyright. Part of the problem was that, by the mid-nineteenth century, European copyright (just like patents) was just a network of bilateral agreements and national systems. Abolitionists saw this network as an obstacle to global trade: each nation would tailor its laws to foster its self-interest, producing an increasingly complex array of incompatible regulations. Likewise, the lack of an international system of copyright hindered cooperation among scientists of different countries. Thus, Thomas Huxley, Herbert Spencer and the American Edward Youmans started lobbying the US, France, Germany and the UK for an international system of copyright. They argued that it would allow for the international cooperation of scientists and, more ambitiously, for the unification of science itself. The existence of incompatible systems national among the industrial powers in ultimate instance amounted to divergent and incompatible science.

The consolidation of the modern system of international IP that came with the signature of the Paris and Berne conventions (in 1883 and 1886 respectively), brought these debates to closure. Not by coincidence, this period also marks the highest point of the classic liberal international order before its collapse during the first decades of the 20th century. The main result of the establishment of an International IP system was the coinage of the term “intellectual property”, encompassing all (western) forms of works of the intellect (Hughes 2011; Peukert 2015). Thus, the discrete systems of protection were all particular expressions of an overarching concept.
and shared a similar logic. The umbrella term “intellectual property” captured this underlying unity. Inconsistency between the different systems of protection was a flaw of the previous system and a limitation for both trade and science. In this sense, the ideals of Progress and scientific internationalism were inextricably attached to the goal of fostering free trade and the creation of a global economy based on the political economy of laissez faire.

D. PLANNING FOR WAR: THE NEOLIBERAL COUNTER-REVOLUTION OF SCIENCE

Major political events during the first decades of the 20th century (e.g. the first world war, the October Revolution and the Great Depression) heavily disrupted the networks of scientific cooperation that had characterised 19th-century science. Among progressive intellectuals, this called for renewed efforts to achieve a unified science, which was to run parallel to the unification of humanity against the chauvinistic tendencies of nationalism (Rosenboim 2017 ch. 7).

At the same time, these events generated a plethora of proposals for the democratic control (i.e. “planning”) of science across the world and its use in economic organisation. These ideas were developed in parallel by logical positivists (e.g. Edgard Zilsel, Otto Neurath and Rudolf Carnap) in German-speaking Europe, (Reisch 1994), institutionalists in the US (e.g. Thorstein Veblen, Wesley Mitchell and John R. Commons) (Rutherford 2000) and by the so-called “scientific left” (e.g. HG Wells, JBS Haldane, JD Bernal and Joseph Needham) in the UK (Edgerton 2006, 1920–70).

In short, during the first decades of the 20th century, there was a widespread openness among intellectuals of industrial powers regarding the possibility that science and society could be reorganised on a more rational basis. For them, such a task was not
utopian, but rather a matter of urgent necessity in the face of the impending collapse of “European civilization”. For them, rather than only one among different cultural manifestations, science was “an instrument to solve the problems of society”. (Somsen 2008, 370). At the dawn of the 20th century, the goal still was the construction of a globalised science and international order. However, unlike the 19th century, science and the market were now pitted against each other as the latter was seen as fostering nationalism and economic crises that resulted in increasingly intense armed conflicts.

Otto Neurath was perhaps the most active and indefatigable advocate for the reorganization of science and the international collaboration of “scientific-workers” in German-speaking Europe20. For this very reason, he also was a recurrent subject of criticism by neoliberals such as Mises, Hayek and Popper.

According to Neurath, the economic conditions of warfare made planning necessary, for the production goals required by modern war could not be met by relying on the workings of the market. More importantly, he saw in wartime economics the rudiments for a planned economy that could work on peacetime. In the nationalistic marshalling of science to bolster the war-effort, Neurath saw a

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20 With a background in philosophy, mathematics and physics, Neurath got his doctoral degree (following Ferdinand Tönnies advice) at Berlin in history of economics under the members of the German Historical School, Eduard Meyer and Gustav Schmöller. He wrote a dissertation on barter-based economics in ancient Egypt (Cat 2018). While in Vienna, he attended Böhm-Bawerk’s economics seminar, were he developed his interest in the differences between economic systems in peace time and war time. At the seminar, he met Joseph Schumpeter, Otto Bauer, Rudolf Hilferding, Emil Lederer and Ludwig von Mises. Eventually, he went on to became head of the General War and Economics Section of the Scientific Committee for War Economics in the War Ministry in Vienna, the founding director of the (short-lived) Museum for War Economics in Leipzig and in 1919, president of the Central Planning Office of the (also short-lived) Bavarian Soviet Republic. This latter assignment almost costed him his life, which was saved by the pleading of some “notables” like Walther Rathenau, Max Weber and Otto Bauer. On his return to Vienna, Neurath became one of the founding members of the Vienna Circle. He was part of the “left-wing” of the circle, which consisted in him, Rudolf Carnap, Hans Hahn and Phillip Frank. Most famously, they drafted in 1929 the Circle’s manifesto, advocating for the unity of science (For descriptions of Neurath’s intellectual networks, his economic theory and the left-wing of the Vienna Circle, see Dekker 2014; Sigmund 2017; Turk 2018; Richardson 2009).
blueprint for the use of science to bring about Progress and Socialism (Reisch 1994).

Along similar lines, JD Bernal argued for planning research as part of a broader effort to plan the economy. War-related research was utilised by Bernal to argue for socialism. The history of military R&D was there as an example of the feasibility of planning science. At the same time, developments in science (for example, Operational Research) could provide the necessary tools for replacing the price system as a method of economic coordination (Edgerton 2006 ch. 3).

Against these ideas, some of the founding members of the Mont Pelerin Society [MPS], such as Michael Polanyi, Karl Popper and Fritz Machlup, sought to provide a new grounding for the autonomy of science. They saw it as fundamental for the creation of a liberal order (M. Polanyi 1962).

Hayek, on his methodological writings written during WWII, devoted a significant amount of ink to criticising Neurath’s proposals on science and economics. For Hayek, Neurath’s work underlined a connection between positivism and socialism that the latter believed constituted the hubris of “scientism” (see Hayek 2010, especially the introductory essay). 21

Hayek’s quarrel with Neurath was an old controversy. Already in 1920, Ludwig von Mises had voiced the basic epistemological argument against the possibility of economic calculation. These criticisms were directed at Neurath’s proposals for a moneyless economy. They kick-started the so-called “socialist calculation debate”, whose reception in the anglophone world we owe to Hayek’s

21 Hayek’s criticisms of Neurath are based on a rather poor caricature of Neurath’s philosophical arguments. For a cogent exposition of how far Hayek’s criticisms miss the mark see, O’Neill (2004). Popper, following Hayek, made analogue criticisms of Neurath’s social theory and epistemology. These were also based on misconstructions of Neurath’s work (Zolo 1989 ch. 4) For a comparison of Hayek’s and Popper’s criticisms of Neurath, the extent to which they are misdirected and how some of the criticisms they made to logical empiricism were anticipated by Neurath, see Uebel (2000).

The “debate” was first focused on proposals by Neurath. It was later that Oskar Lange became involved (O’Neill 1996). Another late participant in the debate was Karl Polanyi, advocating for a kind of decentralised socialism, based on functions or branches of the economy (K. Polanyi 2014, 1919–58). The epistemological point regarding the impossibility of calculation under a socialist economy was then generalised into an argument against the possibility of large-scale planning and, a fortiori, to the planning of science (as can be seen from Michael Polanyi’s criticisms of the “corporate method” in science).

As a result, a new picture of the relationship between science and society started to emerge. It grouped the nations of the “free-west” against those of the “totalitarian-east”. This approach to science was promoted in multiple venues, such as the CIA-funded Congress for Cultural Freedom (CCF), whose mission was to revitalise classical liberalism in the post-war order22 (for more on the CCF, see Ch. 4).

Michael Polanyi joined the CCF in 1953. He had previously organised the Society for Freedom in Science (SFS) in 1941, which sought to counter the calls among scientists to organise science to foster social goals. Among the members of the SFS was Friederich Hayek, which in turn invited Polanyi to the MPS. Polanyi resigned to the MPS in 1955 (Burgin 2012, 116), shortly after he began his work in the CCF23

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22 The CCF showcased many notable anti-communist intellectuals such as Arthur Koestler, Raymond Aron (also a member of the MPS), Hannah Arendt, Daniel Bell (who coined the term “post-industrial society), Edward Shils, Sidney Hook and Arthur Schlesinger Jr.

23 The proximity between both dates is indicative that Polanyi’s resigning of the MPS was not due to an ideological disagreement, but to the need for prioritising the venue in which he thought he could further pursue goals common to the MPS and the CCF. Even though Jacobs and Mullins (2016), based on the correspondence between Hayek and Polanyi, interpret Polanyi’s resigning to the MPS as a matter of difference over the political significance of planning and Keynesianism, the evidence they have gathered is not (at least to my eye) conclusive. Hayek and Polanyi continued to correspond for a decade after
and remained a member of the latter until 1968, when he resigned in the aftermath of the scandal generated when the CIA funding of the organisation became public, and the CCF fired its founder, CIA agent Mike Josselson to try to save face (Aronova 2012, 324). In short, Michael Polanyi was involved in different transatlantic intellectual networks devoted to exploring the role of science in revitalising liberalism from 1941 to 1968. His work clearly illustrates the connection between the goal of revamping liberalism and the organisation of science for neoliberals.

The mood in the 1940s echoed Neurath’s linking between science, planning and war economics. Consequently, “[m]embers of the SFS were concerned that the wartime need for enlistment of scientists in service of the nation would become a license for postwar planning and ongoing restrictions or directives for fundamental scientific research” (Nye 2011, 206). The long-lasting collaboration between Hayek and Polanyi led the latter to produce some texts arguing for the decentralised and autonomous organisation of science. Polanyi argued that the adoption of planning entailed imposing a “corporate hierarchical order” over science:

Everyone understands that in a war the plans for the further conduct of the campaign cannot be completed twelve months ahead and presented at the beginning of each fiscal year with all the main battles clearly set out and a reasonable estimate of the costs included. And-though some passionate planners may speak as if they did not realise that this also largely applies to the conduct of research and production even in normal times-it is usually accepted that no activity in which new

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Polanyi’s resigning of the MPS and acknowledged their common ideological stance, in spite of disagreements of opinion (which were common among all the founding members of the MPS (Burgin 2012; Jackson 2014). Indeed, as indicated in a letter that Jacobs and Mullins themselves cite, Polanyi believed that he and Hayek “should continue to go along our several ways, hoping that the matter will eventually crystallise from this joint pursuit” (p. 23). I take this to mean that their theoretical differences should not be an obstacle to the attainment of their common ideological goal.
problems of any importance have to be solved can be planned in advance according to a time-table. This will be the more true the more thoroughgoing is the proposed planning: that is, the more complete is the co-ordination of the individual actions according to the plan, and the less is left to the discretion of the individuals who are to carry it out. A closely coordinated body of men, applying themselves to a difficult task, will require re-direction almost every day in order to meet new problems as and when they arise. For this there must be a person in charge with responsibility to re-plan and re-organise continuously the joint activities of the men. They must form a corporation under the authority of a chief executive (M. Polanyi 1941, 433)

Polanyi granted that the hierarchical model of corporate organisation (which he dubbed the “corporate method”) was unavoidable in wartime. Its downside was that it generates large-scale “maladjustments” when scaled up to achieve more complex tasks:

The difficulty arises here from the fact that the task inherently requires a larger number of adjustments than a corporate organisation can carry out or control. The sorting out of men belonging to many hundred different professional grades and of materials of many thousand different qualities, and the re-grouping of men into various productive units, cannot be carried out by a type of organisation in which each individual man and piece of property is assigned to a small sub-section, communicating only by an official channel of impassable length with any other small sub-section. (M. Polanyi 1941, 434–35)

He contrasted this hierarchical corporate method to “dynamic orders”, the best example of which are markets. Polanyi he saw IPRs as a menace to the autonomy of science. They granted control of knowledge to industrial interests, thus curtailing the free-flow of
knowledge necessary for the dynamic or “polycentric” organization of knowledge production. At the same time, IPRs could also be used to consolidate trade monopolies. In this sense, he regarded IP as a key element of the “corporate method” in science. To avoid the pitfalls of exclusive ownership over useful knowledge, Polanyi argued for the implementation of a reward system:

To “economise” with an invention, in the sense in which this applies to a material produce, is clearly meaningless. It is in the nature of knowledge – in contrast to material resources – that the more people use it at the same time, the more it tends to grow and to benefit each of its users. The proper way to assure that an invention will be utilised best is to give it full publicity and allow its free application by everyone. Any proprietary management of useful knowledge is (...) both irrational and open to grave abuses. [Thus], in order that inventions may be used freely by all, we must relieve inventors of the necessity of earning their rewards commercially and must grant them instead the right to be rewarded from the public purse. [italics in the original] (M. Polanyi 1944, 65)

According to Polanyi’s biographer, he opposed patents because they interfered with the free flow of ideas required for the functioning of science. This view of patents came from his experience working as an industry consultant and his experience at Imperial Chemistry Industries (ICI). Seeing the realities of industry-based science convinced him that “the pooling of patents by commercial laboratories was turning into a kind of planned enterprise that stifled individual creativity in the laboratories and ultimately would put a brake upon new products”. (Nye 2011, 168)

Polanyi’s concerns regarding IPRs and the use of knowledge echoed and gave a new spin to the late 19th century debates on the role of IP in science and free markets. In voicing these concerns, Polanyi was
not alone. From early on, the organisation of science and the nature of knowledge were central to the political project of neoliberals.

Consequently, it is not a coincidence that the Colloque Walter Lippman [CWL] (1938), the direct antecedent for the MPS, was convened by Louis Rougier, himself an epistemologist, philosopher of science and the only French collaborator of the Vienna Circle (Reinhoudt and Audier 2018). At that point, Hayek had already written his foundational paper on the economic significance of knowledge (Hayek 1937), which aimed at fine-tuning Mises earlier epistemological remarks. He further developed his argument shortly (1945) before the first meeting of the MPS (1947).

The presence of Karl Popper and Michael Polanyi further shows the relevance of the issue of the social organisation of science for early neoliberals. Despite some relevant philosophical differences these two authors were undoubtedly influenced by Hayek. Conversely, they had a lasting influence in Fritz Machlup’s theoretical outlook.

Machlup was one of the MPS members who worked the most on the issue of IP. Like Polanyi, and as a result of his empirical investigations in monopolies, Machlup (1958; 1961; 1961; 1972; 2014) became unconvinced that there was enough empirical evidence to support the claim that patent protection promotes inventive effort. Indeed, the fact that the percentage of government spending in R&D had increased relative to that of private corporations (due to the effects of the wars) made claims that patents were necessary even more dubious.

24 Contrary to the other members of the MPS, Popper had a substantive view of knowledge, which explicitly rejected the subjectivist definition of knowledge that Hayek, Polanyi and Machlup espoused. Unlike the latter, Popper believed that knowledge was different from, and could not be reduced to subjective belief. According to Popper, the subjectivist conception of knowledge that Hayek, Polanyi and Machlup came to espouse, which was closer to that of Thomas Kuhn, failed to provide a demarcation criterion to distinguish between science and pseudo-science. Epistemologically, Popper was closer to the logical positivists than to his fellow cold warriors (S. Fuller 2003a, specially Chs. 10 & 13; Hacohen 1998; Zolo 1989 ch. 4). Furthermore, in his latter works, Popper grew wary of the way in which science developed after WWII and its connection with the cult of experts, which he associated with Kuhn’s view of science.
Beyond the weak empirical claim behind IPRs justifications, the transformations of science and society in the post-war period, in particular, the development of the so-called “military-industrial complex” made the neoliberal’s stance on IPRs even more uncertain. It simply was not clear that industry-led science would fuel scientific progress. On the contrary, it might even endanger the “spirit of science”. As Popper argued in 1975 in a Herbert Spencer Lecture:

In recent years, (...) it has become fairly clear that affluence may also be an obstacle [to progress in science]. Too many dollars may chase too few ideas. Admittedly, even under such adverse circumstances progress can be achieved. But the spirit of science is in danger.

Big Science may destroy great science, and the publication explosion may kill ideas. Ideas, which are only too rare, may become submerged in the flood. (Popper 1994, 13–14)

The “spirit of science” which was being endangered by “Big Science” harks back to Polanyi’s calls for organising science, not as a “corporate hierarchy” but rather, as a “dynamic organisation”. In turn, this distinction echoes the fault lines of the 19th-century debates on IP. As earlier abolitionists claimed, IP curtails not only the workings of the market system but also undermines the basis for scientific cooperation.

Popper’s warnings parallel the arguments made earlier by fellow Viennese economist Joseph Schumpeter. While assessing the prospects for capitalism’s survival in the 20th century, Schumpeter made the argument that the features of industrial capitalism are destroying the forces that drive it forward, i.e. its spirit.

Schumpeter’s innovator is the motor pushing capitalism beyond the crises predicted by Marxists. According to Schumpeter, the entrepreneur revolutionises the means of production by adopting new methods of production, inventing new technologies or opening up new markets. Schumpeter’s entrepreneur has been compared to a
figure akin to the avant-garde artist (Dekker 2018). One might also compare it to the Popperian scientist, which needs a “safe-space” in which she can freely propose and dispose of hypothesis without concern about the consequences: personal, social, economic or any other kind. Likewise, the Schumpeterian entrepreneur requires for his activity the safety provided by large amounts of spare capital looking for better return rates. The conditions of industrial capitalism lead to higher size firms and bureaucratisation, eroding the conditions under which the entrepreneur thrives.

In short, just like the psychological features of the entrepreneur are thwarted by Big Business, the open attitude required to do Popperian science, is hampered by Big Science. The reason is simple, just like Big Business routinise the economic process and tends to foster low-risk ventures due to bureaucratisation, Big Science routinises scientific activity and rewards work done within the parameters of a set paradigm (S. Fuller 2003a)

Due to their link to the development of both Big Science and Big Business, IPRs are suspect from a neoliberal perspective because their potential to suppress new methods of production. By allowing incumbents to buy patents and thus block newcomers in the market, they make the motor of capitalism sputter. In this sense, they are vital ingredients in the demise of the “spirit of capitalism” and the “spirit of science”

Likewise, Polanyi (1956) proposed a picture of the relationship between science and technology as a continuum. “Pure science” and “pure technology” marked the extremes of the continuum. Between these two ideal types, there were two intermediate forms of organising

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25 To be sure, Schumpeter was not too worried about patents and thus it would be hard to regard him an IP-sceptic, as his fellow Austrian and German neoliberals. This is due to his rather sanguine view on monopolies. Schumpeter saw monopolies as the reward motivating capitalists to invest in high-risk technological ventures. At the same time, he argued that IPRs serve to protect the business enterprise during the periods of instability and disruption brought about by the innovation (Schumpeter 1994 Ch. 8).
the interaction between science and technology, which he called “systematic technology” and “technically justified science”. In short, he argued that pure science had a distinct principle of organisation, different from pure technology and the intermediate fields of study. According to Polanyi, Pure Science is organised autonomously. Its practitioners define what counts as a valuable contribution and what problems are worth investing time and resources.

On the contrary, Polanyi believed that in the case of technology founded on an application of science, i.e. Systematic technology, scientific work could be pursued in the same fashion as pure science. However, its interest lay in its commercial viability. Thus, it was subjected to the imperatives of economic conditions. If the technology was no longer economically viable, then all interest in that field of research evaporated, unlike the case of Pure Science, where economic profitability is not an issue.

In turn, he defined “technically justified science” as those branches of science pursued because of their potential to offer technically useful knowledge, even if they are not very relevant (as defined by scientific opinion) in terms of the advancement of pure science. An essential feature of technically justified science is that it is advanced because it furthers specific or special interests, e.g. those of industry or government.

Polanyi grounded the autonomy of (pure) science in the fact that the relevant contributions can not be predicted, unlike the case of Systematic technology and technically justified science, where the problems to be solved are given by extrinsic concerns

All real scientific discovery must show originality: it must expand the system of science in an unexpected way. The originality of an idea implies that the idea did not exist before it occurred to the person whose idea it is and could therefore not have been assigned to him by another person acting as his
superior. This makes all scientific discovery an essentially independent task. (M. Polanyi 1956, 238)

Thus, even though that Polanyi recognises these intermediate fields of enquiry in which some planning can (and should) take place, this does not hold for pure science. A crucial aspect of this account of science and technology is that pure science competes for resources and talent with the intermediate fields. In this sense, industry-led and government-led science represent a menace to pure science: “we should also guard against allowing the proper appreciation of pure science as cultivated on its own grounds to be called in doubt by the rival claims of studies having greater practical value” (M. Polanyi 1956, 240)

E. CONCLUSION

The controversies surrounding IP during the last quarter of the 19th century illustrate how the advent of Big Science, as well as the collapse of the global legal and economic order, questioned the optimistic narratives of scientific progress. Indeed, scientific progress did not necessarily lead to a more peaceful world. Instead, the early decades of the 20th century saw the rise of technologically-driven warfare, propelled by nationalist conflict.

Politically, what the collapse of the international order of the 19th century demanded was a reconstruction of the tenets of liberalism, and that was what neoliberals set out to do during the interwar years. Starting at the CWL and continuing throughout the next decades, neoliberals sought to rethink the fundamental concepts of classic liberalism. In particular, it became an open question for neoliberals whether IPRs should be considered property rights and even if they should exist.

Epistemologically, the collapse of the notion of scientific progress launched a program to plan science along more rational lines and direct it towards the betterment of society. The critical insight of the scientific left (e.g. Bernal, Neurath), driven by their sociological and
historical investigations of science was that scientific progress was not automatic. Instead, it had to be constructed or directed. Against this, neoliberals had the difficult task of concocting a defence of the autonomous functioning of science, while at the same time deflating its epistemological aspirations.

Somewhat paradoxically, the neoliberals’ theoretical solution to the challenges of the scientific left led to our current picture of innovation-driven science. They argued that science could not be planned, nor it could be used to plan society or the economy. Any attempts at planning science would end up in failure. Neoliberals needed to carve out a space of scientific autonomy for pure science, were its true spirit lay, while allowing applied science to be directed by industrial and governmental interests. To do this, policing the boundaries between pure and applied science was essential. At the same time, as Schumpeter noted, capitalism relies on continuous innovation for its survival. In turn, innovation requires large amounts of available capital, for only under these conditions, it would be worth it the risk of investing in such an uncertain endeavour.

This solution created a sort of catch-22 for neoliberals. As Popper and Polanyi argued, the entanglement of science and business menaces science by imposing on it the economic and technical imperatives of Industrial interests. Likewise, as Schumpeter argued, a capitalist system dominated by big firms is inimical to the existence of the entrepreneur. In this sense, the entanglement of science and industry is detrimental both to the “spirit” of capitalism and science. This is Neoliberalism’s theoretical conundrum: it is only by this entanglement that capitalist societies can secure a continuous stream of innovation. Consequently, it is not a coincidence that the view of science as a motor for innovation emerged in the 1930s, just when neoliberals launched their counter-revolution of science (Godin 2015). Since then, the tendency has been towards making science more innovation-driven, further intensifying the links between science and
industry. The role of IP in this has been essential. Nowadays, most of the literature on IPRs and science assume a close linkage between science and innovation. On this view of science, IP constitutes the interface between science and industry, making the former the subject of the imperatives of the latter.

As will be explored in chapter VI, the widespread adoption of an innovation-driven approach to science policy has had significant consequences for how we understand knowledge.
IV. ‘New’ liberalism and the International Order

Ideas do not fight the struggle of the interests all over again in the clouds like the Valkyries above the battlefield; rather, like the Homeric gods, they descend to the battlefield and fight, powerful forces themselves, side by side with the other forces. Granted that, on the one hand, legal philosophy is the struggle of political parties transferred into the realm of the spirit; on the other hand, the struggle of political parties in turn represents a grandiose legal philosophical discussion. All great political changes were prepared or accompanied by legal philosophy. In the beginning there was legal philosophy; at the end, there was revolution.

Gustav Radbruch “Legal Philosophy” (1914)

A. INTRODUCTION

This chapter argues that during the 1930s and 1940s, Neoliberals paved the way for the current landscape in international IP law. They did this by theorising a novel model of international order. In particular, the chapter places Neoliberalism in the context of the theoretical challenges faced by the previous generation of international law scholars when trying to make sense of the world order from the late 19th century onwards. This approach explains the apparent incompatibility between neoliberals' widespread scepticism regarding IP and the international system of IP protection that developed as their ideas became hegemonic.

B. CHAPTER OUTLINE

By drawing a parallel between the tensions in scientific internationalism and those ailing legal and political internationalism during the same period (i.e. from approximately 1870 up to 1914), the chapter starts by exploring the role that IP played in the tensions ailing the 19th-century international order. It will be argued that these tensions rendered untenable the liberal narrative of international law.

26 Cited in Turner and Factor (1994, 57)
and science as the twin pillars of progress towards a peaceful world order based on free-trade.

In the last decades of the 19th century, the goal of achieving peace among nations through trade and international law was curtailed by heightened economic competition, escalating political tension among the industrial powers as well as the realities of colonial domination. As the 19th century ensued and tensions escalated, it became harder for scholars and politicians to uphold the liberal legal positivism on which the international order had been hitherto justified. This trend paralleled the way in which the ideal of scientific internationalism became strained by the competition among nations to achieve economic and technological hegemony. Both defending international law’s capacity to bind States and regarding science as an unequivocal force towards internationalism became harder.

IP law was not alien to the controversies surrounding the liberal international order more generally. Indeed, the Paris and Berne Conventions were at the vanguard of the international system of free trade and were seen as central institutions for the international cooperation of scientists. Thus, the same ambivalences ailing the international order affected IP. On the one hand, IP was a tool for free trade (with all its “civilising” implications) and the protection of corporate assets across borders. On the other, it was an institutional lever that could be used to foster national interests and eventually wage war.

Next, the chapter shows how neoliberals reacted to the collapse of the international order. It will be argued that the efforts of neoliberals towards building an institutional order that could supersede the previous one drew them to international law as a critical element of the construction of a competitive order. In this sense, late 19th-century international law theory in the German-speaking world constitutes the theoretical background of the global order which neoliberals sought to recreate. The arguments used to justify international law during the
19th century will be explored in some detail to complement Slobodian’s (2020) account of Neoliberalism and to understand neoliberals’ approach to legal orders better. In turn, this will provide a better perspective to gauge the inner logic of our current system of international IP protection.

Indeed, even if the British empire predominated among the concert of European powers during most of the 19th century (Grewe 2000), the country that developed the most influential theory regarding the nature of international law and its relationship to the concepts of State and Sovereignty was Germany (Koskenniemi 2002 ch. 3).

Next, two modes of Neoliberalism are identified. The first called “Eunomic” Neoliberalism. The term “Eunomics” was coined by Lon L. Fuller, a critic of Legal Positivism, which in turn was influenced by the work of Michael Polanyi, Oakeshott, and Friederich Hayek. The second mode of Neoliberalism is called “Freakonomic” Neoliberalism, after Steven Levitt’s and Stephen Dubner’s book of the same name.

Distinguishing between these two modes of Neoliberalism allows seeing more clearly why, despite early neoliberals distrust of IPRs, how they conceptualised the relationship between the national and international order is conducive to the technocratic, authoritarian and maximalist features of the current system of international IP protection, as represented by the TRIPS and TPP agreements.

In the concluding section, it is argued that the two modes of Neoliberalism conceptualise knowledge in opposite ways. In the Eunomic mode of Neoliberalism, knowledge is seen as subjective and tacit. Thus, IP can only be an hindrance to knowledge production and use, since it makes it difficult for agents to use it, impeding the proper functioning of the market. On the contrary, in the Freakonomic mode of Neoliberalism, knowledge is seen as an asset. Here, securing property rights for trading knowledge is essential. Only through IPRs the value of knowledge can be appropriated and exploited.
C. IP AND 19TH CENTURY GLOBALISM:

Just like the aspirations of scientific internationalism were clouded by the realities of industrial capitalism and the nascent industrial-military complex, views of international law as a community of self-bounded agents were challenged by an alternative account of the relationship between states as the result of the power relations. Treaties were the manifestation of these power relations: the former only as stable as the latter. A general climate of scepticism about the capacity of international law to bound states arose from Bismarckian Machtpolitik. In this context, it was hard not to regard war as the final arbiter among nations. In this sense, the challenge for international law as a discipline was to devise a “coherent system of international law concepts that were to be as independent as possible from diplomacy and morality as well as from private and public law.” (Koskenniemi 2002, 187)

At the same time, Law had to be grounded on the scientific study of social formations in a way that could be deployed to make the dynamics of international politics intelligible. This challenge was akin to the difficulties faced by those interested in defending the autonomy of science: On the one hand, law and science could be seen as empirical objects of study: historically bounded, susceptible of causal investigation, not different from any other social practice. On the other hand, they could also be understood as the subject of independent and normative analysis.

The realities of science and law unveiled by the empirical studies of social scientists menaced the normative grounding of these practices. The challenge posed by social sciences ultimately entailed questioning the very notions of social and scientific progress. Indeed, international economic integration, as illustrated by the process of legal harmonization that led to the signing of the Paris and Berne conventions, was not without shadows. The late 19th-century
economic order was the result of the transition from a political economy based on mercantilism to one based on the principles of laissez-faire. This transition consisted of the State working for the consolidation of a commercial society. Mutual progress among European nations would be assured by continuous geographical expansion. Thus, colonial powers used colonies as new markets for their goods as well as sources of cheap materials for manufacturing. As Magdoff (1978), has pointed out:

The global expansion of Western Europe between the 1760s and the 1870s differed in several important ways from the expansionism and colonialism of previous centuries. Along with the rise of the Industrial Revolution, which economic historians generally trace to the 1760s, and the continuing spread of industrialization in the empire-building countries came a shift in the strategy of trade with the colonial world. Instead of being primarily buyers of colonial products (and frequently under strain to offer sufficient salable goods to balance the exchange), as in the past, the industrializing nations increasingly became sellers in search of markets for the growing volume of their machine-produced goods. Furthermore, over the years there occurred a decided shift in the composition of demand for goods produced in the colonial areas. Spices, sugar, and slaves became relatively less important with the advance of industrialization, concomitant with a rising demand for raw materials for industry (e.g., cotton, wool, vegetable oils, jute, dyestuffs) and food for the swelling industrial areas (wheat, tea, coffee, cocoa, meat, butter). (Magdoff 1978, 17)

The signature of the Paris and Berne Conventions took place at the height of colonial domination. Thus, it is not surprising that the dynamics of colonial control marked the treaties: colonies had to be incorporated within the colonial order. The political economy of the
19th century European powers required them to “control and regulate non-European markets.” (Peukert 2012, 4) As Deere points out:

In Africa, Asia, and the Pacific, the formal introduction of IP laws began later in the nineteenth century, and was undertaken by European colonial powers. Spurred on by the 1884 Congress of Berlin, the colonizers moved swiftly to impose new laws, authorities, and institutions throughout their respective territories to regulate their dealings with local populations and their own citizens. In so doing, the major colonial powers, especially France and Great Britain, laid the foundations for an enduring influence on legal development in developing countries and on how law was perceived and understood. (Deere 2009, 35)

Peukert (2012) traces the strategies for the incorporation of the colonies into the international system of IP protection to the British Empire early in the 19th century. The Copyright Act of 1801 extended its coverage to all of the UK as well as its dominions in Europe. Later, in 1814, coverage was extended to all other dominions. This process continued into the 20th century, culminating in the 1911 Copyright Act. Other imperial powers also extended copyright protection to their colonies: France in 1857, Spain in the 1880s and Germany in 1901. In the case of patent law, India under British rule enacted a patent act in 1856. Likewise, France imposed its patent law on its African colonies.

As a result, the trajectories later taken by former colonies were deeply marked by the phenomenon of colonialism. Correspondingly, as decolonisation ensued, former colonies adopted IP systems along the lines of western colonial powers in an attempt to foster national development. As Deere documents, in the case of industrial property, some of the newly created American nations enacted national laws even before some European countries enacted patent regulation and
before the signing of the Paris and Berne conventions. Their efforts proved mostly futile since the implementation of the international IP system was designed to protect European interests, with scarce benefits to domestic cultural production in the colonies. IP law was crafted to suit European modes of cultural production as well as to serve the business interests of European publishers and industries. Peukert captures this aspect of colonial IP by distinguishing between the territorial expansion of IP from its subjective/personal reach. While the former evolved to cover most territories in the world, the latter “remained limited to nationals of colonial powers and the few colonized who had access to Western modes of cultural production” (Peukert 2012, 14).

In any case, the fact that former colonies adopted IP legislation, modelled after that of the imperial powers points to an often-overlooked aspect of IP: its linkage with nationalism. From this perspective, it becomes easier to appreciate another dimension of the ambiguous assessment neoliberals made of IP. It is not only that IPRs are state-created monopolies but their linkage to economic protectionism and nationalism what makes them suspect.

By the end of the 19th century, IP’s importance for areas such as publishing, agriculture and manufacturing had grown. Thus, it was tempting for different groups within each country (e.g. intellectuals, farmers, industrial manufacturers, commercial traders, etc.) to pressure for reforms that would protect their interests. When the perspective of war is added to mix, the potential for IP laws to disrupt international trade turns extreme. In this sense, IP law was a central component of the forces that neoliberals deemed a menace to economic internationalism. This aspect of IP is well illustrated by the

27 E.g. Brasil (1809), Mexico (1832) Cuba (1833), Chile (1844), Venezuela (1842), Paraguay (1845), Colombia (1848), and Argentina (1846) Deere, (p. 57n.5)
28 As has been pointed out by (Slobodian 2020) and will be further explored in the next chapter.
strategic role of patents during WWI. As one US commentator writing in 1916 puts it:

Our patent laws permit any owner of a United States patent, whether citizen or foreigner, to lock it up for 17 years, and to deny to the American people, if he chooses, that which every other country may enjoy to the full during that period. Or, by a dominating, generic patent, he may stop the wheels of progress in that particular art in the United States for 17 years, while the rest of the world goes forward. Herein lies a large cause of the superiority of Germany and France in many arts, and why a general war in Europe leaves many American industries crippled. (Macomber 1916, 397)

Indeed, patents (and in a lesser degree, copyrights) were essential tools for national development and thus were valuable assets in the context of war. This aspect of IP became clearest in October 1917, when patents belonging to enemy citizens were seized by the US government through the “Trading With The Enemy Act”. The act created the Office of Alien Property Custodian, which had the power to seize property belonging to citizens of the enemy countries. In November 1918, the powers of the Custodian were extended to allow the seizure and disposal of foreign patents and copyrights.

The Alien Property Custodian seized approximately 10,000 patents belonging to enemy aliens. Approximately a 100 radio-related patents were transferred to the US Government. Likewise, “4,764 patents, 288 applications for patents, 874 trademarks, 492 copyrights, and 57 contracts for use of patents, or a total of 6,475 properties” (Sommerich 1955, 587) were transferred to the Chemical Foundation Inc. [CF], an organisation whose creation was organised by A. Mitchell Palmer and Francis P. Garvan, the two Alien Property Custodians under President Wilson. Later, the Treaty of Versailles forced Germany to ratify the seizure acts. The transactions were not revisable “for any purpose whatsoever” (Sommerich 1955, 588)
In turn, the seizure of German chemical patents and its pooling under the umbrella of the CF kickstarted the US chemical industry, which began its golden period afterwards. This episode confirmed the strategical importance of IP for fostering national interests and securing superiority in warfare. Likewise, it marks one of the milestones in the formation of what later would be called the “military-industrial complex” (Noble 1977 ch. 2).

In sum, IPRs became suspect for neoliberals because they could be used as a tool for protecting industries, creating cartels, as well as for waging economic war, further entangling science, industry and government.

D. THE COLLAPSE OF THE 19TH-CENTURY LIBERAL ORDER

The crisis of the 19th-century international order was marked by the end of old empires and its replacement for a system of national states, the advent of mass society, the rise of an industrial proletariat, widespread democratic politics and the transition from laissez-faire to industrial capitalism.

In biographical terms, early Neoliberals identified strongly with the Habsburg Empire. The generation of Austrian economists that developed the original doctrines of Neoliberalism was born between the 1880s and the 1900s (e.g. Hayek, Haberler, Mises, Schumpeter, Machlup). Thus, they were relatively young when the empire collapsed. Not surprisingly then, these developments had a significant impact in their political outlook. For Neoliberals, they amounted to a near collapse of European civilization.

As a result, they regarded democratic mass politics as a threat to civilization (Dekker 2016; Slobodian 2018; Biebricher 2018). The reason was that they regarded the markets as a cultural institution,
with “civilizing” effects. They thought that markets disciplined individuals through the latter’s subjection to economic imperatives. In a fashion similar to the Rule of Law, the impersonal rule of the market was seen an impartial force, subjecting equally all different factions in democratic politics.

As markets came under threat by democratic politics and violence escalated, the potential for regaining the previous levels of international trade seemed unlikely. To counter this, they set out to discover the deeper causes of “economic nationalism”, which was at the root of the collapse of the international order and thus was the cause of international economic disintegration (Röpke 1942).

As Quinn Slobodian has argued, the Habsburg and British empires inspired Neoliberals in framing their globalist project. This project consisted of “models of governance, at scales from the local to the global, that would best encase and protect the space of the world economy” (Slobodian 2018, 92). The 19th-century empires were lesser-scale models of what they called “economic internationalism” (Slobodian 2018, 93). Indeed, they regarded the Habsburg Empire as an ambitious experiment in attempting to accommodate the imperatives of national self-determination and free trade. Likewise, they praised the British Empire for “preserving free trade in its colonial markets for all comers.” (Slobodian 2018, 94).

On the other hand, imperialism forced upon observers the view that international law was about force and power, not norms. Justifying international law required a way of fending off the scepticism regarding international law espoused by theorists like Erich Kaufmann and Carl Schmitt. For these sceptics, war was the underlying reality and final arbiter of the international concert. Against this scepticism, liberals such as Georg Jellinek, attempted to ground international law on the fact of increasing economic interdependence.

Consequently, early neoliberals were forcibly drawn to international law as a conduit for the constitution of a world economy. The reason
for this is that the main obstacles they saw for the creation of a new liberalism were the twin menaces of nationalism and war. They saw these two forces as leading to the planning and the collectivisation of the economy. Correspondingly, for Neoliberals writing during the interwar period, the critical challenge was to uncover the deeper causes of economic nationalism, which they deemed responsible for international conflict. In this sense, they were deeply concerned with the effects of modernity on concepts such as sovereignty, state and law.

These theoretical problems were behind key political issues, such as the dynamics of economic integration and the formation of the nation-state. Neoliberals debated them in the context of a network of transnational institutions. Among these, the International Committee for Intellectual Cooperation (ICIC) stands out. It had an operational unit in Paris, called the International Institute for Intellectual Cooperation (IIIIC). The IIC provided the venue and the organisational resources for the convening of the CWL (Hagen Schulz-Forberg p. 252-254). Many of the attendees to the CWL had links to the League of Nations and the Geneva Graduate Institute (Slobodian 2018). Correspondingly, both the ICIC and the IIIIC were sponsored by the League of Nations, the Carnegie Endowment for International Peace, the Rockefeller Foundation, as well as by national governments who supported the national chapters of the ICIC.

As transpires from the discussions held at the Colloque, they were deeply distressed by rising nationalism, technocratic systems of governance and a “majoritarian” or “socialistic” democracy that new no limits (Reinhoudt and Audier 2018, 21).

Lipman’s intervention at the CWL is illustrative. He stressed the connection between liberalism and peace. Lippman argued that a liberal society could not survive for long in the context of international warfare:
(…) it is undeniable that any liberal society, whatever it may be, implies a very great confidence in the maintenance of peace. It is impossible to conceive of a liberal society in which the dominant political preoccupation is the mobilization with a view to war. When this preoccupation exists, there can be no freedom of property or of labor, it is impossible to treat matters based on faith in the given word and on credit, nor [is it possible to] conclude long-term contracts, and there can be no relations that depend on the good will of another (Lipmann in Reinhoudt and Audier 2018, 109)

Furthermore, what the neoliberals attending the CWL found appealing about Lippmann’s take on the crisis of liberalism, was the notion that the economic order was inextricably linked to the legal order29. What was required, according to Lippmann, was “a positive theory of liberalism which gives a method of social control consistent with the exchange economy”.’(Lippmann, cited in Jackson 2012, 56). Both Neoliberals and Lippmann were sceptical of legal positivism as a framework for achieving this goal. Thus, an alternative approach to law was required.

After Lippmann’s address on the causes of for the decline of liberalism, the following sessions were devoted to a set of interlocking issues: whether the decline of liberalism was due to endogenous or exogenous causes, the social tasks of liberalism and its relationship with the “social question”, liberalism and wartime economics and economic nationalism. From the investigation of these issues, the goal was to devise an agenda for a ‘new liberalism’.

Speaking at the CWL, Wilhelm Röpke made the case (in striking similarity to Karl Polanyi) that economic nationalism was a consequence of the massive changes brought about by the

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29 The irony of this is that, as will be further developed in the next chapter, this idea had gained currency in the US through legal realism and classical institutionalism. These two schools of thought were largely responsible for the theoretical grounding, design and implementation of the New Deal, which was what (along Keynesianism) concerned the Neoliberals the most.
expansion of capitalism during the 19th century. These changes caused social and political dislocation or "proletarianization", which in turn led to economic disintegration. Consequently, if one wanted to avoid economic nationalism, then the economic point of view would not suffice.

The widening of scope advocated by Röpke to investigate the causes of economic nationalism also included tackling the issue of economic nationalism in the international context: the national and international orders could not be disentangled. Thus, International Law was an essential element for devising an agenda for a new liberalism. To account for the complex causes for economic disintegration and the consequent collapse of the international order, a holistic point of view was necessary:

Economic nationalism is a highly complex phenomenon that generally accompanies political nationalism. Periods of economic integration coincide with periods of political and social integration. All the examples prove that one cannot understand national integration and disintegration without moving one’s perspective to all viewpoints, political, social, etc. It is not enough to say that economic nationalism is a matter of a lack of intelligence among leaders; there are the economic interests; the professional groups that engage in a nationalist policy; there is the dissolution of the State by special interests. It is this disintegration of the State itself by the parties, by the interests, that is of concern. Economic nationalism is very closely linked to internal changes in the economic and social structure. The philosophy of international liberalism was based on the flexibility [souplesse] of national economic systems: flexible salaries, flexible prices, competitive prices rather than

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30 The "re-embedding" of the economy in Polanyian parlance.
31 Note the parallel between Neoliberalism and the holistic jurisprudence tradition of Lon Fuller, Michael Oakeshott and Harold Berman mentioned earlier. This theme will be retaken in the conclusion of this chapter.
monopoly prices, and the monetary system based on the gold standard which, itself, can only function if all countries observe certain rules in common, postulating the flexibility of national economic systems.

Economic nationalism should therefore not be treated as an autonomous phenomenon that, with a bit of good will, would be easy to remedy. I believe that it is a phenomenon that has its roots in fundamental changes in our entire economic and social structure. If one wants to give a satisfactory answer to the question of the causes of economic nationalism, research should be carried out in all directions. (Röpke, in Reinhoudt and Audier 2018, 146–47)

The “fundamental changes” in the economic and social structure that Röpke mentions consisted of the dissolution of the State by the uprising of mass society. Like Carl Schmitt, Röpke envisioned contemporary politics as determined by the dissolution of the State by special interests. Both authors claimed that organised interest groups had colonized the modern State. Democratic politics in mass societies made it impossible for the State to act as an impartial third party, capable of resolving conflicts among the organised interests. This shattered the aspirations of liberal jurisprudence and the rule of law. In Röpke’s words:

(…) the problem is whether, in a mass democracy, with its many kinds of perversions, it is at all possible for policy to serve the common interest. In effect, policy has to withstand not only the pressure of powerful interest groups but also mass opinions, mass emotions, and mass passions that are guided, inflamed, and exploited by pressure groups, demagogy, and party machines alike. (Röpke 1960, 142)

According to Röpke, the increasing meddling of interest groups in the legal order to secure particular goals or aims obliterated a crucial
distinction defining the Rule of Law: that between a general legal norm, applicable to all citizens and individual commands.

As discussed in the previous chapter, both socialists and neoliberals saw a close connection between wartime economies and economic planning. For neoliberals, war (or just the expectation of it), made countries reluctant to engage in international trade and prompted them to close their economies and increase their interventions on the market (both local and international).

Discussing whether liberalism could face a planned economy in wartime, Mises argued (based on his epistemological argument on the economic significance of uncertainty) that the accumulation of capital was the only rational way of preparing for war. This fact foreclosed any possibility of an autarkical organisation of the national economy. Mises’s intervention at the CWL deserves to be quoted in extenso:

(...) the one who will be tasked with laying down the plans of this planned economy that is the *Wehrwirtschaft*, does he also have to be a prophet? In my opinion, drawing up such a plan, being nothing but the vision of a dreamer, is completely impossible. It is what one can prove thanks to a large historical body of documentation. Therefore, each step in the direction to the planned *Wehrwirtschaft* diminishes wealth, without serving any purpose. One could say the same thing about each attempt to influence foreign trade with a view to realizing autarky; this [autarky] remaining unachievable, each restriction of foreign trade reduces both wealth and the country’s capacity to adapt during the war. It is only if the geographical position of a country is likely to lead to the breakdown of trade relations in the event of war that one has to complete the program of arming, not by measures of autarky but, in the absence of knowledge of what the war will be like, by the stockpiling of raw materials. A stockpile of goods, other than raw materials which
would certainly be desirable, comes up against the challenge of our lack of knowledge of what the war will be [like]. That only leaves us [with the option of] creating stockpiles of food products and of all minerals, wood, textiles, etc. likely to be in short supply. But how to obtain these? I do not see, here either, a way other than direct financing, and, must one add, a strong State, able to impose the taxes it needs. Could dirigisme do better than this? In any case, any economic preparation for war necessarily results in a loss of wealth. Yet, wealth being and remaining the marrow of war, if not in all its forms, one should grow it as much as possible. There is not, in principle, another reasonable Wehrwirtschaft. (von Mises, in Reinhoudt and Audier 2018, 136–37)

The upshot of Mises’s argument is that whatever happens (i.e. war or peace), the goal should be the same: to accumulate capital. That is the best way to prepare for an uncertain future. For this, it is necessary to have an open, market-based economy and engage in international trade.

From this perspective, exploring how the legal tradition in which these scholars were trained dealt with the tensions and contradictions of the 19th-century international order becomes vital for understanding their political aspirations of a supranational legal order sustaining an integrated world economy.

E. German International Law Theory as an Antecedent of Neoliberalism

At its beginnings, international law was constructed upon the notion of jus publicum europaeum. This notion entailed a codified system regulating the relations between European States, commonly referred
to as the “westphalian” order, due to its positive origins in the 1648 Westphalia treatise.

A fundamental concept within this system was the notion of sovereignty. States were the only subjects of international law. As such, they were recognised as having the right of self-determination and the right to form alliances. Hence, States could not violate the power that other States had within their boundaries. Correspondingly, the doctrine of just war (bellum justum) was derived from the notion of sovereignty since it established the conditions upon which States could wage war upon one another (ius ad bellum). The justice of war was based on how it was conducted, instead of its goal (ius in bello).

This system reached its highest point of development during the 19th century. Duncan Kennedy has characterised the mode of legal thinking that reigned in international law during the period going from approximately from 1850 to 1914 as “Classical Legal Thought”. In general terms, it consisted “in a way of thinking about law as a system of spheres of autonomy for private and public actors, with the boundaries of spheres defined by legal reasoning understood as a scientific practice” (Duncan Kennedy 2006, 20–22). Likewise, international law scholar David Kennedy, has characterised 19th-century legal thought on international law in the following terms:

In the nineteenth-century legal imagination, the sovereign marked the boundary between different legal universes—international and national, as well as public and private. The domestic and international legal orders were separated by the different faces of sovereign power at home and abroad. The domestic realm came to be imagined as a vertical legal order of sovereign powers and citizen rights. The international legal order was thought of as a horizontal order among sovereign authorities, allocating jurisdictions and building order among independent sovereigns by contract. The sovereign was the source of vertical authority at home, and had the (often
exclusive) capacity for horizontal contract internationally. His
two capacities form the boundary between the two legal
spheres— he acts either internally or externally.

This scheme transposed the relationship between public and
private law in the national legal system to the global level by
analogy. Domestically, the private law world of contract and
property was understood as a horizontal order of individuals
with rights, building legal relationships by consent. In the public
sphere, by contrast, law was a vertical affair of public powers
enforced upon those subject to the sovereign’s jurisdiction.
(David Kennedy 2006, 62–63)

As the 19th century ensued, the international system became more
complex, as the need for regulation increased. Likewise, States
began attempting to achieve the aspiration of perpetual peace among
the (European) states through international law. These efforts were
crowned by the Hague Peace Conference (1899), from which
different multilateral treaties were produced. Most importantly, the
multilateral Convention for the Pacific Settlement of International
Disputes and the Hague Convention Respecting the Laws and
Customs of War on Land in 1907.

Thus, the vital question haunting legal scholars by the late 19th
century was whether there is something higher binding and regulating
the horizontal relations between the States. In other words, the
question was whether it is possible to account for the normative status
of international law in terms that transcended the sovereign will of the
state. This problem was discussed among German and Austrian legal
scholars in terms of an “objective” vs a “subjective” theory of
International Law (Bernstorff and Dunlap 2010 part I). Legal scholars
that wished to defend international law as an autonomous discipline
pushing towards increasing cosmopolitanism, such as Kelsen, were
inclined towards an objective theory. Their main obstacle was the
absence of a central authority above the states, capable of enacting
and enforcing the rules of international law. At the same time, they could not resort to natural law or morality to explain the validity of the norms of international law. Indeed, the empirical discoveries of the social sciences seemed to contradict the transcendental strategies of neo-Kantian legal theory that had prevailed so far. To solve this problem, they focused on the web of economic relations among states which bounded them. The idea was that international law gave normative expression to these relations.

For example, Georg Jellinek, Kelsen’s teacher at the University of Vienna, proposed that, just as the State limited itself in the context of public law, it could also bound itself in the context of international relations. He argued that the will of the State is bounded by the actual conditions of its fulfilment. Thus, it cannot be absolutely arbitrary: if a State wants to engage with other states, this rationally requires compliance with international law. Otherwise, there can be no basis for interaction. Anything else runs counter with its own goals. Consequently, even if Law is based on will, the latter is constrained by the material conditions under which it must manifest itself. Thus, the fact of economic interdependence among States, required from them that they treated each other as subjects of rights and obligations. Only by reciprocally constraining each other by agreement and promises they could pursue their common interests.

Likewise, Legal positivists in the late 19th and early 20th century had posited the state as the embodiment of a rational, general and impersonal legal framework. This was seen as the institutional condition for the realization of the Kantian promise of freedom and progress. Alas, as Carl Schmitt had pointed out, the bureaucratization of the state had brought with it a crisis in legitimacy, while the notion of the Rechstaat as the institutional precondition for self-determination collided with the character of the modern State. He argued that after the Great War, the possibility of returning to the 19th-century liberal order had been foreclosed. The war had generated a new kind of political entity, the total State, capable of controlling all
spheres of life, subsuming civil society under its wing. The modern state had become a “total” entity in the sense that there were no longer limits to what it could do. At the same time, the State was dissolved by the centrifugal forces of modern mass democracy. This latter trend was accentuated by legal positivism’s view of State, law and sovereignty:

First, legal positivists like Kelsen challenge traditional views of state sovereignty in favor of a view of modern democratic government that emphasizes its socially heterogeneous and compromise-oriented character. For Schmitt, positivists endorse precisely that parcelling out of state decision-making authority to competing interest groups whose perils Weimar so dramatically illustrates. They encourage profoundly divisive structural tendencies in the democratic welfare state that suggest that its inherent logic is that of the emergency situation. Second, they abandon the classical emphasis on the semantic generality of the legal norm in exchange for a view emphasizing the statute’s democratic origins in a series of parliamentary procedures, thereby legitimizing the subjection of political life to modes of individual, case-oriented legislation that may constitute, as Schmitt had noted in 1926, acts of revolutionary violence. (Scheuerman 1999, 213–14)

To account for these two interrelated developments, Schmitt distinguished between the “qualitative” and the “quantitative” Total State. According to Schmitt, what was required was a transition from the former (which was the result of legal positivism, mass democracy and parliamentary politics) to the latter, which corresponded to a State directed by a decisionist dictator that would concentrate all power and thus would put an end to the chaos and the nihilism generated by the dissolution of the State brought about by liberal parliamentary democracy.
Likewise, Carl Schmitt argued that just as the distinction between private and public law had become untenable, contemporary accounts of international law had obliterated necessary distinctions for the international system of nations to function. From the standpoint of legal positivism, it became impossible to distinguish between war and peace, soldier and civilian or even belligerent and neutral nations. Unlike traditional warfare, which according to Schmitt had been recognised as a legitimate means of conflict resolution between equal nations that were participants of the same civilization, modern total warfare was conceived as the means of freeing humanity against its enemy. From this perspective, none of the traditional distinctions of classical legal thought could be held (Balakrishnan 2005 ch. 18; Traverso 2001 ch.2)

Economic interdependence among states had provided an answer to the question of how they became bounded, giving some normative bite to international law. At the same time, it did not require relying on the metaphysics of natural law. The weakness of this strategy was that the same facts of international relations could be interpreted both as manifestations of an implicit rational will or as a manifestation of naked power relations (e.g. as in the colonies, where the rules of international law had been imposed through war and violence). Likewise, this argumentative strategy rested on the assumption that the European international order was rational. Sure enough, as soon as the international order carefully crafted by Bismark’s diplomatic gymnastics collapsed, so did this strategy for grounding the normativity of International Law.

Hence, the task of grounding an international order adequate to the realities of the modern world became the key political concern for Neoliberals. They devoted their efforts to reframe both the liberal form of political economy as well as the theoretical foundations of the international legal order. In particular, they were concerned about whether the market could sustain the broader social and cultural structures that were necessary for society to exist. In this sense,
Neoliberals’ theories of international law strived to steer a “third-way” (as Wilhelm Röpke (1960) put it), not only between 19th-century classical liberalism and state socialism but also between the cosmopolitanism of Jellinek and Kelsen and the scepticism of “realists” such as Carl Schmitt.

In evaluating the shortcomings of classical liberalism and modern democracy, Neoliberals took seriously and even adopted some of Schmitt’s arguments (Irving 2018). In particular, like Carl Schmitt, they were deeply sceptical about legal positivism as a theoretical framework to understand law. As Werner Bonefeld (2017) and Renato Cristi (1991) have pointed out, Hayek and the Ordoliberal wing of the MPS drew from Carl Schmitt their conception of Law and the State. For example, Hayek opposed Kelsen’s legal positivism for it entailed a form of “constructivist rationalism”, that replaced the spontaneous order of implicit law (nomos), with a model of law based on explicit commands or rules (thesis) (Hayek 1993a Vol. 1). Just like Schmitt had argued before him, Hayek claimed that Kelsen’s approach to law would lead to a “total State” (total Staat). In Hayek’s own rendition of the Schmittean critique of legal positivism:

There is indeed no better illustration or more explicit statement of the manner in which philosophical conceptions about the nature of the social order affect the development of law than the theories of Carl Schmitt (…) His central belief, as he finally formulated it, is that from the ‘normative’ thinking of the liberal tradition law has gradually advanced through a ‘decisionist’ phase in which the will of the legislative authorities decided on particular matters, to the conception of a ‘concrete order formation’, a development which involves ‘a re-interpretation of the ideal of the nomos as a total conception of law importing a concrete order and community’. In other words, law is not to consist of abstract rules which make possible the formation of a spontaneous order by the free action of individuals through
limiting the range of their actions, but is to be the instrument of
arrangement or organization by which the individual is made
to serve concrete purposes. This is the inevitable outcome of
an intellectual development in which the self-ordering forces of
society and the role of law in an ordering mechanism are no
longer understood. (Hayek 1993a, 71)

In short, Neoliberals shared Schmitt's evaluation of legal positivism
as the intellectual force behind the rise of the Total State. This made
their theoretical outlook closer to Schmitt's than they might have
wanted to admit. As Hayek put it when retrospectively assessing legal
positivism's role in the ascent of Nazism:

(…) it was the prevalence of positivism which made the
guardians of the law defenceless against the new advance of
arbitrary government. After having been persuaded to accept
a definition of law under which every state was a state of law,
they had no choice but to act on the view which Kelsen
approves retrospectively by maintaining that 'from the point of
view of the science of law, the law (Recht) under the Nazi-
government was law (Recht). We may regret it but we cannot
deny that it was law.' Yes-it was so regarded because law was
so defined by the predominant positivist view. [italics in the
original] (Hayek 1993b, 55)

Austrian Neoliberals and German Ordoliberals had experienced first-
hand the failure of international and constitutional law in preventing
war and shared Schmitt's claim that legal positivism was to blame for
this. The solution they reached was to advocate for the
implementation of some ground-rules or principles that would allow
for the evolution of a supranational order that would foster the
conditions necessary for sustaining what they called alternatively, a
competitive order or a social-market economy (Röpke 1960). The
most essential condition of such an order was its isolation from
democratic politics, as Hayek, Röpke and Rüstow argued. In this
sense, Schmitt’s criticisms of liberal legal positivism constitute what might be called the “deep-grammar” of neoliberal legal theory.

As Slobodian (2018) argues, neoliberals conceived the organization of the international order as the interplay between two categories that Carl Schmitt had drawn from Roman Law: imperium and dominium. The first corresponded to the “the world partitioned into bounded, territorial states where governments ruled over human beings” (Slobodian 2018, 10). The second, was “the world of property, where people owned things, money, and land scattered across the earth.” (ibid.). In short, for Neoliberals, the goal was to strike a balance between the two dimensions by creating a world-encompassing institutional order that kept dominium out of the reach of imperium.

**F. EUROMICS AND FREAKONOMICS**

A confounding aspect of the relationship between Neoliberalism and the current system of international IP protection can be clarified by seeing the former from the perspective of legal theory.

As Slobodian (2020) has pointed out, the existing regime of IP protection does not match the ideological stance of the original theorists of Neoliberalism. Indeed, their views on the State, monopolies, science and knowledge all point towards a highly sceptical attitude towards IPRs. Furthermore, as has been amply documented (Drahos and Braithwaite 2002; Matthews 2002; Krikorian 2010), the resulting system of international IP protection is to a large extent the result of the lobbying efforts of corporate special interests. In this sense, it is hard to find a more conspicuous manifestation of the politics of Schmitt’s Total State. Then, how can it be suggested (as done here) that the current international order represents the ideological aspirations of Neoliberalism?
Slobodian’s answer is that the ideological openness of Neoliberalism allows it to tolerate practical deviation, as in the case of the radically protectionist set of regulations of TRIPS. This is correct, but the dissonance between ideology and reality points to a more profound feature of Neoliberalism, both as an ideology and as a form of political praxis.

In what follows it will be argued that there are two modes of Neoliberalism: Eunomic and Freakonomic. Neoliberals’ critique of legal positivism, as illustrated by Hayek’s (and Schmitt’s) negative appraisal of Kelsen’s legal theory, as well as their investigations unto the sociological conditions for the establishment of a legal order, has striking parallels to what the mid-20th century critic of legal realism and legal positivism Lon L. Fuller called “eunomics” 32. Put simply, Fuller proposed eunomics as the interdisciplinary study of good order and workable social arrangements (On Lon Fuller’s Eunomics, see Postema 2011 ch. 4; Rundle 2012 ch. 2)

Correspondingly, Eunomic Neoliberals initially opposed a holistic approach to law to legal positivism. For them, the stability of norms, as well as the social conditions for their proper functioning are essential for regulating the expectations of the relevant agents.33 From this point of view, international treaties such as TRIPS are perfectly crafted after neoliberal ideology.

Lon Fuller’s Eunomics project was focused on the discovery of alternative modes of social ordering from an interdisciplinary standpoint. His goal was to propose general principles that could

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32 Note that Fuller was trained as an economist. Given the influence of German-speaking economics in American economics during the first half of the 20th century, the points of coincidence between Fuller and the German and Austrian neoliberals should not be too surprising. Indeed, if one sees Fuller as an economist in the institutionalist tradition rather than as a legal theorist, the parallels are even clearer.

33 Of course, the troublesome question arises: who are the relevant agents? Who are excluded or classified as non-relevant?
guide the choice between the available forms of order, of which legislation is one among many available possibilities.\(^{34}\)

Like Hayek and the Ordoliberals, Lon Fuller stressed the fact that each form of social order requires some background conditions for its functioning. For example, he claimed that “law is not a datum, (…) but ‘an achievement that needs ever to be renewed, and that cannot be renewed unless we understand the springs from which its strength derives”\(^{35}\). (L. Fuller, cited in Rundle 2012, 34).

Likewise, he saw legal orders as based on a tacit layer of custom, in a similar way to Michael Polanyi’s account of scientific practices (L. L. Fuller 1978, 118–21). He argued that the linguistically mediated layer that constitutes the object of study of legal positivism necessarily rests on a deeper, tacit layer. Lon Fuller was aware of the parallels between Polanyi’s criticism of logical positivism and his own polemics against legal positivism. In his view, while logical positivists aim at reducing science to a set of true propositions about the world, legal positivists are oblivious to the tacit layer of legal practice.

Consequently, in line with the Verstehen tradition that inspired neoliberals approach to law and social sciences, L. Fuller argues that it is only within a language, and thus, within a culture that it is possible to understand legal institutions. At the same time, he rejected the positivists’ formalist approach to the legal system. He claimed that

\(^{34}\) Gerald Postema sums up Fuller’s view in the following fashion:

“[Lon] Fuller identified six primary types of social arrangements or mechanisms of social order: custom or practice, contract, adjudication, mediation, legislation, and administration or “managerial direction” (sometimes he also included property, voting, and lotteries in the list). These “focal points of human striving” represent reasoned responses to different kinds of situations and problems common to almost all human societies. Each arrangement has (1) a distinctive purpose or task, (2) a kind or range of problems or issues it is best suited to address, (3) an intended kind of outcome, (4) a distinctive structure for decision making, (5) a distinctive mode of participation for individuals in that decision making, (6) a set of background conditions that enable it to function well, and (7) an “internal morality” or set of governing principles or ideals appropriate to it. (Postema, p. 147) [notes omitted]

\(^{35}\) Note the parallels between Lon Fuller’s definition of law as a process and Hayek’s account of how knowledge is discovered in a spontaneous order (Hayek 1937).
legal systems exhibit structural features which express the “inner
morality of law”, i.e. law’s more profound purpose. Consequently, any
legal system lacking these structural features would be not worthy of
the title. More importantly, for the subject of this chapter, Lon Fuller’s
Eunomics makes international law the starting point of legal enquiry:

To moderns it seems curious that Wilson in his Lectures, and
Kent in his Commentaries, should deal with the law of nations
before they take up municipal law. With us, international law
comes at the end-if it comes at all. We prefer to begin with what
we regard as real law. International law smacks too much of
what Kelsen calls 'wish-law' to serve as a proper starting place.
Why, then, did these pioneers of American legal thought open
their lectures with chapters on international law? Within the
window frame of their legal philosophy this was a perfectly
logical thing to do. If you view law as a continuing process of
bringing order out of chaos, as an achievement that needs
constantly to be renewed, then it is natural to study it first
where it can be observed in action, where its realization is still
in doubt. (L. Fuller, cited in Winston 1988, 338) [italics in the
original]

Not surprisingly, International law best illustrates how holistic
approaches to law conceive institutions. It is not a coincidence that
Harold Berman (1988) used it to illustrate his “integrative” (i.e. holist)
approach to jurisprudence:

(…) the emerging law of the world community is explained,
justified and guided not only by the collective political will of
national states, expressed in international legislation and
administration, and not only by a moral order, expressed in
universally accepted standards of procedural and substantive
justice, but also by an ongoing shared historical experience,
namely, the growth of a body of transnational customary law,
which might be understood as constituting an early stage of a new era. (Berman 1988, 799)

At this point it is worth recalling Neil Netanel’s (2008b) account of the expansion of IP. As mentioned in the introduction to this dissertation, he identified a synthesis between neoclassical and institutional economics as the theoretical framework supporting the expansion of IP.

Netanel is right insofar as, approaches to economics such as New Institutional Economics, Austrian Economics and German *Ordnungsökonomik* (the contemporary successor of Ordoliberalism), can be used (and are used) to oppose market regulation or any substantive deviation from the path already taken. By insisting on the evolutionary character of institutions, as well as in the tacit dimension of background rules that are necessary for the functioning of any legal system, they underpin a conservative stance regarding legal orders. An existing and known imperfect order is better than an unknown and inexistent one.

They are suited for this because they are holistic theories of law. In other words, they are instances of L. Fuller’s Eunomics. For example, Oliver Williamson (2005, p. 1, n.1) openly acknowledges the parallels between L. Fuller’s approach and his own.

TRIPS was the crowning of a process that had already taken place before its signature. In this sense, TRIPS systematised, expanded and strengthened an economic order that had been in the making since the time of the colonies. At the same time, it had been criticised by former colonial nations due to its anti-democratic and constraining features.

In such a context, altering the rules of international IP to suit the epistemological concerns of Neoliberals amounted to a radical disruption of the economic order. For Eunomic Neoliberals, this consideration is paramount. In this sense, even if TRIPS goes against their epistemological aspirations, it does conform neatly with
their project of isolating dominium from imperium, i.e. limiting national sovereignty.

Nonetheless, explaining neoliberal acquiescence to the international system of IP protection based on its eunomic character is only half of the story. Eunomics is just one polar extreme defining the possible modes of neoliberal ideology. At the opposite end, there is a mode of Neoliberalism which can be called “Freakonomics”. This term is coined here after Steven Levitt’s (2006) radical application of Chicago-Style neoclassical price theory to all kinds of social phenomena. As Levitt has strived to show, economics can be used to unveil, as the subtitle of the book tellingly suggests, “the hidden side of everything”. This is a long-standing tradition in Chicagonomics. As Ronald Coase, would put it:

The success of economists in moving into the other social sciences is a sign that they possess certain advantages in handling the problems of those disciplines. One is, I believe, that they study the economic system as a unified interdependent system and, therefore, are more likely to uncover the basic interrelationships within a social system than is someone less accustomed to looking at the working of a system as a whole. Another is that a study of economics

36 An admirer of Gary Becker, Levitt did not study economics at Chicago as an undergraduate. He got his AB in Economics (summa cum laude) from Harvard. Then, after a few years working in the private sector, he went to MIT for his PhD. Only then he decided to go to Chicago and beat them at their own game, to find himself later converted:

Having learned my economics at Harvard and M.I.T., I took my first teaching job at Chicago with the very explicit idea that I would spend two or three years in Chicago to get to ‘know the enemy.’ After I figured out how they thought, I would escape back to more comfortable surroundings.

Well two things happened that I didn’t expect. First, it turned out that it wasn’t so easy to learn to think like a Chicago economist. I’ve been trying to learn for more than a decade and I still have learned only the rudiments. Every day my colleagues teach me something I should know, but don’t. Second, I decided that the Chicago approach to economics was the right one for me, even though I am not that good at it. (Levitt, cited in Nik-Khah and Van Horn 2012, 272)

37 Incidentally, Coase opposed the kind of economics practiced by neoliberal freakonomists as “blackboard economics” (Coase 1937)
makes it difficult to ignore factors which are clearly important and which play a part in all social systems. Such a factor would be that, to a large extent, people choose their occupations on the basis of money incomes. Another would be that a higher price lowers the demand. Such factors may appear in various guises, but an economist is likely to see through them. (Coase 1978, 209–10) [italics added]

As Nik-Khah & Van Horn (2012) lucidly note, the most important feature of the “freakonomic mode” of Neoliberalism is that it eschews all the precautionary niceties of Neoliberalism in its Eunomic mode, and shifts towards a proactionary approach to (market-based) social reform. The reason for this shifting is that real-world-grounded agents are seen by Freakonomists as mostly irrational and unreliable, when left to their own devices. Luckily, they can be helped to behave more rationally by placing them in the context of carefully designed markets (Mirowski and Nik-Khah 2017 ch. 14). Thus, the faith in the capacity of economists to improve natural markets or design new ones altogether, mixed with the idea that all social phenomena can be translated into prices, opens the world up for market-based reform.

The strategic shifting between the Eunomic and the Freakonomic modes of Neoliberalism explains why the international IP regime can be seen as a characteristically neoliberal development, despite the latter being radically opposed to the Neoliberals epistemological agenda.

As the case of TRIPS shows, distinguishing between these two modes of neoliberal ideology has four advantages over simpler approaches to Neoliberalism. First, it explains the distance between Neoliberalism as an intellectual and political project and “actually existing Neoliberalism”. Second, it avoids the idle controversies about “who got Neoliberalism right”. While some stress the features of its Eunomic mode, others stress those of the Freakonomic mode. The former tend to put the historical focus on the earlier phase of
Neoliberalism, when it was in retreat, while the latter focus on Neoliberalism after it became hegemonic. Third, it explains why Neoliberalism can survive and even thrive in the face of major crises. When convenient, the defenders of Neoliberalism can shift from one mode to the other (they can even claim to be rejecting Neoliberalism while doing this!). In the process they are likely to become more reflexive, honing their theories’. Fourth, it answers the charge that Neoliberalism as a political term has no meaning or is at best a derogatory term. In each context of political conflict or controversy, one must identify which modality of Neoliberalism one is facing: Eunomic or Freakonomic. For example, while this chapter has explored Neoliberalism in its eunomic façade, the next one explores the origins of the Freakonomic mode of Neoliberalism. The lesson is that both modes of Neoliberalism have been deployed to foster the expansion of IP and more generally, to secure a global marketplace of ideas.

G. CONCLUSION

The fundamental lesson to be drawn from the momentous events of the first decades of the 20th century was that peace among nations could not be grounded on the economic interdependence between them. For neoliberals, the transformation of the relationship between State and society, summarised in Schmitt’s notion of Total Staat, meant that strong forces were pushing towards economic nationalism.

At the same time, Neoliberals had to deal with the adverse effects of unfettered market forces. During the first years of the MPS, they debated whether the market could sustain the broader social and cultural structures that were necessary for its existence. Both Frank Knight and Hayek believed (in a Marxist fashion) that markets tend to erode social formations. Thus, like Marx before them, they regarded markets as a progressive force. However, a significant disagreement
lurked in the background. Knight was keenly aware of the fact that markets weaken the social conditions under which they operate. Hayek, on the other hand, seemed to be more optimist regarding the possibilities of containing the corroding effects of markets, thus reaching some kind of equilibrium between market and society. This entailed defending institutional and social formations that had stood the test of time, such as language or the common law. Curiously enough, and probably due to his experience living in New York, thus experiencing the realities of industrial capitalism more directly, Mises agreed with Knight:

There is, in the structure of a capitalist society, little room left for the activities of the solitary philosopher, the detached poet and the lofty artist (...) The majority of the buying public has no use for their products. It is these facts with which we have to deal in studying the cultural effects of capitalism (Mises, cited in Burgin 2012, p. 114)

This divergence of opinions regarding the effect of markets in society is what characterises the political dimension of the two modes of Neoliberalism, as described earlier in the chapter. Thus, Neoliberals in the Eunomic mode seek to practice a precautionary politics of social conservation. The upshot of their position is that markets are only viable under a narrow set of societal conditions, which must be secured via a strong state. On the contrary, neoliberals in the Freakonomic mode question any strong distinction between markets and society. For them, society is just a market with implicit prices. The role of the social thinker is to make them explicit. In this sense, neoliberals in the Freakonomic mode practice a proactionary politics of social revolution. On this perspective, markets can operate under a wide variety of societal conditions. Tensions between society and markets are just an opportunity for learning how to construct better and more resilient markets. The trick is to insulate them until they can develop, and resistance is overcome. Once established, it is tough, if not impossible, to go back.
In turn, the insulation of markets is achieved by shifting to the Eunomic mode. Markets are conceptualised as the natural outcome of social evolution. Thus, they should not be tinkered with nor be left to the whims of populist democratic politics.

Seen dynamically, the interplay between the two modes of Neoliberalism allows them to outline political strategies for times of crisis, when they are at the defensive, as well as for safe times, when they can move to the offensive. At the same time, the two modes of Neoliberalism allow them to play both the politics of nationalism and internationalism. Depending on the forum in which IP is being discussed, neoliberals can deploy either discourse to secure the end-goal of a global marketplace of ideas. At the national level, Neoliberals can deploy a Eunomic discourse of IP as a tool of industrial development, necessary to safekeeping jobs, fostering innovation and increasing national competitiveness. At the international level, they can shift to the Freakonomic mode, arguing for the construction of a global marketplace of ideas. Thus, the expansion of IP at the national and international level has tailed the rise of neoliberal hegemony in both its modes.

Distinguishing between Freaknomic and Eunomic modes of Neoliberalism explains the fact that the international order of IP protection was consolidated in the 20th century during the same period in which their ideas became dominant. Also, it explains why the International IP regime has been described as neoliberal, even though it goes against the epistemological arguments of prominent neoliberals against IPRs.

Furthermore, the distinction between Eunomic and Freakonomic Neoliberalism can be extended to the epistemological level. A way of gauging the difference between the two modes of Neoliberalism is in terms of how eunomic and freakonomic neoliberals would conceive how the economics of knowledge should look.
Eunomic neoliberals would follow Hayek in treating economics of knowledge as an enquiry regarding the institutional mechanisms for the aggregation of dispersed knowledge. In this case, knowledge means the embodied, tacit and subjective experience of economic agents.

In turn, freakonomic neoliberals would follow Coase in conceiving economics of knowledge as an enquiry regarding how to best regulate access to and uses of knowledge. Knowledge here is understood as an asset. Somewhat tautologically, this asset covers whatever is regarded as knowledge in a given social context, e.g. whatever is deemed as valuable in the sense of being (at least potentially) a source of wealth.

Thus, in Eunomic Neoliberalism, all markets are a marketplace of ideas, for markets are seen as a communications mechanism or rather, as an “information processor” (Mirowski and Nik-Khah 2017). In Freakonomic Neoliberalism, in contrast, a marketplace of ideas means something more concrete. It means establishing property rights to allow for the trading of whatever assets are regarded as knowledge.

This reconstruction of an implicit fault-line within the neoliberal ranks further explicates why Hayek, Machlup and Polanyi’s epistemological qualms do not tell the whole story about Neoliberalism and IP. The Hayekian picture of knowledge as dispersed among members of society implies that since agents produce knowledge in the course of conducting their routine activities in the marketplace, knowledge production does not require IPRs. Furthermore, the insistence on the tacit character of most of this knowledge makes it ill-disposed to its codification (for example, in a patent or written manual). In this sense, eunomic Neoliberalism only sees waste in IPRs; they are either unnecessary, futile or harmful.

On the contrary, in freakonomic Neoliberalism, treating knowledge as an asset makes IPRs fundamental. They are the institutional means
by which knowledge production and use become possible. The more dispersed, tacit or embedded knowledge is, the more necessary it is to concoct some institutional or technological means to turn it into an asset by defining tradeable use-rights over it\textsuperscript{38}.

\textsuperscript{38} Chapter VI further explores this aspect of freakonomic Neoliberalism. There, the process of conceptual innovation leading to the transformation of knowledge into a form of capital is explored in detail.
V. IP AND THE BIRTH OF BIG BUSINESS: REFRAMING MONOPOLY, COMPETITION AND CORPORATION

A. INTRODUCTION

This chapter explores how the conditions of industrial capitalism from the late 19th up to the first half of the 20th century forced the transformation of key concepts in law and economics. Thus, this chapter describes changes in three interlocking concepts: monopoly, competition and corporation, in the context of US-based legal scholarship and economics. It will be argued that a radical shift in the way in which these aspects of the economic system were understood lies behind the sanguine attitude regarding the dangers associated with IPRs adopted during the last quarter of the 20th century.

The second goal of this chapter is to explore various parallels in the theoretical outlook of American Progressives and Eunomic Neoliberals. Despite their opposing attitudes regarding the politics of the New Deal, they were aligned in their criticisms of monopolies, their scepticism regarding Big Business and the role IP played in the then-nascent corporate capitalism.

From the late 19th century onwards, the inadequacy of economics to deal with the causes of monopolies under the new economic conditions became increasingly evident. Also, there was a widespread sensation that capitalism stumbled from crisis to crisis in an increasingly unsustainable trend of boom and bust, with dire economic and social consequences. In this context of uncertainty, two approaches were taken to deal with the perceived shortcomings of economics: on the one hand, to make the nascent disciplinary boundaries between economics and other disciplines more porous and on the other hand, to make them more stringent. In turn, each
approach corresponds to one of the two modes of Neoliberalism explored in the previous chapter.

Thus, neoliberals, in their Eunomic mode, considered a monopoly anything that might increase its holder’s market (and non-market) power. This concern made IPRs (and monopolies more generally) problematic. Furthermore, it allowed for a richer (but less tractable) conception of economic power that also stressed the danger the growing corporate power presented to democratic government. This theoretical position has strong parallels to the one taken by American Institutionalists and Legal Realists.

On the contrary, Freakonomic Neoliberalism was the staple of Chicago-style neoclassical economics and became dominant in the post-war period due to the dominance of the Chicago School. Under this approach, non-formalizable aspects of monopoly power were omitted from the analysis. This omission justified allowing a more lenient attitude towards corporate growth, monopolies and consequently, towards IPRs. This chapter traces the theoretical shifts that led to this transformation.

Likewise, both positions had opposing approaches to the study of corporations and competition. The Freakonomic mode, characterised by Chicago-Style neoclassical economics, identified competition with the price mechanism and saw transactions as mutually beneficial (at least in the standard cases). On the contrary, Eunomic neoliberals, like Institutionalists and Legal Realists, saw competition as a dynamic process of mutual coercion based on each party’s economic power.

B. CHAPTER OUTLINE

First, the economic context of the late 19th and early 20th century US is explored in relation to IP. It is argued that the fact of increasing economic concentration highlighted the political aspect of IP. It is
argued that both Eunomic Neoliberals and American Progressives were sceptical about IPRs for the amount of power they gave private corporations, thus delegitimising the market. Then, the role of property rights in equating political and economic power is explored and analysed. In particular, it is argued that neoliberals, when shifting from the Eunomic to the Freakonomic mode, subverted its original aim among progressives and used it to criticise regulation. This insight is presented as an alternative explanation for the collapse of the institutionalist/realist political project.

Next, the evolution of the concept of monopoly is explored from the standpoint of the question if there are limits to corporations’ growth. Finally, the effects of this conceptual change are explored in the context of three US policy reports on Copyright, which exemplify the ideological shift from the 1970s until the present day. The conclusion connects these changes to broader aspects of political economy: the relationship between society and the economy and the role of power and technocracy.

C. INTELLECTUAL PROPERTY IN THE CONTEXT OF CORPORATE CAPITALISM

A leading economic historian has characterised the period going from 1890 to 1916 as the period in which US capitalism evolved from a “proprietary-competitive stage to [a] corporate-administered one” (Sklar 1988, 3). Sklar defines this transition in terms of how the dominant kind of firm was administered and whether it was a price taker or a price giver. In the former stage, firms were administered by an owner-manager or direct agents, and they were price takers. Thus, they were not able to dictate the prices for the goods and services they offered and in general, had a relatively simple structure. As the transition to the corporate-administered kind of capitalism ensued, ownership title and management of firms became increasingly independent of each other with management being taken over by a new layer of specially trained professionals. At the same time,
markets began showcasing oligopolistic features making firms into price givers.

The growing power of massive corporations over the national economy made the need to rethink the government’s power to intervene in the economic sphere increasingly clear. Accordingly, by the 1890s, the relationship between the corporation and the state started to be seen from a “regulatory” perspective. (Hovenkamp 1991, 13). In the US, the government’s authority to regulate the use of private property is known as police powers (Gillman 1993). According to this doctrine, regulation that can be conceived as part of the government’s police powers is legal, regardless of its effect on the value of property. During this period, with the growth of corporations and soaring inequality, police powers were correspondingly extended to deal with the challenges brought about by new economic conditions.

Another fundamental institutional change of the period is the birth of modern antitrust law. In 1890, the US Congress passed the Sherman Act, which forbade “restrains of trade” resulting from an agreement between different firms and attempts at achieving a monopoly position by an individual firm. However, the main target of this law was the so-called “trust problem” or the use of looser forms of organization to set prices and distribute markets among competitors:

Through “criss-crossing” voting proxies on their respective boards, the managers of several competing companies together decided prices and market policies, each remaining under the control of the others. This created in reality cartels, disguised through the use of trusteeships (Amato 1997, 8)

One might appreciate what the new scenario meant for the relationship between State and the economy by reading what Carl Schmitt, writing from the other side of the Atlantic in 1933, had to say about it
State power also means, today in an entirely different sense from earlier, simultaneously power over national economic income, and the national economy itself. That means already a power position in itself, but this moreover results in an irresistible ongoing development of new power positions. Out of this there develops the necessity of a great, long-term plan, even if the purpose of this plan is the restoration of a planless functioning economic system … I am in complete agreement with Hans Freyer that it is not the planners who should rule, but the rulers who should plan. (Schmitt, cited in Balakrishnan 2005, 150–51)

The reader might note that the cited paragraph is a perfectly concise rendering of both neoliberal as well as progressive doctrines on the relationship between law and government. The ambiguous character of the new imperative of economic planning can be better seen by relating it to the positions of US Supreme Court Justice Louis D. Brandeis, who in 1932 echoed Schmitt’s diagnosis: “there must be power in the States and the Nation to remould, through experimentation, our economic practices and institutions to meet changing social and economic needs” (Brandeis, cited in J. W. Ely 2008, 125). While opposing socialism, Brandeis tried (like the neoliberals) to refurbish liberalism so it could face the challenges of the 20th-century economic order. He was distrustful of “Big Business”, which had transformed independent artisans, merchants and inventors into workers, managers and clerks. Just as increasing scale in politics reduced political participation to voting, the rise of the modern corporation made people dependent of the corporation for their subsistence, as opposed to the independent, entrepreneurial economic agent envisioned by Brandeis as the ideal for liberalism. In Brandeis’s view, his preferred Jeffersonian kind of democracy required free agents and the dispersion of power and authority. Both the class politics of inequality and unionism, as well as the
bureaucratic management of the corporation and the state threatened individual liberty

In matters of commerce and industry, state government now needed the power to address the imbalance and injustice that inevitably proceed from bigness. And this in turn, meant that the great constitutional guarantees of due process and equal protection, intended to protect the rights of living men and women, must not be used to shield business organizations, particularly corporations, from legislation designed to vindicate those very rights (Adelstein 1989, 623–24).

In voicing these concerns about Big Business, Brandeis echoed the concerns of Senator Sherman when debating the Act that would carry his name. Sherman believed that representative government required “industrial liberty”, i.e. citizens that were independent and whose independence was secured by centripetal dispersion of ownership. At the same time, both Sherman and Brandeis were conscious of the novelty of the economic situation, which strained the legal language that had been in place until then. As Sherman put it: “they had monopolies and mortmains of old, but never before such giants as in our day. You must heed their appeal or be ready for the socialist, the communist, and the nihilist. Society is now disturbed by forces never felt before.”(Sherman, cited in Peritz 2000, 15)

As the need for “rulers to plan” became increasingly urgent, the US Supreme Court began assuming that regulatory legislation did not need special justification. Nor was Congress required to provide additional justification for legislation that benefited one group over another (Gillman 1993). In this context, how private property was conceptualized and, what counted as interfering with it was particularly relevant

As Peritz (2000) notes, in the passing of the Sherman Act, the debate was divided among two rhetorical camps. One side insisted that economic concentration was a menace to the liberty of citizens. The
other side had misgivings about the mischievous effects of competition on the economy. Thus, they were willing to allow private agreements furthering concentration to mitigate the effects of “ruinous competition”.

Indeed, “ruinous competition” was one of the key economic challenges of the period, also known as “cutthroat” or “wasteful” competition. In a nutshell, the idea was that under the conditions of industrial capitalism, competition could have a deleterious effect on the economy by driving the prices down below the threshold in which firms could produce the goods, effectively driving them out of business.

Firms adopted different strategies to overcome this trend. On the one hand, they could try horizontal consolidation, i.e. “the simultaneous merger of many or all competitors in an industry into a single, giant enterprise” (Lamoreaux 1985, 1) or they could seek vertical integration, i.e. “the joining together within one firm of mass distribution and mass production” (Lamoreaux 1985, 8). In either case, altering the boundaries of the firm (i.e. bringing more operations under the same management structure) was deemed as the key mechanism for managing economic risk. By increasing their size, firms could keep costs low and prices high.

This “great merger movement”, as Naomi Lamoreaux has called it, provided the background for significant changes in the conceptual apparatus of legal theory and economics during the first half of the 20th century. In this context, the critical concern of academics, politicians and the broader citizenry was that firms would abuse their increased economic power. In this sense, even those who were willing to allow some economic concentration to avoid the effects of cutthroat competition had doubts about the growth of corporations.

Two themes recurred in these debates. On the one hand, there was scepticism about the notion that increased size would bring increased efficiency. On the other, there was the concern that size transformed
firms into political actors capable of circumventing democratic politics. Both themes were voiced by early US neoliberals (writing in the eunomic mode). Henry Simons (one of the founding members of the Chicago School of Economics) stated that

The efficiency of gigantic corporations is usually a vestigial reputation earned during early, rapid growth – a memory of youth rather than an attribute of maturity. Grown large, they become essentially political bodies, run by lawyers, bankers, and specialized politicians, and persisting mainly to preserve the power of control groups and to reward unnaturally an admittedly rare talent for holding together enterprise aggregations which ought to collapse from excessive size” (1948, 246)

In the context of radically different economic conditions, the 19th-century legal language of property rights was inappropriate. Old concepts had to be revised to address the challenges of the 20th-century economic order. In particular, the concept of private property seemed to require a new perspective. Walter Lippmann even claimed that the very nature of private property had changed due to the fact of economic concentration:

The trust movement is doing what not conspirator or revolutionist could ever do: it is sucking the life out of private property. For the purposes of modern industry the traditional notions have become meaningless: the name continues, but the fact is disappearing. You cannot conduct the great industries and preserve intact the principles of private property. And so the trusts are organizing private property out of existence, are altering its nature so radically that very little remains but the title and the ancient theory. (Lippmann 1985, 45)

Since IPRs are government-created “monopolies” and had achieved a high prominence within the new economic order, they could not be
discussed apart from these issues. Indeed, IPRs were often used as a means to obtain a monopoly position in markets. Thus, they were increasingly under the vigilance of antitrust enforcers. Hayek, during the first meeting of the MPS, repeated Lippmann’s diagnosis, stating that economic concentration and the pervasive presence of monopolies in industrial capitalist economies was due to the unduly extension of the concept of property:

The problem of the prevention of monopoly and the preservation of competition is raised much more acutely in certain other fields to which the concept of property has been extended only in recent times. I am thinking here of the extension of the concept of property to such rights and privileges as patents for inventions, copyright, trade-marks, and the like. It seems to me beyond doubt that in these fields a slavish application of the concept of property as it has been developed for material things has done a great deal to foster the growth of monopoly and that here drastic reforms may be required if competition is to be made to work. In the field of industrial patents in particular we shall have seriously to examine whether the award of a monopoly privilege is really the most appropriate and effective form of reward for the kind of risk-bearing which investment in scientific research involves.

(Hayek 1958, 113–14)

The relationship between IP and monopoly was particularly evident in high-technology industries such as electricity and telephone, where corporations used patents to restrict competition. A case in point is Bell Industries, which had gone from its two original patents when it was organized as the Bell Patent Association in 1875 to having 9,255 patents in 1935. As a report by the FCC stated

By amassing thousands of patents on inventions in the whole field of communications (…) American Telephone dominates the telephone and also controls “the exploitation of potentially
competitive and emerging forms of communication” It thus excludes others from its field and avoids being excluded by them. Would-be rivals may enter and remain only as licensees under restricted conditions. It pre-empts for itself new frontiers of technology for exploitation in the future and, in the meantime, protects what is already developed. It keeps itself in a commanding position for the exchange of patent rights. In short, it employs patents to maintain its dominance (…) in communication. (cited in Noble 1977, 176–77)

When keeping a monopoly position individually was not possible, corporations could pool their patents and then use them to impose oligopolistic control over the market. Another strategy was to finance scientific research to obtain patents that prevented the development of substitute goods (Lamoreaux 1985, 156). Between 1840 and 1860, per capita new patents quadrupled and then nearly tripled again between 1860 and 1890 (Banner 2011, 26). Between 1870 and 1911, two developments inextricably linked IP with controversies about monopolies and the nature of the business firm

First, the number of patents being granted in the US went up. At the end of 1870, 120,573 patents had been issued. By 1911 that number had jumped to 1,002,478. Second, the nature of patent ownership underwent a change. In the 19th century most patents were owned by individuals. Surprisingly early in the 20th century the bulk of patents came to be owned by big business. (Drahos and Braithwaite 2002, 47–48)

Along with these changes, trademark law and industrial secrets also became recognised as forms of property which were to be protected as any traditional form of property (Banner 2011 ch. 2).

In Copyright law, a major change was introduced by the elaboration of the work for hire doctrine. This doctrine was concocted by Courts to fit the collaborative nature of creation within the workplace to the necessities of corporate capitalism. The solution was to regard the
corporation as a fictitious person, that could become the “author” of the work thus created:

(…) when the employer was a corporation, its claim to be the “author” of the works created by its employees required that the corporation as a fictional person be analogized to the inventor or the author, and thus fit the individualist nineteenth-century paradigm of invention and originality. The turn-of-the-century conceptualization of the corporation as a rights-holding “person” played exactly this crucial rhetorical role. In a legal regime that preferred, both as a matter of rhetoric and as a matter of legal analysis, that some “person” be identified as the inventor of every patent or as the author of every copyrighted work, the creation of the corporate “person” occurred at exactly the right time. The legal fiction of the corporate person bridged the conceptual gap between collective and individual creation just when a bridge was needed. (Fisk 2009, 213)

To sum up, by the first decades of the 20th century, IP already was an essential part of the functioning of corporate capitalism. These changes reflected the fact that the US now had a growing corporate sector with international reach. These firms required institutional arrangements to operate across increasingly larger national and international markets. At the same time, some concessions had to be made to foreigners in order to secure equal protection for US firms operating abroad.

On the other hand, IP was seen by scholars, politicians and the general public as a menace to the underlying assumptions behind the legitimacy of the economic order. Of particular concern was the use of IP for the creation and perpetuation of monopoly positions by corporate actors (Hawley 1974, 368–71).

After the 1929 crash, the conceptual limitations of classical economics to explain and deal with economic concentration could no longer be ignored nor tolerated as this problem mingled with
unemployment and an unstable international market. In the ensuing decade, the link between political instability and economic concentration became increasingly conspicuous for the general population. A telling example of this is that in 1938 Roosevelt sent a letter to Congress linking the emergence of Nazism with economic concentration and unemployment. He urged that unless strong antitrust policies were put into place, the system of competition that had allegedly prevailed in the US would be replaced by a concealed cartel system, as it had happened in Europe with dire consequences (Freyer 2006 ch. 1). Writing on the New York Times, Thurman Arnold equated monopolies to patents: “Unquestionably, domination of industrial monopoly is chiefly through patents; if the anti-trust law was to be passed today, it would be called the anti-patent law” (Arnold, 1943 cited in “Recent Developments in the Law of Patents under Thurman Arnold” 1945 n. 67)

These concerns regarding the concentration of economic power eventually crystallized in the formation of the Temporary National Economic Committee (hereafter TNEC), tasked with evaluating the development of the US economy and its tendency towards economic concentration. One of the trends investigated by the committee was the shift from individual to corporate ownership of patents and its meaning for the future of inventive activities in the US.

Walton Hamilton, a central figure both in legal realism and institutionalism\(^\text{39}\) presented to the TNEC a monograph report entitled “Patents and Free Enterprise (1941)”. In this report, Hamilton documented the evolution of the patent system and its relationship with technology, trade and labour. The monograph is a perfect example of the kind of economic analysis of law being pursued by realists and institutionalists at the time. Hamilton argued that the

\(^{39}\) Professor at Yale’s Law School, he was the economist that coined the term “institutional economics” (G. M. Hodgson 2005).
changed economic context had rendered the formal aspects of the law into a fiction.

In theory the grant assumes the individual inventor, a contribution to a developing art, the invocation of law to assure to its author the just reward of his personal creation. It takes no account of the rise of the corporation, the character of the act of assignment, the shift in the system of usages under which it is called upon to operate, the alien tasks imposed by its new business master. (Hamilton 1941, 49)

More importantly, in the report, Hamilton highlighted a novel feature of corporate capitalism: the systematic development of scientific research in the corporate context, driven by the imperatives of profit-making. Under the conditions of industrial capitalism, the individual inventor had been primarily replaced by the corporate actor as the holder of patents. The inventor was now a research technician, under the direction of the R&D department’s manager. As Hamilton denounced, this fundamentally changed the relationship between science and technology. The problem was that the role the State played in arbitrating this relationship had not been adapted to fit these new conditions.

Correspondingly, IP law had gone astray from its original function. Corporations sought to consolidate their positions by developing patents that could be used to curtail competition for as long as possible, directly going against the drafters’ intentions. For this, they had created fully-staffed R&D laboratories and IP departments, charged with studying how to protect their IP, avoid infringements and determine which IP assets to acquire to consolidate their market position further.

Individual inventors-entrepreneurs had access to neither of these. Consequently, under corporate capitalism, inventive activity was almost fully restricted to corporations. Furthermore, the fact that most scientific activity was being done for profit, in the context of corporate
research laboratories, entailed parcelling knowledge production into discrete industries. This made the application of a technology from one industry to the other difficult. At the same time, financial and economic factors determined innovation. Too much innovation too fast could be detrimental for firms holding a dominant position on a market, to the disadvantage of the wider public and the advancement of science.

Hamilton’s view on patents was characteristic of how institutionalists and legal realists viewed patents during that period (Hovenkamp 2015 ch. 10). More interestingly, as the reader might have noticed, Hamilton’s critique of IP and its effect on scientific development can also be found in the writings Michael Polanyi. As explored in chapter III, Polanyi was sceptical about IPRs because he regarded them as an essential part of corporate science.

In short, an essential feature that emerges from examining the debates on IP and monopoly from the Gilded Age up to the New Deal is the broad political consensus on the link between IPRs and monopolies, as well as a general attitude of suspicion regarding economic power. Underlying this consensus was a deep agreement at the foundations of how property rights were conceptualised, their relationship to coercion and how they allowed for the transformation of economic power into political power.

As will be explored in detail in the following section, this agreement consisted of the insight that, by granting control over resources, property rights allowed for a State-backed form of coercion. In a context of increasing economic concentration, the coercive aspect of economic power and its equivalence to political power was almost taken as a given for all agents across the political spectrum. In the years following World War II, this consensus would fall apart, opening the way for a new way of conceptualising IPRs.
Mainstream accounts of the birth of the regulatory state in the US relate it to the conceptual transformation of private property at the constitutional and private law level. This change was carried out by the Legal Realists.

The scholars who did the heavy lifting in legal theory to assist the Progressives in crafting the administrative state - legal realists who were committed to the Progressive political agenda - had to reconceptualize the nature of property entitlements as much as they had to reconceptualize the institutional structure and powers of the federal government (Mossoff 2009, 2004).

According to this view, Legal Realists are responsible for the conceptual changes that accompanied the birth of the modern administrative state. In particular, they achieved this by changing the meaning of property via the bundle theory of rights. Thus, it was this framework that allowed for increased regulation of property during the first decades of the 20th century (e.g. Claeys 2007 and the sources cited therein).

There are two problems with this account. First, as Stuart Banner has pointed out, the bundle theory of rights is significantly older than legal realism. Furthermore, this theory was initially used to argue for “greater constitutional protection for property rights, and thus less regulation” (Banner 2011, 45). The idea was that any interference with private property that reduced the value of property allowed the affected owner to claim an infringement of the takings or the due process clauses of the Constitution. In turn, this doctrine had been developed as a reaction against earlier jurisprudence, which only gave compensation when property had been taken in a literal sense. It was only later, in the 20th century, that the bundle theory of rights
began to be used to argue for more regulation in the way described by the conventional narrative.

Another fact neglected by Mossoff is that, as Merrill and Smith (2001) have convincingly argued, the bundle theory of rights is a central element of Chicago-Style law and economics. There are strong historical reasons for this. The early Chicago School of Economics was heavily influenced by classical Institutionalism during the pre-war period (Rutherford 2010; Ebenstein 2015; Overtveldt 2007). Thus, it is no surprise that Ronald Coase’s work assumed Hohfeld’s bundle theory of rights, which was then (as it is today) the dominant view on the nature of property rights in both law and economics.

As a result of Coase’s overwhelming influence, the bundle theory of rights became a vital element of the conceptual framework of the Chicago School approach to Law and Economics and more generally, of contemporary mainstream economics worldwide. The key idea is that to any valuable attribute of an asset corresponds a use-right. Each of these use-rights can be held as property by an agent. Thus, they can also be traded through contracts. In sum, for mainstream economists, “property consists of nothing more than the authoritative list of permitted uses of a resource – posted, as it were, by the State for each object of scarcity” (Merrill and Smith 2001, 366).

In turn, Legal Realists and American Institutionalists, such as Robert Lee Hale, JR Commons and John Maurice Clark (Fiorito and Vatiero 2011; Fried 1998) took the notion that property rights expressed a relation between persons (as opposed to a between a person and a thing) and extended it in a direction opposite to Coase. They argued that this relationship was, by its very nature, coercive and thus entailed a transfer of power (Frydrych 2018). Following Hohfeld, for them, it was clear that “no existing legal entitlement had any formal meaning except in relation to reciprocal legal infirmities placed on others.” (Fried 1998, 53). In this sense, the bundle theory of rights has
been deployed for justifying both the expansion of markets and its regulation.

This conceptual move involved obliterating the distinction between public and private forms of coercion. As Morris Cohen succinctly put it, “dominion over things is also imperium over our fellow human beings” (M. R. Cohen 1927, 13). In this sense, the gist of Legal Realism was to unite the two realms that neoliberals strived to keep apart.

If an unequal distribution of property entails an unequal distribution of power, significant concentrations of property are a menace to democracy. More importantly, economic concentration amounts to a parallel form of sovereignty. As Robert Hale wrote “we live (...) under two governments, ‘economic’ and ‘political,’ the second public and hence visible, the first private and hence invisible.” (Hale, cited in Fried 1998, 36). Adolf Berle and Gardiner Means expressed the same concerns in concluding to their path-breaking book:

The rise of the modern corporation has brought a concentration of economic power which can compete on equal terms with the modern state – economic power versus political power, each strong in its own field. The state seeks in some aspects to regulate the corporation, while the corporation, steadily becoming more powerful, makes every effort to avoid such regulation. Where its own interests are concerned, it even attempts to dominate the state. The future may see the economic organism, now typified by the corporation, not only on an equal plane with the state, but possibly even superseding it as the dominant form of social organization. The law of corporations, accordingly, might well be considered as a potential constitutional law for the new economic state, while

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40 A deeper consequence of the widespread adoption of the bundle theory of rights is that, since all allocations of use-rights have economic effects (i.e. they entail distributional effects in wealth), it follows that there are no conceptual boundaries to the use of economics to the analysis of legal phenomena.

41 Echoing Schmitt’s distinction, described in the previous chapter.
business practice is increasingly assuming the aspect of economic statemanship. (Berle and Means 1932, 537)

In order to render the invisible government of economic power visible, Hale argued that market transactions depended on bargaining power, which required coercion to be operative. Thus, by regulating economic transactions, the State is in fact redistributing the capacity to exert coercion over others.

(…) in a sense each party to the contract, by the threat to call on the government to enforce his power over the liberty of the other, imposes the terms of the contract on the other. When the rights and privileges which one party possesses are vastly superior in strategic importance to those possessed by the other (when the restraints on his liberty, in other words, are vastly less burdensome than those on the liberty of the other), the other party may in effect be compelled to submit by contract to almost any terms imposed by the stronger party. That is, the weaker party, whose previous legal restrictions are intolerable, may incur new restrictions as the price of escape from the old. (Hale 1920, 452) [italics in the original]

Hale and the Realists’ concept of coercion did not exclude a choice. However, it was akin to a form of social control, capable of directing the behaviour of agents in the market, thus limiting their freedom to act. As Barbara Fried puts it, they redefined coercion as “a constraint on the background universe of available choices” (Fried 1998, 71)

In this sense, what Progressives did was to reconceptualize the case for State intervention not as a conflict between liberty and equality, but as government action directed at maximizing individual liberty through the distribution of economic power. Under this approach, State action aimed at redistributing property entitlements and securing access to goods is justified in terms of its freedom-maximising objective. As Hale put it “[i]n curbing economic power, government is faced with choosing between different policies as to
how wealth should be distributed, and (...) it is making a choice even when it does nothing. (Hale, cited in Fried 1998, 89). Felix Cohen underscored the same point by noting that Courts, when distributing entitlements among economic agents, were actively distributing wealth (and power) without acknowledging that they were doing so. Discussing trademark cases (which at the time were typically related to antitrust), Cohen commented

What Courts are actually doing, of course, in unfair competition cases, is to create and distribute a new source of economic wealth or power. Language is socially useful apart from law, as air is socially useful, but neither language nor air is a source of economic wealth unless some people are prevented from using these resources in ways that are permitted to other people. That is to say, property is a function of inequality. (F. S. Cohen 1935, 816)

A way of illustrating this argument linking market exchanges and coercion is dwelling on an analogous argument about the nature of money put forward by Egalitarian philosopher G.A. Cohen. He defines money as “a way of structuring freedom” (G. A. Cohen 2011, 175). Money has this function because distributing property is distributing rights of interference. Cohen argues that “freedom of access to goods in a market society is [decided by] asset-holders whose decisions the state supports.” (G. A. Cohen 2011, 184).

According to Cohen’s view, the primary function of money is to remove the interference that a non-owner is liable to suffer if she tries to use a good without the permission of the owner. The same idea was later (unwittingly?) captured by Calabresi and Melamed’s famous definition of an entitlement protected by a property rule:

An entitlement is protected by a property rule to the extent that someone who wishes to remove the entitlement from its holder must buy it from him in a voluntary transaction in which the
value of the entitlement is agreed upon by the seller. (G. Calabresi and Melamed 1972, 1092)

Thus, if someone lacks money, she cannot remove the entitlement from its holder. In this sense, having money is equal to having the ability to change the normative status of specific actions, i.e. to remove the duty to abstain from taking a good by purchasing permission to do so. In short, “[m]oney provides freedom because it extinguishes interference with access to goods and services: it functions as an entry ticket to them” (G. A. Cohen 2011, 181).

Conversely, unequal distribution of property entails an unequal distribution of power, in the sense of an unequal distribution of freedom of access to resources. In hohfeldian terms, owners have the power to lift the duty that everyone else has not to interfere with their property, plus the privilege to choose whether to exercise this power or not. In money economies, owners typically exercise their power and lift the duty if presented with an adequate sum of money42.

As a relatively new form of property, and given its importance under new economic conditions, IP was an obvious target for the legal realists’ attack on the absolute protection of private property and the public/private distinction. IP law was one among many legal mechanisms that the “invisible government of economic power” had to control the economy and was a centrepiece of the arsenal they had to evade market discipline. IPRs allowed corporate actors to control

42 To be sure, (as Cohen acknowledges) not having money is not always equal to not having freedom, because if a good or service is not available for sell, then having money is not a sufficient condition for obtaining the good/service. Likewise, if the owner of the good decides to give it away, then having money is not a necessary condition. But these circumstances are relatively rare in a capitalist money economy in which (a) the primary form of access to most goods is through money and (b) there are systemic pressures for producers to maximise their net gains. This means that most goods and services are for sale, that gift exchange amounts to a relatively small (albeit very important) part of the totality of transactions (Titmuss 1971) and that the identity of the purchaser is (usually) irrelevant for accessing the good (obvious exceptions are age-related regulations for some goods such as drugs and alcohol). Thus, it is safe to assume that under the conditions of modern capitalist money societies, it is generally true that money equals freedom and lack of money entails a lack of freedom (understood in the liberal sense of negative freedom as freedom from interference).
the technological development of the economy, further securing its control over the means of production. Indeed, IPRs stood in the middle of C. Wright Mills’s famous triangle between State, Corporation and Army (Mills 2000). Thus, holding IPRs provided Corporations with a versatile tool to increase their power in industrial society. Corporations controlled technological development, which was essential to the economy and consequently, to warfare. These two aspects of IPRs made them politically relevant. As Walton Hamilton claimed in his TNEC report, access to current, up-to-date technology had become a necessary condition for the system of free enterprise to work, as newcomers could only hope to compete if they had access to it. IPRs entailed giving authority to corporations to decide who could have access to new technologies.

For legal realists, IP law and the expansion of entitlements protected by it exemplified the kind of mystified reasoning that masked public policy without any possibility of questioning its desirability. In this sense, the institutionalists and the realists were arguing for legal argument to make explicit the implicit policy effects of assigning entitlements. In the (rather harsh) words of Felix Cohen: “legal reasoning on the subject of trade names is simply economic prejudice masquerading in the cloak of legal logic” (F. S. Cohen 1935, 817)

Hamilton put forward the same kind of criticism in his TNEC Report. Commenting a case where the judges (including future US president Taft and future Justice Lurton) recognised the “right of suppression” in patent law. Hamilton describes the decision thus

The opinion of Lurton, concurred in by his brethren, is a finger exercise in logic, which makes explicit a result skilfully tucked away in the premises. The reach of the patentee’s privilege is not explored; its content not examined. It is enough that his title is “exclusive.” The invention is his property— but there is no

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43 Heaton Peninsular Button Fastener Company v Eureka Speciality Company, 77 Fed. 288 (1896)
consideration of the nature of property, of the equities into which it is organized, of the appearance in motley which it makes before the law. The holding of Hoe v. Knapp was brushed aside as dictum, unsupported by the natural and inherent powers accorded the recipient of the grant; the word “exclusive” is read as absolute; the right is a functionless sort of affair; no reference is made to the norms provided by the Constitution. Instead, the power of the patentee is “so clearly within the constitutional provisions in respect to private property that he is neither bound to use the discovery himself nor permit others to use it.” In short, the real issues were not argued; the things argued were not issues. (Hamilton 1941, 58)

The real issue was, to Hamilton, to determine the economic effects of withdrawing an invention from the market. In short, Hamilton called for Courts to deal with the policy issues involved in their decisions, not in the abstract, but the actual context of the case in front of them. In particular, it meant facing Hale’s argument that all exercise of property rights by agents entails a form of delegation of public authority to private agents, or in Hale’s words “law-making by unofficial minorities” (Hale 1920). Upholding the sacred and absolute nature of property rights entailed deciding on how power had to be distributed in society without making that decision explicit.

Another line of criticism against regarding IP as an absolute form of property was based on what Barbara Fried calls a rent-theory of property rights. This view consists of the idea that there is a social component in the creation of wealth. Society and the State, by providing the context and institutional framework which allows for the pursuit of productive activities are the “silent partners” to all business. Thus, economic agents have a valid claim only to that proportion of wealth creation that can be ascribed to their labour. All additional value created belongs to society and can be recollected by the State
through taxation. Hamilton based his view on patents precisely on such a view of property rights:

In its very nature the law of patents is public law. The grant is the creation of a private equity within the public domain. The industrial arts are common property, accessible to all who have occasion to put them to work. The letter from the Government can extend only to the improvement or the novelty. Since it is accorded for a public purpose and limited to a span of years, it can hardly—without confusion of thought—be regarded as a “property.” If established terms must be used, it is rather a lease, terminating at a fixed date and not subject to renewal. Since the machine or process may be widely used, yet a single person is authorized to control its employment, the term “franchise” is even more exact. The privilege accorded for a limited time is exclusive; that is, within the rightful limits of the grant, all other persons are excluded. (Hamilton 1941, 151–52)

This paragraph also shows to what extent the nature of IPRs was fluid during this period. This very fluidity is what explains why progressives and eunomic neoliberals could share so many of the same criticisms against IP and still consider each other political adversaries. Furthermore, it is precisely the equation between economic and political power, which was derived from their conception of coercion and its link to private property, which provided neoliberals with the key to rethink the whole project of liberalism for the 20th century. Indeed, it did not take long before the economic-political power equation was co-opted by those who opposed the New Deal. In this sense, the equation proved to be a double-edged sword.

As mentioned earlier, Legal realists’ conception of power stemmed from their redefinition of coercion as a constraint on the background

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44 In the context of a report on patents, he did not address other forms of IP, but his arguments can easily be extended to them.
universe of available choices. Conversely, power amounted to the capacity that some agents had to define the universe of the available choices for everyone else. When reviewing Robert Hale’s “Freedom Through Law”, Knight coincided with Progressives in noting the interchangeability between economic power and political power. He argued that “the natural tendency under freedom (...) is for power to be used to acquire more power and constantly to increase inequality. This holds conspicuously for economic power (...) but holds also for political power and other forms” (Knight 1953, 875)

However, unlike New Deal Progressives, Knight redeployed this argument to make a case against regulation. He argued that any sensible solution to problems of social organization had to start from an empirical comparison between the available alternatives (an argumentative move that lies at the heart of Demsetz approach to Institutional Economics). In short, Knight’s point is that all the evils that could be ascribed to the invisible rule of economic power could also be ascribed (and often with more reason) to the visible rule of political power:

(...) most of the “faults” so readily found with the market organization are at least as visible in the system that it is urged as its regulator or substitute. Politics too is a struggle for power, and pelf; politics offers at least equal opportunity for chicanery and it “naturally” involves as much tendency to cumulative concentration of power, with its perquisites thereof. (Knight 1953, 880–81)

Knight took the Legal Realists’ argument about the equivalence of political and economic power and turned it on its head. If economic power is tantamount to political power, that also means political power is a form of economic power. Later, James Buchanan systematised

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45 Interestingly, he refers to New Deal Progressives as “Neoliberals” in the review, which was written in 1953, that is, after the CWL and the first meeting of the MPS.
46 Thus, it is susceptible of being analysed through the theoretical lenses of neoclassical economics, further expanding the field of expertise of economics.
Knight’s argument against the solution of giving politicians the power to meddle with market transactions, inaugurating public choice theory (Buchanan and Tullock 1999). Most often than not, the argument went, politicians and public officials will use that power to acquire more power and consolidate their privileged position. At the same time, the mere fact of giving power to office made that office attractive as an object of capture, i.e. of using economic power to buy political power.

In this sense, the Progressive strand of Law and Economics (represented by Legal Realism and Institutionalism) did not collapse merely due to a lack of cogency in their theoretical or political outlook. More importantly, their arguments were co-opted and used to argue against the New Deal welfare state that Progressives had been striving to build. Such an argumentative move was possible because, despite superficial divergences, they shared a political project: both groups were trying to actualise liberalism to cope with the new economic and political conditions of corporate capitalism. In the words of Walter Lipmann they sought “the reformation of the economic order through the reconstruction of the legal” (Lipmann, cited in Goodwin 2014, 243). Alternatively, as Hale aptly put it, they were trying to achieve “freedom through law”. Likewise, both schools shared the conceptual framework provided by the bundle theory of rights. Thus, as the institutionalist influence at Chicago waned during the post-war period, it was superseded by the neoclassical approach to the economic analysis of law (Mirowski and Van Horn 2010; van Horn 2009).

From the 1960s onwards, the new Chicago School’s approach started to gain traction in other universities and extended from Antitrust Law to more general areas of legal scholarship: most

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47 This change has been attributed to the increased influence that Frank Knight had at the economy department during the inter-war period, as well as his influence on younger members of the Chicago School (Emmett 2006; 2010; Burgin 2009).
notably on the economics property rights (Alchian 1965; Demsetz 1967), tort law (G. Calabresi and Melamed 1972) and constitutional law (Buchanan and Tullock 1999).

These works showed that the tools of Neoclassical economics could be used to evaluate all legal arrangements from the standpoint of the incentives they generated. The research agenda was to uncover what would efficient rules look like and whether legal systems conformed to that benchmark (Mackaay 2000). In this sense, the neoclassical approach provided the perfect framework for justifying the allocation of rights through market mechanisms: an efficient institutional arrangement is one that can best mimic the workings of a market in perfect competition.

In short, the rise of the Chicago approach marked the shift from the Eunomic mode of Neoliberalism that had characterised the interwar years to the Freakonomic mode that began developing during the post-war years.

E. DEFENDING COMPETITION OR COMPETITORS? THE RISE OF CHICAGO ANTITRUST

As economic concentration increased during the late 19th and early 20th century, how to conceptualise monopolies, what their overall effects in the economy were and how to deal with them, all became hotly contested issues. The battle between the visible power of government and the invisible power of business depended on the answers to these questions. In particular, it was not clear whether there was a limit to the growth of corporations and whether that growth brought with it gains in efficiency, nor it was clear under which conditions it could be said that a monopoly was desirable. These were urgent questions for those striving to adapt liberalism to the context of corporate capitalism.
Henry Carter Adams first advanced the rudiments of natural monopolies theory by distinguishing between industries with constant, diminishing and increasing returns. The former two industries presented no new problem: all the principles of laissez-faire economics could be applied to them. However, Carter Adams continued, in the latter case the firm had cost advantages over new entrants to the market, making the forces of competition ineffective for regulating the behaviour of the existing firm. Railroads were the prime example of this kind of industry. Later, John Stuart Mill proposed the concept of natural monopoly, defining them as markets that operated more efficiently when there was only one producer (Hovenkamp 2015 Ch. 4).

Writing at the beginning of the 20th century, economist Richard T. Ely already denounced the lack of clarity surrounding the concept of monopoly. According to Ely, the conceptual framework of the legal and economic professions of the time was ill-equipped to answer any of the urgent questions that industrial capitalism posed

(...) in my opinion, the economists are quite largely responsible for the confusion of though which has been introduced into the discussion of monopoly; for, extending the term to cover related but quite different economic concepts, they have departed from the best usage of the English language. The courts in their decisions have not gotten so far away from the correct use of language, but their decisions also show confusion of thought, due to the fact that they have frequently attempted to introduce ideas appropriate to the seventeenth century in the latter part of the nineteenth, without that modification which the mighty industrial evolution of three centuries has necessitated. (R. T. Ely 1900, 274)

The increased level of economic concentration prevalent in the nascent corporate capitalism meant for Ely (as for most economists) that the conditions for economic competition were rapidly eroding. To
tackle this problem, Ely began by distinguishing it from the so-called “question of trusts”. Trusts could entail any of three different problems: a monopoly problem, a problem of concentration of production and a problem of wealth concentration (R. T. Ely 1900, 282).

By distinguishing between these three problems, economics gradually developed a technical approach to monopolies. In particular, it allowed underlining the efficiency gains that could be brought by large-scale, concentrated production. Competition needed not to be incompatible with large-scale production. If the latter came about as the result of the free play of economic forces, efficiency gains could be obtained. In the words of Ely, the trick was to find a way to “utilize [large-scale production] fully while reducing to a minimum any evils incident to it [i.e. monopoly power]”. (R. T. Ely 1900, 282). How to do this would become one of the main conceptual challenges for both legal theory and economics during the 20th century.

Since economic concentration could result from the free play of market forces, the issue was not how to avoid it, but to find a way to place it under public control. Answering this question entailed determining which form of social control was better: private property under the supervision of state agencies or public property and state operation.

While scepticism regarding economic concentration was widespread, the rise of the massive corporate firm was politically ambiguous. On the one hand, it meant the advent of a new form of organization capable of controlling the economy to such an extent to mean a menace to democracy. On the other hand, the rise of the modern corporation also seemed to offer the opportunity of a more rationally conducted economy, and better organising the means of production, thus directly challenging the legitimacy of capitalism. Along these lines, Thorstein Veblen argued that the process of economic
concentration and scientific management could eventually lead to some form of plan-based, technocratic socialism:

The incoming industrial order is designed to correct the shortcomings of the old. The duties and powers of the incoming directorate will accordingly converge on those points in the administration of industry where the old order has most signally fallen short; that is to say, on the due allocation of resources and a consequent full and reasonably proportioned employment of the available equipment and man power; on the avoidance of waste and duplication of work; and on an equitable and sufficient supply of goods and services to consumers. Evidently the most immediate and most urgent work to be taken over by the incoming directorate is that for want of which under the old order the industrial system has been working slack and at cross purposes; that is to say the due allocation of available resources, in power, equipment, and materials, among the greater primary industries. For this necessary work of allocation there has been substantially no provision under the old order. (Veblen 1921, 88)

Walter Lippmann also regarded economic concentration as a pathway to socialism. However, unlike Ely, he stressed the impossibility of coherently distinguishing between concentration that was the result of efficiency and concentration that was due to anticompetitive behaviour. Commenting on Wilson’s famous dictum to be “for Big Business, but against the Trusts”, he phrased the distinction thus:

Big business is a business that has survived competition; a trust is an arrangement to do away with competition. But when competition is done away with, who is the Solomon wise enough to know whether the result was accomplished by superior efficiency or by agreement among the competitors or by both? (Lippmann 1985, 84–85)
Lippmann correctly noted that what was missing was a way of distinguishing between economic concentration that was efficient from that which was not. Such a criterion is precisely what Ronald Coase set out to find in its pathbreaking study “The Nature of the Firm” (1937). In that paper, he provided a theoretical framework to study the economic forces behind the growth of firms which would prove of enormous consequence for how economics came to see corporations and monopolies.

Coase’s fundamental insight was to apply price theory to the question of firms’ size and boundaries. The idea was that insofar as the cost of using the price system to carry a transaction exceeded the cost of incorporating the transaction within the firm’s boundary, then the efficient thing to do was to incorporate that transaction within the firm’s structure. In his own words:

(...) a firm will tend to expand until the costs of organising 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 organising in another firm. (Coase 1937, 395)

Coase’s theory of the firm was explicitly responding to a concern voiced by scholars from the first generation of Chicago School Economists such as Henry Simons and Frank Knight regarding the size of corporations. The latter had stated that

(...) the relation between efficiency and size is one of the most serious problems of theory, being, in contrast with the relation for a plant, largely a matter of personality and historical accident rather than of intelligible general principles. But the question is peculiarly vital because the possibility of monopoly gain offers a powerful incentive to continuous and unlimited expansion of the firm, which force must be offset by some

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48 Which inaugurates NIE as an alternative approach to economics.
equally powerful one making for decreased efficiency (in the production of money income) with growth in size, if even boundary competition is to exist. (Knight “Risk, Uncertainty and Profit” cited in Coase 1937, 394)

Against Knight’s fear of *continuous and unlimited expansion* of the firm, Coase argued that there were economic limits to the growth of a firm. Thus, if a firm grew, this was because that was the most efficient outcome, given the current cost structure imposed by the market: firms that failed to adapt their size according to market forces would simply perish. Coase’s answer offered reassurance in the face of the concerns that economic concentration had brought to the fore.

Coase’s contribution to firm theory was in tune with the times and provided theoretical justification for the post-war Chicago School of Economics approach to economic concentration and antitrust. In a nutshell, there are three central components to this approach: first, monopolies are fundamentally unstable; they can only be sustained by ill-conceived governmental intervention with market forces. Second, the benchmark to evaluate market efficiency is consumer welfare, as understood by price theory. Third, the profits obtained by a monopoly cannot be extended to other markets (Elhauge 2009, 4). Underlying all these theoretical claims is an unstated assumption: that all markets are essentially similar. Thus, all can be studied through the lenses of the same framework.

The fundamental instability of monopolies is due, according to this view, to the fact that, in order to achieve a dominant position, the monopolising firm needs to be involved in predatory pricing to keep its competitors out. This strategy is doomed to failure, or rather it is irrational because the firm would need to keep the prices down indefinitely to keep new competitors from entering the market, thus failing to maximise its revenues (Giocoli 2014). Likewise, vertical integration (i.e. when a firm integrates within its boundaries a transaction that might be carried over to the market) is either cost-
efficient and thus pro-competitive, or not. In the latter case it cannot create entry barriers for competitors (Hovenkamp 2014).

Consumer welfare was adopted as a standard in response to the perceived inefficacies of the multi-layered and complicated goals pursued by antitrust since the passing of the Sherman Act (Bork 1993). The consumer welfare revolution was carried out mainly by the second generation of the Chicago School of economics (Aaron Director, Milton Friedman, Edward Levi, Ward Bowman Jr. and Robert Bork). The gist of the consumer welfare standard is that the value of competition lies in its ability for maximising output with the available resources at any given point in time (Langlois 2018). In turn, the adoption of consumer welfare as the antitrust standard shifted the attention from producers to consumers. Thus, structural concerns, which had been predominant, were abandoned in the last quarter of the 20th century.

Finally, the reason why a firm’s profit in one market cannot be extended to others is that there is only one monopoly profit. This is called the “single monopoly profit theory” and essentially consists in the claim that “a firm which has a monopoly in one product cannot increase its monopoly profits by using tying to leverage itself into a second monopoly in another product” (Elhauge 2009, 4).

Most Chicago School economists were distrustful of monopolies before World War II. Their attitude changed in the post-war period, in which the sceptic view of liberals like Henry Simons and Frank Knight was replaced by the views of Aaron Director, Edward Levi and Milton Friedman. This new generation of economists believed that

monopoly, in all its forms, was almost always undone by the forces of competition; and consequently, that a relatively sanguine attitude should be adopted toward both monopoly and large corporations. The corporations were said to have

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49 As was the mainstream of the profession, then dominated by Institutional Economics, of which Chicago was an important intellectual hub.
approximated the impersonal ideal of the market, even in that would appear, by conventional measures, to be fairly concentrated markets (van Horn 2009, 208)

Early in his career, Aaron Director shared the earlier generation’s concerns with monopoly power and IP, asserting that “a study of the American antitrust cases discloses the crucial importance patents on inventions have played in creating and maintaining industrial monopoly” (Aaron Director, quoted in van Horn 2009, 212). Alas, this agreement proved ephemeral. By 1950, Director claimed that competition, unfettered by government intervention, had the practical tendency to destroy all types of monopoly. Friedman and Levi would come to adopt similar positions. The Antitrust Project maintained this view on the relationship between competition and monopolies50.

In the ensuing decades, the Chicago School of economics expanded through a series of academic/entrepreneurial evangelical endeavours. They included the creation of the Journal of Law and Economics, law and economics fellowships (funded by the Volker Fund) and a program created by Henry Manne to teach economics to judges and law professors. As a result, the ideas developed in the context of the Antitrust Project reached the legal and economic mainstream in the 1970s, with Richard Posner and Robert Bork’s books on antitrust law published in 1976 and 1978 respectively. That same year these works were cited by the US Supreme Court, signalling the rising dominance of the Chicago approach on US legal culture (Teles 2008 Ch. 4). The balance in the battle between the visible power of government and the invisible power of business

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50 The Antitrust Project was the successor of the “Free Market Study” (FMS) project, organised by Hayek. According to Davies, Hayek chose the University of Chicago to carry the study because Henry Simons was based there (Davies, 2014, p. 73). The Antitrust Project was the successor of the “Free Market Study” (FMS) project, organised by Hayek. According to Davies, Hayek chose the University of Chicago to carry the study because Henry Simons was based there (Davies, 2014, p. 73).
started shifting for the latter. Chicago’s influence on how IPRs were conceptualised was swiftly felt, as detailed in the next section.

**F. CHICAGO’S INFLUENCE ON IPRS**

In 1978, a seminal policy report on IP was published in the US: the “Final Report of the National Commission on New Technological Uses of Copyrighted Works”. This report provided the blueprint for its successors, the “Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights” (1995); and the “White Paper on Remixes, First Sale and Statutory Damages: Copyright Policy, Creativity and Innovation in the Digital Economy” (2016) (hereafter 1978, 1995 and 2016 Reports). These reports trace the trajectory that the regulation of technology and Copyrights have had in the US since the 1980s. Indeed, the 1978 report is profusely quoted by the 1995 Report (p. 11, 65, 88 – 89, 102, 175), which in turn was regarded as the most comprehensive revision of copyright law and technology by the 2013 Green paper that constitutes the basis for the 2016 Report.

The influence of the Chicago School of Economics outlook in these reports is evident. They aim to secure the creation of a marketplace for copyrighted works, and thus they seek to shape the development of technology for that purpose. For instance, the 1995 Report, claims that

“(…) unless the framework for legitimate commerce is preserved and adequate protection for copyrighted works is ensured, the vast communications network will not reach its *full potential as a true, global marketplace*. Copyright protection is not an obstacle in the way of the success of the NII; it is an essential component. Effective copyright protection is a fundamental way to promote the availability of works to the public.” (Lehman 1995) (added italics)
Likewise, the Reports share the Chicago School’s sanguine attitude towards monopolies. Furthermore, the theoretical framework and aims of the 1995 and 2016 Reports can be traced back to the 1978 Report. Each of these later reports, like their 1978 predecessor, outlined the rules concerning “ownership and control of information and the means of disseminating it” (CONTU, 1978, p. 3). More disturbingly, evidence of corporate influence in the drafting of these reports is blatant51.

The Congress commissioned the 1978 Report in order to avoid having to negotiate the issue of software protection, thus preventing any more delays in the passing of the 1976 Act (National Commission on New Technological Uses of Copyrighted Works (CONTU), 1978, p. 3 - 4). Most of the recommendations made on the 1978 Report

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51 For instance, the CONTU commissioners took their vision of software, which help legitimise stronger IPR protection, from IBM provided experts (Díaz 2016)(Díaz 2016). Likewise, Bruce Lehman, chair of the Working Group on Intellectual Property Rights of the National Information Infrastructure Task Force, responsible for the 1995 Report, has been, according to his official biography at the “IP Hall of Fame” “an architect of the Digital Millennium Copyright Act and helped to negotiate the TRIPS agreement” (IP Hall of Fame n.d.)(IP Hall of Fame n.d.). Both the DMCA and the TRIPS agreement are widely regarded in academic circles as the result of corporate lobby (Drahos and Braithwaite 2001; J. Litman 1986)(Drahos and Braithwaite 2001; J. Litman 1986). Lehman also founded the “International Intellectual Property Institute”, a think tank which, according to its Wikipedia page is

(...) dedicated to increasing awareness and understanding of the use of intellectual property as a tool for economic growth, particularly in developing countries. (...) IIPI works to establish constituencies of policymakers, business leaders and judicial stakeholders in the developing world who understand that effective, enforceable intellectual property rights – patents, copyrights and trademarks, trade secrets, industrial designs, etc. - are a valuable tool in the promotion of economic development in their own countries. Through the support of private corporations, the United States and foreign governments and other international development organizations, IIPI works to increase the capacity of human intellectual assets and creativity in an effort to fuel economic growth and improve standards of living. (“International Intellectual Property Institute” 2018)(“International Intellectual Property Institute” 2018)

IIPI seems to be a lobbying firm masquerading as a non-profit think tank. Both at the Board of Directors and Board of Advisors of the IIPI one can find former lobbyists and executives with strong ties to the corporate world (“International Intellectual Property Institute” 2018) IIPI seems to be a lobbying firm masquerading as a non-profit think tank. Both at the Board of Directors and Board of Advisors of the IIPI one can find former lobbyists and executives with strong ties to the corporate world (“International Intellectual Property Institute” 2018)
were later included in the 1980 Copyright Act amendment and form the basis on which the market for copyright under new communications technology (especially software) later developed.

A key conclusion of the 1978 Report is that a copyright owner may monopolize his expression but not the market in which it is purveyed. This conclusion is strikingly similar to the idea that monopoly power does not get projected from one market to another. In this sense, US policy recommendations regarding how IP is to be regulated owes significantly to the Chicago School of Economics revolution in Antitrust and its concomitant shift in attitude towards monopolies.

Commissioner John Hersey expressed the pre-Chicago, layman view on monopolies, but it represented the minority view. First, Hersey acknowledges that, at least concerning software, the proprietor is “almost invariably corporate” (p. 35). Second, he emphasized the size of the corporate software industry and the level of influence they were able to exert on the Commission, compared to small and independent corporate software producers:

Why do the large industrial corporations press for copyright, while it seems to be a matter of much less concern to the small independents? Is it not evident, from the testimony CONTU received, that the big companies want, by availing themselves of every possible form of protection, to lock their software into their own hardware, while the independents want to be able to sell their programs for use in all the major lines of hardware?

Thus, a warning appears to be in order that the copyrighting of the machine phases of programs would be likely to strengthen the position of the large firms, to reinforce the oligopoly of these dominant companies, and to inhibit competition from and among small independents. (Hersey, in National Commission on New Technological Uses of Copyrighted Works (CONTU) 1978, 35)
For Hersey, the trend towards the concentration of economic power in the communication industry was not just a matter of efficiency of the market, but a central issue for the building of a free society:

If there are social benefits to our nation, (…) in pluralism, in diversity, in lively competition in the marketplace, and in the rights of the individual to maximum freedom of choice within the limits of the social contract and, above all, to maximum freedom of speech, then this increasing concentration of corporate power in that most sensitive area in a democracy – the area of communication from one human being to another, from leaders to citizens and vice versa-should surely be a matter of greatest concern. (Hersey, in National Commission on New Technological Uses of Copyrighted Works (CONTU) 1978, 35)

Hersey’s minority dissent represented the view of monopolies that had been prevalent during the first half of the 20th century but had already been abandoned by mainstream economics and legal scholarship.

As mainstream economics, dominated by the Chicago approach, came to almost completely reject the idea that IPRs extended monopoly power, it abandoned the scepticism about IPRs that had characterised economists’ views during the first half of the 20th century. Instead, economists came to see IPRs as essential components of a well-functioning competitive market. This conceptual shift was possible by abandoning the previous meaning of monopoly that characterised the Progressive negative assessments of IPRs and replacing it for a more “technical” one, which achieved its increased workability by abandoning the prospects of developing a richer analysis of monopoly power. At a more fundamental level, it entailed abandoning an analysis of the social organization of economic activity, characteristic of the eunomic mode described in the previous
chapter and replacing it by an analysis of the price system, thus inaugurating the freakonomic mode of Neoliberalism.

This turn in the meaning in the concept of monopoly allowed Chicago economist Edmund Kitch to assert, by the end of the 20\textsuperscript{th} century, that treating IPRs as monopolies is a "persistent error" in the economic analysis of intellectual property (Kitch 2000). For, as the CONTU Report had argued some 20 years earlier, a copyright owner may monopolize his expression but not the market in which it is purveyed.

Due to the changes traced in this chapter, the political significance of the economic power that IPRs granted corporate actors came off the radar. The rich and vastly complex political debates on IPRs from the early 20\textsuperscript{th} century were lost from mainstream law economics. Instead, the focus was put on the output of new books, technology, and consumer products. The entitlements granted to IPR holders were just part of the bargain the general public made in exchange for perpetual innovation.

This shift amounts to a total reversion in the significance of IPRs as monopolies from their inception in classical political economy. Traditionally, monopolies had been seen as a way in which private actors, through a grant of the State, attained the ability to extract wealth of the general public. This ability in practice functioned as a tax and was regarded as one by political economists (S. G. Calabresi and Leibowitz 2013). Now the reverse is true. Limitations to IPRs for the sake of the public interest are seen as a tax on IPRs holders. As the 1995 Report puts it: “the Working group rejects the notion that copyright owners should be taxed [by extending Fair Use in the context of the NII] – apart from all others to facilitate the legitimate goal of ‘universal access’” (Lehman 1995, 84).

In short, antitrust law in the US lost “(...) the intellectual habit of seeing through the integrated lens that the earlier political antitrust framework provided. [P]olitical problems [are seen] in isolation from
economic ones, diminishing our capacity to analyse either arena accurately” (Teachout and Khan 2014, 68).

Forty years after, the consensus on the cogency of the Chicago approach to antitrust (and law and economics more generally) seems to be finally eroding. The reason for this is a widening agreement that this approach has ushered a new “Gilded Age” (Wu 2018). Against the dominant paradigm of Chicago, a “Neo-Brandeisian” School of antitrust has made an appearance. Lina Khan, perhaps the most visible of the Neo-Brandeisians, expressly applies the label “neoliberal” to the Chicago paradigm:

The Chicago School revolution in antitrust entailed a twofold shift. The first was presented as a descriptive change that offered a new set of assumptions about how firms behave under various conditions and what effects this behavior is likely to have. The second, meanwhile, was an expressly normative shift that replaced a republican theory of antitrust with a neoliberal one, holding that the goal of antitrust law should be to promote efficiency rather than to check and disperse concentrated private power. (L. M. Khan 2020, 1665)

The key idea of this school is that consumer welfare must be abandoned a goal for antitrust and replaced by a “process-oriented” approach to competition:

The “protection of competition” test is focused on protection of a process, as opposed to the maximization of a value. It is based on the premise that the legal system often does better trying to protect a process than the far more ambitious goal of maximizing an abstract value like welfare or wealth. The former asks the legal system to eliminate subversion and abuses; the latter, in contrast, inevitably demands some exercise in social planning, and ascertaining values that can be exceedingly difficult, if not impossible, to measure. (Wu 2018, 112–13)
The reader might be surprised to find so many tenets of Eunomic Neoliberalism in a book by a member of a school that purports to set the agenda for an alternative to “neoliberal” antitrust. In fact, there are many parallels between Neo-Brandesian antitrust and Eunomic Neoliberalism. Just by glancing the quoted paragraph, one kind find some of the fundamental elements of the latter doctrine. First, there is a focus on the dynamic aspects of competition that were stressed by Austrian economists and German Ordoliberals. Second, there is the epistemological argument against the capacity of government officials to involve themselves in social planning. Third, there is the notion that markets are structured and governed by law.

Thus, although Neo-Brandesians conceive themselves as providing an alternative to “neoliberal” antitrust, they mischaracterise their opponents by ignoring the two modes of Neoliberalism. Despite Neo-Brandesians’ rejection of the Chicago dogma, their view of institutions and the role of markets could be readily accepted by any Hayekian or Ordoliberal. Furthermore, as heirs to the Progressive law and economics of the early 20th century, they too wield the double-edged sword of the equation between political and economic power (e.g. Teachout and Khan 2014). Thus, they also share with their predecessors the risk of being co-opted by their political opponents.

G. CONCLUSION: ECONOMIC AND POLITICAL POWER

The conceptual changes described in this chapter, which constitute a neoliberal offensive in its “freakonomics mode”, paved the way for the ensuing wave of IP expansion that began in the 1970s.

An essential assumption prevalent in law and economics at the turn of the 19th century and the beginning of the 20th century was that economic power is tantamount to political power. This assumption was subverted during the second half of the 20th century. Although it was initially an argument for extending certain forms of democratic control to the workings of business firms, the equivalence between
powers turned into an argument against political power and by extension, against regulation. This shift narrowed the scope from which IP was to be studied, reducing the significance of IP to the deadweight loss generated by the IP entitlement (Posner 2005; Posner and Landes 2003).

More importantly, these changes signalled a much deeper shift in the relationship between economics and social theory. Just like IP was reduced to the narrow perspective of neoclassical price theory, the organization of economic activity within society became synonymous with the organization of markets, prices and money transactions. This reduction meant that the distinction between economy and society was obliterated: all social phenomena became susceptible of being studied by economists, but only through the strictures of neoclassical price theory (e.g. Becker 1976; Robbins 1984). Likewise, the question of how markets affect the social sphere was kept away from mainstream economics and mostly left unresolved amidst optimist narratives of economic progress and globalisation.

In their aspiration to return to the founding impulses of antitrust, Neo-Brandeisians have opened a crack in the Chicago paradigm and created an opportunity for a renewal in the democratic control of corporations. However, as mentioned earlier, Neo-Brandeisians are liable of being co-opted by their neoliberal opponents in their “eunomic mode”, just as their Progressive forefathers. If the Neo-Brandeisian reform movement is going to have any significance, it

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52 According to Burgin (2012), the debate on the cultural and social effects of market economies was bracketed by Hayek to provide some stability to the MPS project. Thus, its nuances (and unsolved tensions) were lost in the synthesis that resulted in the late 70s. Interestingly, early Neoliberals had serious doubts about the effect that an absolute market society would have on the social tissue but failed to agree on the solution to this problem. For example, Frank Knight thought that markets tended to erode the social structure necessary for their working, while Hayek believed that the market’s self-correcting mechanisms would provide some kind of equilibrium between market and society. Raymond Aron and Michael Polanyi, as well as the ordoliberal wing of the MPS, sided with Knight on the diagnosis of the social and cultural effects of a market society. This called for some degree of redistributive measures and a more robust antitrust legislation. This insight gave place to an Ordoliberal European antitrust tradition, different in its theoretical foundations from post-war US antitrust (Vatiero 2010).
needs to reflect harder on two questions. First, how to conceptualise power. Second, how power can shift from one field to the other (e.g. from political to economic and vice versa).

One way of achieving this is to explore a relevant (albeit overlooked) difference between neoliberals and neo-Brandeisians: how they conceive the relationship between democracy and technocracy.

Neo-Brandeisians aspire to make antitrust more democratic, while at the same time, they are sceptical of the “technocratic” aspects of antitrust. The problem is that these two normative commitments are in tension. To see why consider how neoliberals conceive this relationship.

In the 1920s and 1930s, by attacking the positivist tradition of Saint-Simon and August Comte, Neoliberals developed a thorough critique of technocracy (Gunnell 1982; Hayek 1955). Notably, their distrust of technocracy is linked to their distrust of democracy: like Carl Schmitt, neoliberals saw democratic politics as fractioning the State into multiple interest groups, each one pressing for the State to enact regulation that would benefit them. All of these regulations assume the existence of experts, which, based on their technical capacity, are capable of intervening in the market and society to achieve the goals desired by each interest group. The neoliberal answer to the question of who should rule comes outs of their distrust of technocracy and democracy. They rather have the impersonal forces of the market over the commands of an expert or a democratically elected public officer. In this sense, the positions have inverted. During most of the 20th century, charges of technocratic authoritarianism were directed to the left. However, in the last decades, it has become a staple of so-
called neoliberal governance (Grewal and Purdy 2014). Now, it is leftists who are leading the charge against it (e.g. Brown 2015).

On the other hand, Neo-Brandeisians hold democracy and technocracy to be opposite in the sense that government by expert knowledge tends to create an intellectual elite, not liable to democratic control (Waller 2013; Crane 2008). Decision-making gets devolved to this elite, circumventing public scrutiny. At the same time, technocrats also perform the ideological function of legitimising the current economic system, thus potentially masking forms of oppression. These features of technocratic control make it an attractive target of capture by corporate actors. Neo-Brandeisians claim that “the market structure in which corporations act crucially shapes the polity, as well as the ability of citizens to govern themselves” (Teachout and Khan 2014, 78). They hope that this insight will allow political reformers to “view market structure as a site for governance” (ibid.).

The problem is that it remains unclear why their critique of technocracy would not apply to the political reformers that they are addressing. The question then is on what kind of epistemological footing can the interventions advocated by the Neo-Brandeisians be founded?

Neo-Brandeisians have yet to devise a theoretical framework that can extricate them from the conceptual take-over to which Neoliberalism subjected Progressivism over half a century ago by thinking the relationship between economic and political power anew. This task will be attempted in the conclusion of this work.

However, first it is necessary to analyse one of the ideological constructs that emerged out of the post-war economic settlement, which has reconceptualised knowledge production within the economy. At the same time, it has functioned as a legitimising trope
for the consolidation of global corporate capitalism: the so-called “knowledge society”.

VI. HOW KNOWLEDGE BECAME CAPITAL

"It is certainly tempting to think of knowledge as a capital stock of information, knowledge being to information what capital is to income"

Kenneth E. Boulding

“One may liken the flow of incoming knowledge to income that can be added to the existing stock of knowledge, capital.”

Machlup 2014, p. 8 (“knowledge and information”)

A. INTRODUCTION

In the early 2000s, an international management best-seller confounded its readers (especially in the US) by stating, in the very first paragraph of the book, that “Marx was right” (Nordström and Ridderstråle 2002). The reason, the readers were informed is that workers now control the critical means of production: their brains and intellects. The idea is not new. Indeed, it forms a vital part of the post-war ideological outlook lurking behind widespread constructs such as “human capital”, “knowledge society” and “post-industrial society”. These ideas have shaped public policy in modern economies in the West for the last 50 years. For example, the 1978 CONTU Report (mentioned in the previous chapter), starts by acknowledging that the US was becoming a society in which “the source of wealth lies not only in the production and distribution of goods, but also in the creation and dissemination of information” (p. 3). Likewise, CONTU’s successor, the Report issued by National Information Infrastructure Taskforce of the Clinton Administration stated that
Information is one of the nation’s most critical economic resources, for service industries as well as manufacturing, for economic as well as national security. By one estimate, two-thirds of U.S. workers are in information-related jobs, and the rest are in industries that rely heavily on information. In an era of global markets and global competition, the technologies to create, manipulate, manage and use information are of strategic importance for the United States. (Information Infrastructure Task Force 1993, 7)

This view of “information” as a source of wealth is due to a massive conceptual shift that took place during the second half of the 20th century. This change entailed conceiving knowledge (which among economists is usually equated to information) as a form of capital. More importantly, it has had significant consequences in the way in which the goal of IP law has been understood ever since. It will be argued that conceiving knowledge as a form of capital changed the goal of IP from fostering “progress” (as stated in the US Constitution)\textsuperscript{54} to that of enabling “innovation” The latter is focused on the continuous output of new products that are widely commercialised. At the same time, the former entails a normative assessment of a state of affairs and particularly the expansion of human potentialities. This shift of goals in IP law involves a radical shift in the political significance of IP and its role in what now is called “knowledge production”.

The chapter begins by exploring the way in the conceptual triad comprised of “knowledge/information society”, “human capital” and the “post-industrial society” formed in the context of the Cold War. As explored in the first section of the chapter, each of these concepts was coined by members of a set of interlocking institutions responsible of carrying forward the political project of Neoliberalism during the Cold War: the Chicago School of Economics, the Mont Pelerin Society and the Congress for Cultural Freedom. The concept

\textsuperscript{54} The exact meaning and function of the Progress Clause in the US Constitution is a highly debated topic. See, e.g. Oliar (2005) Fromer (2012) and O’Connor (2015).
of a knowledge society was developed by Fritz Machlup (MPS). Human capital theory was developed by Chicago economists Theodore Schultz and Gary Becker (member and future president of the MPS). Finally, the concept of a “Post-Industrial Society” was developed by Daniel Bell, one of the most famous members of the Congress for Cultural Freedom (CCF) (organized by Michael Polanyi, also a member of the MPS). These overlapping network of scholars (MPS, Chicago School and CCF) were vital in cementing the current model of cultural production now pervading IP theory and translating it into policy.

Empirical findings in economics, in particular in the fields of economics of knowledge and information and the theory of human capital, pointed to increased importance of “knowledge production” in modern industrial economies. In particular, this line of research suggested that knowledge production was essential for keeping productivity high, which in the context of the Cold War was of utmost importance. The overall effect of the widespread adoption of these theoretical constructs (foremost through the works of management “guru” Peter Drucker55) was to change how knowledge was conceptualised.

In the following decades, a wide array of works in social sciences strived to flesh out the broader societal consequences of the earlier findings in the economics of knowledge and information and the theory of human capital. These coalesced in the ever-expanding literature on the “post-industrial society” and its succedanea (Manuel Castell’s networked society (2010) and Yochai Benkler’s Wealth of Networks (2006) are two of the best known and most influential examples of this literature).

Alas, the promises of this literature did not materialise as expected. Deindustrialisation entailed massive under-employment and

55 Drucker was also a Viennese émigré to the US and belonged to the same generation as Hayek, Machlup and other Austrian MPS members (Drucker 1994)
precarisation for the vast majority of workers. Instead of a globalised, knowledge-based post-industrial society, the international legal regime of IP thwarted the available paths of development for countries in the Global South, thus fostering inequality between rich and poor countries (Chang 2002). Furthermore, as has been argued by Ugo Pagano (2014; Pagano and Rossi 2009) it might even be responsible for declining rates of investment, thus contributing to the economic scenario that lead to the 2008 crash and its aftermath.

Once the political context of the conceptual transformation of knowledge into capital is explored, the economic and technological dynamics behind efforts to actualise this analogy are analysed in detail. It will be argued that knowledge is turned into Capital by generating an institutional and technological framework suited for this goal.

In the business models originated in industrial capitalism, different factors of production are aggregated in order to produce goods and services. These in turn can be protected through traditional forms of IP (trademarks, copyrights and patents). The gains obtained can be used to generate more IPR protectable goods through R&D or, more directly, to buy more IPRs in order to secure their market position by blocking potential competitors from entering the market. At this level, theories of “knowledge commodification” (Reitz 2017; Stehr and Voss 2019 ch. 5; Stehr 2020) make sense, insofar as the production of IP-protected goods in both cases is aimed at protecting the monopoly rent price of the goods and services offered in the marketplace. The economic logic of this business model requires the increasing expansion of the subject-matter of IP to protect all novel forms of intellectual assets that could eventually be traded in the market. The economic frontier, in this case, corresponds to biotechnology, where the distinction between the “natural” and the “synthetic” are put to test regularly at accelerating pace (Pistor 2019 ch. 5; Birch 2017).
As explored in the previous chapters, the use of IPRs to secure market domination and extract monopoly rents explains their ambivalent standing among Neoliberals. It will be argued that, although this form of IPR exploitation persists to be a relevant feature of modern economies, it only captures one aspect of the metaphor of knowledge as a form of capital.

In the case of contemporary data-intensive business models, such as Facebook, Amazon and Google, there is a different logic at play: these businesses rely on the accumulation of data, its processing into knowledge, which only then is incorporated into goods and services, to be sold on the market (“No, Data Is Not the New Oil | WIRED” 2019). Real value lies not on those goods and services being sold, but instead on the data they gather and the process of turning it into knowledge. This version of capitalism then reverts from patents and copyrights as the primary form of protection of intellectual assets to trade-secrets. These businesses no longer rely on IPRs to extract monopoly rent prices in the marketplace. Instead, their business model is based on keeping secret their data and the algorithms used to process it.

Next, it is argued that this form of capital knowledge accumulation requires extending IP to regulate what from the standpoint of business are the ultimate source of contingency and liability: human workers.

Human-embedded knowledge (i.e. human capital), cannot be sold or used as collateral, as opposed to “traditional” capital goods (unless slavery is permitted). Tech corporations avoid this limitation in at least in two ways. Most conspicuously, through automation. Automation allows valuable knowledge to be relocated from the nervous systems of human into machines.

In a less obvious way, corporations have developed a cluster of legal and contractual regulations. These legal tools have been devised to make human-embedded knowledge behave like traditional forms of capital goods. This is done by what Katherina Pistor (2019) calls the
“code of capital” and what Orly Lobel calls “the new cognitive property” (Lobel 2014).

This model of “knowledge capital accumulation” runs counter to theories of “commodification” of knowledge. Under the former, knowledge is not produced to be sold on the market, but rather is produced, accumulated and deployed to generate knowledge (as in Marxist accounts of capitalism). Indeed, note that in many cases it is not a priori clear for these businesses how the acquired data will be processed into knowledge and embedded into goods and services (Srnicek 2016). In capital theory, this feature of capital goods is called “multiple specificity”, i.e. they have a limited range of competing uses. In the case of data/information, its non-rival nature allows for firms to explore this range of possible uses simultaneously, increasing the possibilities for processing data and turning it into services/products that can be sold on the market. The multiple-specificity of knowledge, alongside with its non-rival nature also means that the timeframe in which these products and services remain valuable in the marketplace is very brief. In other words, apps come and go, but the data remains.

Thus, the logic behind a picture of knowledge production for commodification is radically different from that of knowledge production for capital accumulation. In the former case, from the standpoint of the knowledge producer, the way knowledge is used remains constant in time (i.e. it is produced to be sold in the market). On the contrary, in knowledge production for capital accumulation, how knowledge is used changes frequently. This difference is what drives the logic of contemporary knowledge production: as Neoliberals argue, accumulating capital/knowledge is the best way of dealing with uncertainty about the future. Correspondingly, this feature of capital accumulation leads to replacing progress for innovation as the goal of IP: while progress assumes, so to speak, directionality in time, innovation assumes time as a series of
overlapping, incommensurable states of affairs where the past has little hold over the future.

The shift from progress to innovation entails Neoliberalism’s last (alas not final) effort to salvage the spirit of science and capitalism. In the conclusion, it is argued that this conceptual move fails because innovation, as opposed to Progress, is indifferent to the goal of augmenting human mental capacities. Indeed, the shift from Progress to innovation has facilitated the development of business models that are predicated upon reducing and controlling individuals’ cognitive abilities.

B. THE MAKING OF THE KNOWLEDGE SOCIETY: FROM THE POLITICS OF BIG SCIENCE TO THE END OF IDEOLOGY

1. Cold War Science and the Congress for Cultural Freedom

The centralizing trends of corporate capitalism explored in the previous chapter were further consolidated in the post-war period. Consequently, they became harder to see as an exogenous and accidental feature of modern capitalist economies. The intertwining between industry, government and science seemed to be a feature both of market-based and centrally planned economies. This fact confounded contemporary commentators and made positing a radical opposition between both types of economic systems increasingly uncomfortable: critiques of science planning in the URSS could be easily directed towards corporate-driven science in the West.

Accordingly, as the political climate of the Cold War evolved, there was a subtle but significant shift in the formulation of the neoliberal critique of Big Science. The shift in the neoliberal critique was based on stressing the continuities rather than the differences between
spontaneous and designed orders in different fields of social organization, particularly science. As neoliberals came to see Big Science as an inevitable aspect of modern capitalism, they had to temper their critiques against planning in science.

A critical forum in which this theme was explored was the Congress for Cultural Freedom (CCF). As mentioned in chapter III, the political aspect of science was one of the main concerns of the CCF’s agenda and one it shared with the MPS.

Under Michael Polanyi’s chairmanship in the 1950s, the CCF’s early science programming had consisted of warnings that state planning and state oversight of science would inevitably lead to totalitarianism. This critique ran in parallel with other recurrent interwar themes stressed by other neoliberals, most notably Hayek (2001).

On the contrary, during the 1960s, rather than posing a Manichean struggle between Western and Soviet science, neoliberals using the CCF as an international forum, developed a rhetoric based on the “end of ideology”. This narrative placed specific immanent features or trends of industrial economy as the main factor determining the character of society. In Michael Polanyi’s words, the “end of ideology”

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56 The possibilities for this shift were already present in Hayek’s first paper on the uses of knowledge (Hayek 1937). There, he presented a market economy as a different, decentralised, form of “planning”. Rather than a stark opposition between two kind of economies, this picture of the economy suggested an economy as an overlapping web of different forms of “planning”. If this is correct, then the difference between Hayek’s Cosmos and Taxis is a difference in degree rather than kind. In Law, Legislation and Liberty (1993a), Hayek distinguishes between the two in terms of the amount of complexity each kind of order can take: all other distinguishing features between the two kinds of order are based on that one. The important thing is that spontaneous orders can, unlike deliberate human arrangements, achieve “any degree of complexity” (Hayek 1993a, 35 (vol. I)). Thus, one might imagine that as human capacity for organization increases, the distinction between the two kind of orders blurs.

57 Polanyi defines it thus “Scientific opinion is an opinion not held by any one which, split into thousands of fragments, is individuals, each of whom endorses the other’s opinion at second hand, by relying on the consensual chains which link him to a sequence of overlapping neighbourhoods”. (M. Polanyi 1962, 7). He continues “Science is what it is, in virtue of the way in which scientific authority constantly eliminates, or else recognises at various levels of merit, contributions offered to science. In accepting the authority of science, we accept the totality of all these value-judgements.” (M. Polanyi 1962, 16)
sought to “secure a post-Marxian basis for liberalism throughout the world.” (M. Polanyi, cited in Aronova 2012, 309).

In this context, the development of Big Science was discussed in the first issue of the journal Minerva, an offshoot of the CCF, edited by Edward Shils. According to him, the main goal of the journal was to deal with the “governmentalisation” of science, i.e.

(... the establishment of contractual relations between governments and universities and private firms for the conduct of scientific and scholarly research and training; governmental efforts to train definite numbers of specialists in particular branches of science and scholarship over a determinate period of time; decisions to promote certain fields of research; governmental plans for new universities and technological institutions; governmental plans and policies to attract the talented to careers in science and scholarship; governmental fostering of the economic utilisation of the results of scientific research; the actual conduct of research in governmental laboratories; the incorporation of scientific and technical consultation into the normal processes of government; the search for modes of supporting science and learning which respect the autonomy of intellectual institutions while obtaining from them certain desired services. (Shils 1962, 8–9)

In Minerva’s first issue, Shils published Polanyi’s famous article “The Republic of Science” (1962), which was to be a response to an article in Science magazine by physicist Alvin Weinberg. In the following issue of Minerva, a paper commissioned to Weinberg by Shils appeared (Weinberg 1962). This exchange inaugurates a fundamental reversal in the neoliberals’ attitude towards Big Science.

While Weinberg deemed Big Science an inescapable feature of modern scientific activity, thus making western science open to the neoliberal critique of planning, Polanyi argued that as long as
“scientific opinion” was the ultimate authority spontaneously coordinating scientific activity, it does not matter whether the money comes from a public authority or from private sources, nor whether it is disbursed by a few sources or a large number of benefactors. So long as each allocation follows the guidance of scientific opinion, by giving preference to the most promising scientists and subjects, the distribution of grants will automatically yield the maximum advantage for the advancement of science as a whole. (M. Polanyi 1962, 8)

In this way, Polanyi deflated the potential negative implications the intertwining of science, government and enterprise. This need not have affected the spontaneous character of science, as long as the legitimacy of scientific authority was upheld. For Polanyi, it does not matter where the money comes from, as long as the beneficiary is left alone to pursue its academic interests. According to Polanyi, the problem with directing science to foster public welfare is that it introduces an exogenous criterion for the organization of science, replacing the metaphorical “commands” of scientific authority with the authentic commands of political authority, destroying the foundations on which science functions. Furthermore, he argued that one might try to replace the commands of scientific authority with other goals, but that will either (a) not work (i.e. scientists will continue to work according to the tenets of scientific authority) or (b) yield an inferior result.

57 Polanyi defines it thus “Scientific opinion is an opinion not held by any one which, split into thousands of fragments, is individuals, each of whom endorses the other’s opinion at second hand, by relying on the consensual chains which link him to a sequence of overlapping neighbourhoods”. (M. Polanyi 1962, 7). He continues “Science is what it is, in virtue of the way in which scientific authority constantly eliminates, or else recognises at various levels of merit, contributions offered to science. In accepting the authority of science, we accept the totality of all these value-judgements.” (M. Polanyi 1962, 16)

58 Very much in the same way in which scholars associated with the CCF later claimed that their intellectual independence was not affected by the fact that the CCF was funded by the CIA.

59 In this sense, Polanyi’s arguments fall neatly in Hirschman’s (2004) three tropes of conservatism: perversity, futility and jeopardy.
In short, for Polanyi “Big Science” need not be a problem for “free societies” as long as the autonomy of “scientific authority” is respected. More interestingly, this approach even allowed for an eventual rapprochement with the soviets, so long as they allowed for the autonomy of science (in the Polanyian sense), which in any case, was in their best interest.

2. **Towards the economics of knowledge production: Machlup invents the knowledge society**

The same year the first issue of Minerva appeared, Fritz Machlup published its empirical work on knowledge production and distribution in the US (Machlup 1972 [1962]). His interest in measuring knowledge production began as an offshoot of his work on monopoly and competition, a central concern of neoliberals trying to revamp classical liberalism.

His goal was to develop a framework that could be used to do a relatively good cost-benefit analysis of IP and its effects on knowledge production. His motivation was straightforward: if IP generates an incentive to invest in certain kinds of knowledge production, then it can be assumed that it will divest investment from other (potentially beneficial) activities. Furthermore, only with a sound empirical basis could a comparison be made between the current IP system and proposals for its reform (Machlup 2014, 1:xv–xvii; 1958).

Thus, he needed a notion of knowledge wide enough to would allow him to compare the kind of knowledge traditionally protected via IPRs with other forms of knowledge (which could carry more economic significance under this approach). More importantly, he sought to account for “ordinary knowledge” (Godin 2010). To this end,

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60 The reason for this is that this kind of knowledge is deemed by Austrian economists as essential for the working of the market. For a critical overview of how this school use the notion of “know-how” and its relationship with “tacit knowledge”, see Oğuz (2010)
Machlup adopted an extensive definition of knowledge, sustaining, rather bluntly, that “anything that people think they know [its included] in the universe of knowledge” (Machlup 2014, 1:xiii).

The theoretical foundations to perform this operation comes from the works of Gilbert Ryle, Hayek and Michael Polanyi. From Ryle, he drew the distinction between “knowing that” and “knowing how” (Ryle 2009a; 1945) 61. He drew similar inspiration from the work of Polanyi on tacit knowledge (M. Polanyi 2005; 2009). Machlup argued that tacit knowledge or know-how cannot be expressed linguistically or symbolically, while scientific knowledge can be thus expressed. (Machlup 2014) Of course, Hayek had also drawn this distinction by portraying the knowledge necessary for operating in the market as a kind of knowledge that could not be expressed or aggregated statistically (Hayek 1937; 1945; 1955).62

Machlup’s expansive definition of knowledge had two critical theoretical effects. First, it divorced knowledge from the notion of progress, as there is no possible basis for comparing two states of socially available “knowledge”. This move, against Machlup’s initial

61 Ryle was a kindred spirit and ally against logical positivism, since his theory of mind was heavily influenced by (later) Wittgenstein’s theory of language as well as by his studies on phenomenology (e.g. Brentano, Husserl and Bolzano). In this sense, it also owes a great deal to the Viennese outlook shared by Machlup, Hayek and Polanyi (Ryle 2009b).

62 Machlup’s way of seeing knowledge has its origins in the Verstehen tradition and its critique of positivism (Kaufmann 1934). In this sense, Machlup subjectivist conception of knowledge is antithetical to Neurath’s and in general, of the Vienna Circle (which also provides the key for the political opposition). Elements his approach to knowledge were already being discussed in Mises’s Vienna seminar. Particularly important in this context is Alfred Schutz, who remained a close friend of Machlup’s throughout his life and had a lasting influence on Machlup’s theory of knowledge (Knudsen 2004; Haberler 1983). Machlup’s way of seeing knowledge has its origins in the Verstehen tradition and its critique of positivism (Kaufmann 1934). In this sense, Machlup subjectivist conception of knowledge is antithetical to Neurath’s and in general, of the Vienna Circle (which also provides the key for the political opposition). Elements his approach to knowledge were already being discussed in Mises’s Vienna seminar. Particularly important in this context is Alfred Schutz, who remained a close friend of Machlup’s throughout his life and had a lasting influence on Machlup’s theory of knowledge (Knudsen 2004; Haberler 1983).

63 Under Machlup’s framework, the recent developments regarding what’s been called “post-truth” (Benkler, Faris, and Roberts 2018; McIntyre 2018; Stenmark,
concerns, might have ended skewing the balance towards IP-based knowledge production (i.e. corporate R&D) against non-protected forms of knowledge production, such as basic research and general education.

Second, Machlup’s conception of knowledge includes the kind of transaction cost-reducing operations that transpire within the boundaries of the firm. This kind of knowledge is valuable insofar as it partly accounts for the increase in productivity of other factors of production. Thus, all business units are knowledge-producing entities.

Of course, this insight had already been advanced in Coase’s theory of the firm and Hayek’s theory of markets. The former, by putting transactions costs at the centre of the analysis and the latter by realising that the knowledge necessary for effective coordination in the allocation of goods required the aggregation of knowledge embedded in a plethora of economic agents (both firms and individuals).

From this perspective, knowledge is something that is produced and has a cost. Thus, it is bounded by the same laws of economics as any other productive activity. In particular, since knowledge has economic value, it must be protected by an entitlement if its value is to be fully realised.

The insight of bringing the embodied character of knowledge into economic analysis highlighted a fundamental problem for firm owners: a significant portion of the firm’s knowledge is embedded in its workers’ nervous systems and cannot be expressed symbolically. This fact highlighted the necessity for an institutional framework that makes sure that the firm’s knowledge covers all the relevant

Fuller, and Zackariasson 2018) are nothing more than an increase in knowledge productivity, coupled with a more diverse array of producers, i.e. more people believe they know more things. By the same token, the anxieties related to the post-truth condition are merely the anxieties of a consumer lacking orientation in the face of an extremely complex market.
knowledge of the employees. The theoretical foundations for devising such an institutional framework were already being developed in the form of human capital theory.

3. **Human Capital: Knowledge becomes Capital**

Hodgson (2014) traces the notion of human capital to an extension of the term capital going back to Adam Smith. According to Hodgson, before Adam Smith, the concept of capital meant money or assets that could be sold or used as collateral, which is the sense in which capital is understood in the context of business practice to this day. The alternative meaning of capital, referring to a stock of goods or more generally, to wealth was deemed secondary. This second meaning considers capital to be part of a stock, rather than being a sum of money expended on the acquisition of stock. Adam Smith introduced this second usage by treating physical assets, machines and people, rather than money to be invested, as capital:

> The opening preoccupation of The Nature and Causes of the Wealth of Nations is the division of labour and the increasing productivity of physical things. The ‘nature’ of wealth was physical stuff, typically produced by other stuff. Money did not fit readily into this scheme, unless it was treated as silver or gold, so that it too became a thing with intrinsic value, produced by labour. Capital became physical stuff. (G. M. Hodgson 2014, 1065)
According to Hodgson, after Smith, the two senses of capital (capital as goods vs capital as money) were defended by different theorists, with both meanings uncomfortably coexisting within economics.\textsuperscript{64}

The modern concept of human capital began being articulated as a result of Irving Fisher’s influential definition of capital as any ‘material’ entity that produces a flow of income over time (Fisher 1906). This definition was then taken by Chicago School economist Theodore Schultz, who developed the modern foundations of modern human capital theory (incidentally, he also was familiar with Machlup’s work (Schultz 1963) and wrote the foreword to Machlup’s third volume on knowledge production).

Schultz’s previous work had been on the economics of agriculture. It is from that standpoint that he began to be interested in the role that knowledge and education had on farmers (Schultz 1959).\textsuperscript{65} By following Fisher’s definition of capital, he conceptualised knowledge and skills as forms of capital that could not be separated from the human agents in which they became embedded. This realization put into sharp relief the allocative problem of how much to invest in non-human capital relative to human capital (in an analogous way to

\textsuperscript{64} The wider significance of these alternative definitions lies in the consequences of choosing one or the other for economics. On the one hand, the historical character of capitalism as an economic system and thus the universality of the laws of economics is at stake. If capital is the money value of legal rights (i.e. claims to uses and incomes derived from physical objects), as valued in the price system, then it is a phenomenon with specific historical origins. On the contrary, if capital are physical goods, then the laws of economics are universal, applicable to any entity dealing with material objects. On the other hand, the alternative meanings of capital have consequences for understanding the financial aspect of capitalism, in particular for business cycle theory. Equating capital with physical goods raises the challenge of explaining how value is created and destroyed in the recurrent cycles of boom and bust. Indeed, if capital is equal to physical goods, then an explanation is required for explaining how financial crisis destroy value and wealth when no physical destruction of goods takes place.

\textsuperscript{65} Thus, it is hard to resist the thought that analogies from farming animate human capital theory. Arguably, human capital theory can be understood as a discipline devoted to the study of improving humans, through the dissemination of the different forms of knowledge identified by Machlup and the identification of the contexts in which those forms of knowledge can be better utilised.
Machlup’s struggle to solve the allocation problem in knowledge production that IP introduces).

The political upshot of human capital theory was to obliterate the distinction between labour and capital: all workers invested capital in making their labour more productive. Thus, in this (metaphorical) sense, all economic agents are capitalists (Foucault 2008, lesson 9).

However, the deeper implications of the notion of human capital would not be fully explored until the 1970s, with Daniel Bell’s forays into social forecasting and the post-industrial society.

4. **The Post-Industrial Society:**

Following the scandal after the revelations of CCF’s CIA funding in 1967, the rhetoric of the “end of ideology” was replaced with that of the “post-industrial society”. That same year, Daniel Bell published an article in the Public Interest, putting forward this notion. Like its predecessor, the theory of the “post-industrial” society stressed the importance of technological change rather than class conflict to understand modern society. The key lay in science and technology, not in politics or ideology. In Aronova’s words:

(…) the post-industrial society implied a new (“post-Marxist,” in Polanyi’s words) vision of social change and social transformation, which presupposed not conflict and a revolutionary reorganization of society, but an evolutionary drift towards modernity in a scientifically and technologically manipulated world. Not only “interesting” theoretically, this framework turned the discussion of social change into a civilized, “non-ideological” discussion of economic development – a gratifying experience for the theorists of the “end of ideology.” The “post-industrial society” rhetoric fitted well in the changing context of the Cold War politics. By the late 1960s a partial détente with the Soviet Union and the “communist” countries in Europe made the anticommunist
rhetoric of the 1950s obsolete, although it, of course, did not make anticommunism obsolete. The anticommunism of the late 1960s – 1970s required a new rhetoric, and the “post-industrial society theory” supplied exactly what was needed, presenting the images of the emergence of a unitary “post-industrial society” in both mature capitalist and socialist “techno-structures” – the so-called “convergence theories,” widely promulgated throughout the 1970s. (Aronova 2012, 326)

The post-industrial society entailed for Bell a change in the social structure brought by two trends: (1) the centrality of theoretical knowledge and (2) the expansion of the service sector vis-à-vis manufactures. Regarding the first feature, Bell conceived post-industrial society as one in which science, through the codification of theoretical knowledge, becomes the basis for technological change. This view of the relationship between science and technology echoes Vannevar Bush’s depiction of science as an “endless frontier” (Bush 1945). The promise was that science, systematically deployed, would bring about a permanent output of new science-based technical innovations. This feature, as Joseph Schumpeter (1994) had argued before, allowed capitalism to avoid the profitability crises predicted by Marx and his followers.

Likewise, the expansion of the service sector spoiled the logic behind class-conflict. Post-industrial societies’ structural changes rendered senseless the very category of class. In particular, the notion of “human capital”, by which everyone is a capitalist (albeit metaphorically), plays a crucial role in the transformations that allegedly were driving industrial societies into the post-industrial future. Following Shultz and Becker (Bell 1999, 410), Bell defined human capital as the “acquisition of new skills and knowledge through education” (Bell 1999, lviii) For Bell, human capital theory challenges class-based social theory on two accounts.
First, a new managerial layer of workers owes its place within the socio-economic structure to their access to higher education, which they cannot simply bequeath to their offspring. Second, the source of value is no longer labour, but knowledge.

The upsurge of a new managerial class, coupled with the dispersion of ownership of companies through modern finance, decouples the economic from the social aspects of capitalism. Thus, capitalism becomes only an economic system, rather than a social system, or in Bell’s phrase “we approach the anomaly of a capitalist system without capitalists” (Bell 1999, lxv). These features of Bell’s directly challenged analysis based on orthodox notions of class-struggle. Indeed, in the 1976 preface to the book, he highlights this as the main reason why the book had been criticized by scholars in the USSR (Bell 1999, xcvi–c).

To be sure, this did not mean that post-industrial societies lacked hierarchies. Rather, the point is that their constitution responds to a different logic. Instead of classes defined in terms of ownership of the means of production, one finds knowledge-based elites (Pels 2002). This phenomenon is related to another critical feature of post-industrial societies: a shift towards what Bell calls a “knowledge theory of value”. According to Bell, the systematic deployment of knowledge generates value in the sense of reducing capital expenditures:

An industrial society, from Ricardo to Marx, is based on a labor theory of value, and the development of industry proceeds by labor-saving devices, substituting capital for labor. A post-industrial society rests on a knowledge theory of value. Knowledge is the source of invention and innovation. It creates

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66 Bell writes “(…) increasingly, property relations play less and less of a role in the definition of class. Who “owns” General Motors or AT&T or General Motors or IBM? Legally the shareholders are the property owners, but in seeking a higher return, they move in and out of shareholdings regularly and have no identification with the firm.” (Bell 1999, lxvii)
value-added and increasing returns to scale and is often capital-saving in that the next substitution (e.g., fiber optics for copper in communications cables) uses less capital and produces a more than proportional gain in output. (Bell 1999, xvii)

Here it is possible to appreciate that Bell’s depiction of post-industrial society is based on the metaphor of knowledge as a form of capital. Knowledge is considered capital in the wider sense described by Hodgson (as a form of wealth or anything producing an income stream), which then can be used to save capital in the stricter sense (money or assets that can be used as collateral). However, Bell extends the knowledge-as-capital metaphor even further. A key feature of post-industrial societies is that knowledge is produced to be “reinvested” to further produce knowledge:

In the post-industrial society, what is crucial is not just a shift from property or political criteria to knowledge as the base of new power, but a change in the character of knowledge itself. What has now become decisive for society is the new centrality of theoretical knowledge, the primacy of theory over empiricism, and the codification of knowledge into abstract systems of symbols that can be translated into many different and varied circumstances. Every society now lives by innovation and growth, and it is theoretical knowledge that has become the matrix of innovation. (Bell 1999, 343–44)

In this sense, as Kenneth Boulding had already stated in his Richard T. Ely lecture (Boulding 1966), new knowledge is like income that is continuously added to the existing stock of knowledge, which is akin capital stock.
In “The Post-Capitalist Society” (2001 [1993]), Peter Drucker highlights the same trend as Bell. He lucidly marks an ontological turn in knowledge (and thus the birth of the post-capitalist society) with the passing of the 1945’s GI Bill. This piece of legislation guaranteed every returning soldier a college education. He notes that this would not have made sense as a public policy in the previous decades, for a college education was not necessary for an upward mobility strategy, nor for increasing workers’ productivity. What transpired in the meantime was the growth of the corporate firm and the intertwining of science and industry. These developments brought an economy in which there was a widening gap separating ownership and control and increasingly complex manufacturing procedures, as well as an emergent service sector. These developments, in turn, required a whole new class of management-related workers. Hence, university education became synonymous with entering the echelons of corporate management and thus a strategy for upward social mobility.

Thus, Drucker defines a post-capitalist society, as one in which there is a pervasive “application of knowledge to knowledge” or “systematic innovation” (Drucker 2001, 38ff). What matters is increasing the productivity of non-manual workers, and that requires “applying knowledge to knowledge”. What Drucker means by this is finding out “how existing knowledge can best be applied to produce results” (p. 38). Thus, Drucker’s manager (the figure in charge of directing innovation within the modern business firm), uses existing knowledge to produce further knowledge in the same way that an investor might use the money value of current assets to finance a future business venture.

67 Together with Charles Taylor, Drucker is arguably the most influential theorist of management of the 20th century. Thus, his ideas should be seen as the concrete normative upshot of the conceptual shifts outlined above (Boltanski, Chiapello, and Elliott 2018 ch. 1)
Drucker’s “post-capitalist” society geared towards “innovation” fitted quite nicely with the current Zeitgeist. At the same time, it also echoed some of the main neoliberal themes.

As a result of the upheavals of the 20th century, Progress had lost its lustre as a guiding principle for political action. As its different aspects (social, economic and scientific) became contested, this concept could not perform the role of providing normative guidance for society more generally, and IP more specifically.

At the same time, innovation seemed to the casual observer a less politically charged alternative. It was free from the revolutionary undertones of Progress, as the latter is inextricably linked to the revolutionary tradition.

Likewise, innovation seemed to keep the future open. There is no known endpoint to innovation, while Progress suggests a closed future, in which the revolutionary work of bringing about the desired state of affairs will be completed. As Vannevar Bush suggested, science could perform the role that the Western frontier had played in the early years of the US, as a space open for indefinite exploration, opening new vistas for the expansion of western capitalism. This was an attractive perspective, especially when considering the geopolitical importance of winning the “science race” against the USSR.

Finally, innovation also was seen as the key to avoid the pitfall of capitalism. As Schumpeter had shown in his Capitalism, Democracy and Socialism (1994), capitalism was kept alive via permanent revolution of the means of production through the disruptive action of an entrepreneurial avant-garde. Thus, through Schumpeter’s process of creative-destruction, innovation kept capitalism alive in a state of constant dynamism (or disequilibrium which is the same).

Against the static picture of the economy fostered by Keynesians and neoclassical economists, Schumpeter introduced a dynamic picture of capitalism, in which technological change and innovation were the key drivers of economic growth instead of normal competitive
processes. Thus, post-industrial societies realise Schumpeter’s vision of capitalism. Innovator-entrepreneurs are supposed to continuously replace previous industrial hierarchies, until they themselves are eventually replaced by newcomers.

Unfortunately for defenders of capitalism (as Schumpeter argued), the conditions of industrial capitalism eroded the environment in which entrepreneurs develop and thrive. Thus, innovation, the life-blood of capitalism, was in peril due to tendencies intrinsic to the success of capitalism itself. In this sense, Drucker’s efforts in theorising about a society oriented towards “innovation” amounted to securing the conditions for the survival of capitalism. This issue is what gives urgency and a more profound significance to the task of concocting a general theory of innovation. Systematic innovation would allow routinising the process of “applying knowledge to knowledge”, thus securing a permanent stream of new products. In this way, Schumpeter’s grim prognosis could be avoided.

Schumpeter’s theory of innovation highlights another relevant ideological aspect of the post-industrial narrative. As he noted, market-dominating firms are better positioned for being innovators (or financing them), because they have spare capital. Thus, only big corporations can afford the kind of risk-seeking behaviour required by innovation. At the same time, Schumpeter saw monopolies as fundamentally unstable, since they are always open to the challenge of technological disruption, which only accelerates its pace as the application of science to technology spreads.

In the context of the nascent field of the economics of innovation, empirical studies by Robert Solow conducted in the mid-fifties (Solow 1957) seemed to confirm Schumpeter’s insight regarding the role of innovation. Solow compared a model of the economy in which technology remained constant and compared it with the available statistical growth data. He concluded that only ten percent of
economic growth was accounted for and attributed the residual to technological change and innovation\textsuperscript{68}.

With this, an innovation frenzy was unleashed. It seemed to be no end to the technological marvels that capitalism could bring. At the same time, this period, known as capitalism’s “golden age” or “long boom” remains one of the most stable and prosperous in its history, with high and sustained growth and employment. Its apotheosis came with the 1990s: the collapse of the Soviet Union, the spread of free-market “democracies” under the guise of globalisation and the expansion of the Internet, all seemed to confirm the forecasts made by the theorists of the knowledge society.

5. \textit{From the Post-Industrial to the Network Society:}

In the 1990s and early 2000s, at the height of ideological blurriness between left and right, European social democrats and US liberals came to embrace the “post-industrial” framework, under the more palatable guise of the “network economy”.

The adoption of “The Network” as a framework for describing the novel aspects of social organization had its appeal for a “post-ideological” left for at least two reasons. First, scholars such as Yochai Benkler (2006) and Manuel Castells (2010) highlighted the innovative, collaborative and open character of the new forms of production. This occluded Bell and Drucker’s stress on the classless character of post-industrial society.

Second, since Benkler and Castell’s books were written in the wake of the rise of the World Wide Web, it was only natural that their authors

\textsuperscript{68} It is worth noting that the Schumpeterian narrative of innovation did not go uncontested. Kenneth Arrow (1962) casted serious doubt on whether it was true that economic agents with a dominant position are the most likely to innovate in any given market, highlighting the fact that the lack the competitive pressure eliminated the incentives to innovate. But, as explained in the previous chapter, the Schumpeterian approach to bigness and innovation went well with the views on monopolies that were being simultaneously developed by the Chicago School.
resort to the metaphor of the network. This metaphor provided a novel site for collectivist aspirations (however humble), after the failed experience of Soviet State Socialism.

Despite superficial differences, network-based social theory shared many of the ideological elements of the post-industrial framework. First, the network society narrative stresses the centrality of knowledge accumulation and new forms of knowledge production for the economy. Indeed, a theme common to both Benkler and Castells is the rise of networks as structures of social cooperation geared towards the production of knowledge. Benkler stresses the rise of nonmarket, decentralized production (i.e. peer-production), as a central feature of the modern economy. In turn, Castells, defines network societies as geared “toward the accumulation of knowledge and towards higher levels of complexity in information processing (Castells 2010, 18).

Second, the network society framework is also characterised by the absence of property-based class conflict as a theoretical framework. Social stratification is organised in terms of elites, now defined by their access to networks. Castells argues that the traditional class conflicts which had traditionally articulated the ideological divide, are being replaced by identarian conflicts generated by the pervasive presence of networks in the context of globalization (i.e. Castells’s opposition between “the Net” and “the Self”). Furthermore, the technical features of “informationalism” disturb class-based conflict by dislocating classes temporally and geographically. Thus, even though that Castells acknowledges that informational societies are capitalist societies, and therefore are subject to its characteristic pressures and contradictions, ideological conflict is driven by identity (rather than class) as a counterweight to the logic of networks. Likewise, insofar as the new modes of production based on information technologies introduce a “third way” between the traditional dichotomy of markets and hierarchies (Williamson 1975), it was thought that the networked
information economy could not be reduced to a strong opposition between States and Markets.

Third, the network framework was rather indifferent to concerns regarding bigness and market domination\(^{69}\), especially considering the fluid and unstable nature of networks. Bigness needed not to be a concern. Indeed, it could prove beneficial, insofar as firms in the networked society were pushed to be Schumpeterian innovators, engaged in perpetual creative destruction.

In short, the network society framework, as expressed in the work of Benkler and Castells, continued the main features of the knowledge and post-industrial society constructs: (i) the centrality of the accumulation of knowledge for the economy, (ii) the replacement of class-based conflict by access to networks and knowledge as the new element of exclusion defining the power elites and (iii) the sanguine attitude towards bigness and market concentration.

**C. THE GLOBALISED KNOWLEDGE SOCIETY AND ITS DISCONTENTS**

These conceptual shifts in economics and social theory around the ideological discourse of the “knowledge economy” facilitated the acute expansion of global IPRs from the 1970s to the early 2000s. Since both left and right agreed on the centrality of knowledge production for the new economy, there was barely room for voicing opposition. Such important assets needed protection. Furthermore, considering that, for casual observers, it seemed that the new networked economy would continue to give high returns indefinitely, there was no need to worry about how to the ever-expanding cake was distributed. However, as global productivity dwindled, job displacement became more acute in formerly industrialised societies,

\(^{69}\) Benkler's concerns with oligopolies and big firms has to do with the fact that they could capture the regulators and "break the internet", thus thwarting the innovation engine behind the network economy.
and investment returns fell, class-based conflicts showed their ugly face again. Indeed, contrary to the expectations of the theorists of the post-industrial economy, the service sector failed to replace industry as a motor of global economic growth. Even the high technology sectors, despite the hype, have failed to lead the way in recouping the growth pace of the post-war period.

As economist Robert Brenner (2006) has argued, the mass-production Fordist model of the post-war period reached its limits as soon as new players, such as Japan and Germany (under the geopolitical auspices of the US), entered the manufacturing market. This led the global market to the point of overcapacity and overproduction, driving down the prices of manufactured goods. Competition among these countries caused rates of industrial-output growth to decline, causing deindustrialization in employment terms. To save their profitability, high-income country firms started moving the more labour-intensive sectors of their operation to low wages countries. This process became more acute as new competitors (Korea, Taiwan, Singapore, China) entered the global market.

Eventually, the US protected its domestic production by curtailing import penetration through the breaking up the Bretton Woods order and devaluing the dollar. This problem spread from the highest wage countries to the rest of the world, as more countries attempted to obtain a share in the global markets for manufactured goods, making falling rates of manufacturing-output growth spread across the globe.

Off-shoring, combined with aggressive deregulatory policies, weakened unions, further contributed to labour insecurity. As countries began deindustrialising in the 1960s and 1970s, workers employed in manufacturing fell, first in the high-income countries (US and Northern Europe) and then in all of the rest (Southern Europe; Latin America, parts of East and Southeast Asia in the late 1970s and southern Africa in the 1980s and 1990s).
In turn, overcapacity in the global manufacturing markets means that manufacturing productivity has grown slowly for decades, against the forecasts of the post-industrial narrative. As Aaron Benanav (2019) has shown, manufacturing productivity seems to have risen because it is usually compared with manufacturing output, which has been even slower in its growth:

(...) the incredible degree of slowdown or even stagnation in manufacturing-output growth, visible on the world scale, (...) explains why manufacturing-productivity growth appears to be advancing at a rapid clip, even though it is actually much slower than before. More and more is produced with fewer workers (...) but not because technological change is giving rise to high rates of productivity growth. On the contrary, productivity growth in manufacturing appears rapid today only because the yardstick of output growth, against which it is measured, is shrinking. (Benanav 2019, 25)

The 1990s dot-com boom provided a brief respite to the downward trend in profitability, as IT and Internet-related business ventures soared with the help of spare financial capital seeking higher returns. The global shift towards IT-related business allowed for the radical expansion of the physical infrastructure of the Internet, which in turn helped to further the outsourcing trends of the 1980s, since the new communications technology made it easier to build and manage global supply chains.

Most of the firms that arose during the dot-com bubble relied on a “growth before profit” business model. To keep the money flowing in and liquidity high, countries (specially the US) relied on a lax monetary policy. Most importantly, central banks around the globe began lowering interest rates. These policies continued after the 2001 dot-com crash, and both set the stage for the 2008 crisis and were central for enabling the rise of today’s digital economy. Low-interest rates are critical because they lower the rate of return on a wide range
of financial assets. In Schumpeterian fashion, the upshot is that investors must seek somewhere else for higher yields, i.e. in the risky ventures of the Silicon Valley cadres.

An increase in corporate cash hoarding further powers the effects of lax monetary policies and proliferating tax havens. As Nick Srnicek notes, tech companies lead the way both in the amount of saved cash as well as in their use of tax havens. The reason is that these trends are mutually reinforcing:

tax evasion and cash hoarding have left US companies – particularly tech companies – with a vast amount of money to invest. This glut of corporate savings has – both directly and indirectly – combined with a loose monetary policy to strengthen the pursuit of riskier investments for the sake of a decent return. At the other end, tax evasion is, by definition, a drain on government revenues and therefore has exacerbated austerity. The vast amount of tax money that goes missing in tax havens must be made up elsewhere. The result is further limitations on fiscal stimulus and a greater need for unorthodox monetary policies. Tax evasion, austerity, and extraordinary monetary policies are all mutually reinforcing. (Srnicek 2016, 28)

To sum up, against the aspirations of its theorists, the reality of the post-industrial society entails an increasing precarisation of workers, driven by increasing overcapacity in manufacturing and a global service sector that has failed as an engine of economic growth. Even those involved in “intellectual labour” have seen their situation radically worsened due to persistently low demand for labour. This entails higher unemployment and declining labour shares of income, as well as an increasingly unequal distribution of wages among workers. Thus, a very limited selection of elite workers in high-income economies gets to live the post-industrial fantasy. Meanwhile the rest is relegated to precarious jobs in a sluggish service sector (those
lucky enough to live in high-income economies which can still afford some level of protection) or condemned to slave-like labour in sweatshops in the low-income economies. However, not even the intellectual elite is safe. This trend is made worse by automation since it is precisely intellectual labour that consists of abstract symbol manipulation, the one that is more suitable for automation (Moravec 1988). As Steve Fuller noted in the course of reviewing Castells’s trilogy:

the overall increase in high-skilled labor means that the value of being highly skilled declines, which in effect makes any given member of the "elite" more dispensable than ever. Matters are hardly helped by the accelerated drive for technological innovation that is generally celebrated by Castells. That merely threatens to render obsolete the very idea of skills that can be profitably deployed on the course of a lifetime. In that respect, informationalism's openness to "lifelong learning" backhandedly acknowledges the inability of even the best schooling to shelter one from the vicissitudes of the new global market-place. Education, although more necessary than ever, appears much like a vaccine that must be repeatedly taken in stronger doses to ward off more virulent strains of the corresponding disease – in this case, technologically induced unemployment. (S. Fuller 1999, 164)

Globalization, the other promise of the post-industrial ideology also failed to deliver the goods. Instead of a seamless global economy, unimpeded by institutional barriers, what we have got is what Drahos and Braithwaite call “information feudalism” (Drahos and Braithwaite 2002). As economist Ugo Pagano (2014) has argued, this dense network of IP-related treaties has contributed to the global stagnation of the economy by forcing an investment strike, manifested in a savings glut. This further accentuates the effects produced by overcapacity described above. The reason is that intellectual monopolies operate as “super tariffs”, i.e. they raise the cost of
investments for countries that cannot compete based on cheap labour but are not IP-rich. The same effect occurs at the level of firms, as competing IP claims act as deterrents to investing in potentially protected technologies. In the long run, the global increase in IPR protection reduces investment opportunities via increasing the cost of investing, even for IP-rich countries.

In short, the vistas offered by the post-industrial narrative failed to materialise in a way that was beneficial to workers, casting doubt about the feasibility of globalisation as a project and brought market economies to a point of tension not seen since the beginning of the 20th century.

D. The Technological and Legal Infrastructure of Knowledge Capital: Exploring the Layers of the “Knowledge as Capital” Metaphor.

There is one feature that the ideology of the post-industrial society seems to have gotten right: the transformation of knowledge into a form of capital. As mentioned earlier, Bell and Drucker argued that knowledge had experienced the same kind of self-referential process that money previously underwent under capitalism. The reader might remember Marx’s famous characterisation of capitalism by the “formula” (M–C–M’). As Marx argued in volume one of Capital (1976 ch. 4), the defining feature of capitalism as a mode of production is that money shifted from being a mere medium for the exchange of commodities (C-M-C)\(^70\), to become a medium for production and exchange (M-C-M’).\(^71\) The post-industrial society’s innovator starts from an existing pool of knowledge and uses it to determine where new knowledge is needed. Then, she deploys capital to produce new

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\(^{70}\) Which is the perspective of workers, i.e. those who sell a commodity C (e.g. labour) to get money M, to buy another commodity C (e.g. bread).

\(^{71}\) This is the perspective of the capitalist, that uses money (M) to buy a commodity (C) to get a higher amount of money (M’).
knowledge. The resulting new knowledge can in turn be used to restart the process. In short, in post-industrial societies, knowledge is produced to produce more knowledge: K-C-K'.

It is crucial, however, to consider that knowledge can operate as a form of capital (in the broader sense of wealth) as long as it is organised in such a way that it allows to save capital (in the stricter sense of money or assets that can be used as collateral). To sustain this analogy, then, a network of legal and technological tools must be deployed. In short, knowledge as capital requires a technological and legal infrastructure to function as such.

According to Pistor (2019), in conceptualising any object as a form of capital, there are two key factors. First, whether the law recognises it as an asset. Second, what law allows agents to do with them. Thus, capital is composed of the asset plus the legal privileges that confer upon it some critical attributes. These attributes are, according to Pistor, priority (overcoming competing claims over the same asset), durability (extending priority claims over time), universality (extending priority claims across space) and convertibility (allowing the claims to be converted into state-recognised money thus protecting its nominal value). The crucial legal tools or “modules” to do this are contract law, property rights, collateral law, trust, corporate and bankruptcy law. According to Pistor, the meaning of capital has changed as new assets have been turned into capital through the use of these legal tools, but also how some other assets have been deprived of some key “modules”.

During the 19th century, in the context of the rise of corporate capitalism and as the knowledge and skills embedded in workers’ minds became increasingly recognised as a valuable resource, a network of institutional arrangements developed to make sure that control over those skills and knowledge remained in the control of the corporation. Corporate employers sought to secure ownership of their employee’s invention via contractual terms, as well as through
managerial practices. These changes eventually seeped through to the legal system and became consolidated:

The growth of corporations and the rapid spread of office and factory work significantly changed the application of legal rules regarding intellectual property ownership. As is always the case with law, the changing applications ultimately changed the rules themselves. As the settings in which ideas were manufactured became more “corporate”—more bureaucratic, more collective, and, quite literally, under the aegis of corporations—and as the claimants to idea ownership increasingly were corporations, what judges thought of idea ownership and how firms managed creative employees changed too. Judges came to believe that people learned workplace skills in large offices and factories rather than as apprentices in small workshops or as clerks in small offices. At the same time, judges developed a view of contract law generally, and the employment contract specifically, that operated both as a conceptual technology and as a mechanism of social control to enable a shift in idea ownership. The old legal conception of individual invention (and, therefore, individual ownership) seemed anachronistic. The acceptance of corporations as legal “persons” with all the rights and privileges of personhood provided a new legal framework to reconcile the traditionally individualist presuppositions of patent and copyright law, which focus on the author or the inventor, with the new social reality of collective innovation. The cultural change and the legal change coincided and reinforced one another in ways that naturalized the radical developments and made a revolution seem normal, inevitable, and uncontroversial. (Fisk 2009, 240).

The radicalisation of these control mechanisms since the last quarter of the 20th century has resulted in what Orly Lobel (2014) calls “cognitive property”, which deals with intellectual goods that cannot
be appropriated through the more traditional doctrines of IP, even in their expanded form. Ironically, these mechanisms were developed precisely by the firms that supposedly incarnate the ideals of the knowledge economy. They are the firms usually regarded as being on the vanguard of the “new economy”.

Lobel argues that firms have expanded their control claims not only to the outputs of intellectual production – the traditional domain of IP – but to its inputs, i.e. the cognitive capacities of its workers. This is done through contractual means, including Pre-innovation assignment agreements, Nondisclosure agreements (NDAs), Noncompete agreements. These legal tools have enabled three interrelated expansions of human capital controls:

First, subject-wise, through agreements assigning all innovation whether patentable or nonpatentable; whether copyrightable or noncopyrightable, as well as through developments in trade secret law, the propertization of intangible assets has expanded deep into the intangibility spectrum, enclosing knowledge that falls outside the scope of patent and copyright. The increased criminalization of trade secret protections, far more amorphously defined than other IP pillars, functions to further subvert the boundaries between protectable and nonprotectable knowledge. Second, time-wise, ownership has expanded to future innovation as well as attempts to go back in time and capture prior knowledge that an employee held when joining a firm. The expansion includes a rise in both pre-innovation assignment contracts, including trailer clauses, which reach into the postemployment period to assign IP ownership back to the firm, as well as new legal constructs, including the assignor estoppel doctrine, which prevents assignors from challenging the validity of a patent. The assignor estoppel doctrine dramatically limits the defenses available to former employees who seek to compete in the industry and turns these experienced employees into
legal liabilities of the new firms that recruit them. Third, scope-wise, recent years have witnessed a colossal rise in the use of noncompetes along with a shift from individualized controls to metacontrols-cognitive cartels-as evidenced in the ongoing antitrust class action suit against Silicon Valley high-tech giants for their no-poaching agreements. (Lobel 2014, 6)

These contractual means are used to complement and extend the claims traditionally protected by IPRs. Thus, pre-innovation assignment agreements cover more than what is protected by Copyright and Patent Law, likewise, NDAs are designed to avoid the limitations of Trade Secret Law. Unlike the case of trade secrets, which required that the information be secret (and valuable because of its secrecy), NDAs are drafted to cover even information that lacks any value.

E. CONCLUSION: FROM PROGRESS TO INNOVATION

Thinking about IP in terms of innovation instead of progress has disrupted it in the sense that it has altered its goal, decoupling it from its Enlightenment origins, reducing it into a policy tool geared towards the commercialization of new products. The latter goal is agnostic regarding the goal of expanding our human capacities and autonomy. Instead, it is only concerned with bringing about the products to be sold on the marketplace. In fact, one might argue that the replacement of Progress by innovation has allowed for the devolution of business models. Thus, the so-called “gig economy”, hailed by many during the early 2000s as the spearhead of innovation, does not represent Progress. Instead, it represents a recoil towards decimononic (and demoniacal) forms of workers’ exploitation.

The analogy of knowledge as a form of capital is at the centre of the shift from Progress to innovation. This last conceptual change has amounted to the reduced autonomy of intellectual workers via the institutional means of cognitive property, described by Orly Lobel.
Indeed, workers increasingly discover that in a not-so-metaphorical sense, they do not own their thoughts and arguably, even their minds. As Jake Dunagan (2015) has argued, current advances in neuroscience show the extent to which processes that we relate with cognition exceed the boundaries of our physical nervous system. In other words, cognition does not occur only within the confines of our bodies, but also in our relationships with technology (from paper and pencil to our smartphones). This is the so-called extended mind thesis, mostly associated with philosophers Andy Clark and David Chalmers (1998). In its rudiments, the idea is that objects in the world (i.e. outside our bodies) play a role in cognitive processes taking part within our bodies. In this sense, the process of cognition cannot be fully understood without including the environmental objects that play a role in it.

Whatever the reader makes of Clark and Chalmers’s thesis, it is worth noting that technologies that are part of our daily lives have been designed precisely with this sort of vision in mind. Take a laptop computer for example. It has a keyboard, a mouse and a graphic interface. Douglas Engelbart, to whom these inventions are attributed, proposed in 1962 to understand computers as technologies for augmenting the human intellect (Engelbart 2001 [1962]). Likewise, around the same time, internet pioneer JCR Licklider (1960) projected a vision of a Man-Computer Symbiosis as an alternative to Artificial Intelligence while the latter fully develops. Insofar as access to the technologies sustaining this “carbon-silicon complex” is mediated by IP law and other legal arrangements, it is not unreasonable to argue that workers’ extended minds are increasingly subject to corporate ownership. In this sense, it is hard to think of an institutional arrangement less akin to the goals of the Enlightenment.

Indeed, as Carla Hesse (1991) has argued, the thinkers that sought to device the institutional framework for the fulfilment of the Enlightenment goals, all agreed in the strong link between ideas an autonomy.
This agreement even transcended their divergent attitudes towards the desirability of IP and the nature of ideas. On the one hand, there was Diderot, who argued that “ideas are the inviolable form of property because they spring directly from the individual mind; they are a creation of the mind, indeed the very substance of the mind, the means by which it constitutes itself.” (Hesse 1991, 100). Based on his individualistic view of cognition, Diderot argued for ownership over ideas. He thought that ownership over ideas was the best form of guaranteeing the progress of knowledge and the spread of the Enlightenment. On the other hand, Condorcet argued that ideas “are not the creation of individual minds, be it through revelation, appropriation, or cognition. Rather, they inhere in nature and hence are equally and simultaneously accessible through the senses to all. They can belong to no single individual.” (Hesse 1991, 103).

According to Condorcet, different formulations of the same idea are mere accessories to the former and thus “attributes of aristocratic culture” (ibid.) Hence, literary privileges based on stylistic differences had to be abolished, because they were obstacles for the free circulation of ideas.

Despite these very relevant epistemological differences between Diderot and Condorcet, both started from the premise that the goal was increasing the mental capacities of individuals by designing institutional arrangements for the dissemination of ideas.

Nothing like this is involved in innovation. On the contrary, most innovations nowadays are commercialised within an institutional and technological setting that limits the capacities of individuals be it as workers or consumers. A case in point is the development of DRM technologies and EULAS (End User License Agreements). These institutional fixes regulate the use of every-day artifacts that have IP-protected goods embedded in them. Examples of these are house appliances, cars, washing machines, computers, mobile phones, etc. Unlike classic property, “owners” of these goods cannot dispose of them as they see fit. Indeed, they might be unknowingly
breaking the terms of their signed EULA (which most user aren’t ever aware of “signing”) or more pointedly, they might find that DRM technologies simply does not allow them to do what they intended to do (Perzanowski and Schultz 2016).

Even if one remains unconvinced of the extended mind thesis, one should take seriously the idea that some external objects play a role in assisting our cognitive capacities. If this is so, then the conclusion that the expansion of IP law has a limiting effect on our cognitive capacities seems unavoidable.

In short, the relationship between IP and Progress, understood as the extension of individuals thinking capacities, is a negative one: the more IP, the less Progress.
VII. CONCLUSION

*Neurath and I disagreed deeply on many and important matters which interested us both except one: the view that the theory of knowledge was important for an understanding of history and of political problems.*


To conclude this dissertation, after a brief recapitulation of the dissertation (section A), some brief methodological comments are offered (section B). The more profound ideological implications of the shift from Progress to innovation are discussed in section C). Finally, a proposal to revert this situation is attempted (section D).

**A. FROM PROGRESS TO INNOVATION**

Two claims have been argued for throughout the dissertation. First, the conceptual changes advocated by neoliberals to deal with the crisis of classical liberalism led to a shift in the goal of IP from Progress to innovation. Second, this development has driven the expansion of IP during the last quarter of the 20th century.

The concept of innovation, in its current usage among IP scholars (mainly based in law schools and economics departments), is quite alien to the 18th idea of Progress (with a capital “P”) that animated the development of national systems of patents and copyrights starting in the late 18th century through the late 19th century. During this period, IP was supposed to be a tool to achieve scientific, social, and economic progress. Instead, innovation is about keeping markets in a state of constant revolution through the systematic introduction and commercialisation of new products.
What remains to be done is to enquire about the more profound political implications of these developments. In particular, how they have shaped what it means to own something. In what follows, it will be argued that the decoupling between IP and Progress parallels another process of conceptual change, whose result was the decoupling between ownership and autonomy. These two developments are related insofar as both are the unintended result of the conceptual changes brought about by the dominance of Neoliberalism.

This result is not something that Neoliberals set out to obtain knowingly. Rather, it is an unintended consequence of the conceptual moves they made in each of the controversies explored in this dissertation. Their immediate goal was to reframe elements of classical liberalism so they could offer political orientation in a novel context. As explored in the previous chapters, Neoliberals’ project of revisiting classical liberalism entailed rethinking its conceptual structure, along two dimensions: political and epistemological. In the process, they transformed liberalism into something that classical liberals would have a hard time recognising and perhaps even supporting.

This process can be described in four steps, each one corresponding to one of the four controversies explored in this dissertation. After a summary of the dissertation, the deeper implications of the transition from progress to innovation are explored.

Amidst the crisis of the notion of scientific progress, neoliberals sought to deflate the aspiration of using science to shape or direct social formations under the guise of salvaging scientific autonomy. The price to be paid was the encasement of science and its (fictitious) isolation from the economy and society. According to Michael Polanyi, science was to be directed exclusively by the intrinsic interest of the problems to be solved, as defined by “scientific opinion” (a spontaneous, decentralised order, akin to markets). In ultimate
instance, this means that those scientists at the top of the profession get to determine what problems are worthy of attention and consequently, which research programs should be carried out. As for the practical applications of scientific discoveries, Polanyi allowed for them, as long as they did not involve the aspiration of “planning society” or diverted too much attention, talent and resources from pure science.

Thus, scientific progress was redefined as advancing in the solving of the problems that the “scientific community” (i.e. the elite) defined as relevant. In this sense, scientific progress has no intrinsic connection with economic and social progress. Of course, this does not mean that science lacks practical applications. Instead, it means that they were safely rebranded as “innovation”. Pure science is meant to be directed only by the pressure to solve those problems that the scientific community has defined as relevant. All practical considerations come after and belong to the realm of “innovation”.72

Polanyi’s encasement of science solved three problems for Neoliberals. First, it forbade the meddling of science in planning society, while simultaneously preserving the autonomy of science, which was seen by them as a synecdoche for the autonomy of civil society. Second, it negated (or rather, repressed) the linkage between science and warfare: the latter was one among many possible “applications” of science. In proper science, the impersonal forces of scientific opinion rule, not the commands of some army bureaucrat. Third, it opened up the conceptual space to think about innovation in a systematic way, in which the discoveries of pure science were then utilised to improve consumers’ welfare through new products. Systematic innovation guaranteed the renewal of the life-blood of capitalism, thus avoiding Schumpeter’s bad omens.

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72 The reader will note the resemblance between this picture of science and the one popularised by Thomas Kuhn. Both Kuhn and Polanyi were strongly opposed to logical positivism and shared their opposition to attempts to have the development of science directed by societal or economic interest (Reisch 2019; Nye 2011)
Likewise, the collapse of 19th century internationalism curtailed the networks of international scientific cooperation as well as the hopes for a global economy based on free trade. Thus, just like neoliberals had set out to rethink science in the 20th century, they had to refashion the legal theory behind the international economic order. To do so, they proposed an alternative to legal positivism, because they deemed it as partly responsible for the collapse of the 19th-century international order. Their proposal adopted many of Carl Schmitt’s criticisms of legal positivism and used them to imagine an international legal order sustaining free trade and protecting it for national democratic politics.

From this project, two distinct modes of neoliberal thinking emerged: Eunomic and Freakonomic. The former was dominant during the interwar years, in which neoliberals were at the defensive. Thus, their politics were closer to progressives and social democrats than what actually existing Neoliberalism today would suggest. In turn, freakonomic Neoliberalism came to dominate in the post-war period73. Thus, despite the scepticism of neoliberals regarding IP, the resulting order of international IP protection is a creature of neoliberals in the sense that it was the interplay between these two modes of neoliberal ideology that made it possible.

The resulting international order has extended and consolidated IP protection across the globe. This has allowed for corporations to safeguard their IP-related investments globally. As a result, they have grown in size and power. In turn, this generated large amounts of spare capital, continuously seeking higher returns. This development explains the dot-com boom and the advent of the exponential growth of the IT-related sector, despite its intrinsic tendency to low profitability74 (Carr 2003).

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73 This means both that it became the dominant wing of Neoliberalism as well as the hegemonic ideology in the world.
74 As explored in chapter VI, against the hopes of the theoreticians’ of the post-industrial, the growth of the service sector vis a vis manufacturing did not translate into sustained economic growth and the creation of a global knowledge economy.
Each mode of Neoliberalism developed the metaphor of a marketplace of ideas in two distinct, albeit complementary, directions. Eunomic neoliberals followed Hayek in understanding all markets as information processors. In this sense, a marketplace of ideas is almost a tautology: all marketplaces are sites in which knowledge flows. On the contrary, freakonomic neoliberals developed this metaphor in a more concrete direction: they understood a marketplace of ideas as a marketplace in which use-rights over valuable knowledge (conceptualised as an asset) could be traded. The extension of this version of the marketplace of ideas eventually led to human capital theory and the forms of technological and institutional control described in chapter VI.

These developments further entrenched the model of innovation-driven science in the sense that they helped reconceptualised knowledge (no matter its site of production, be it the university or the research lab) as a valuable asset. In this sense, the rise of freakonomic Neoliberalism further facilitated the transition from progress to innovation as a goal of IP.

The increased size of corporations at the turn of the 20th century meant that neoliberals had to rethink some fundamental concepts in legal theory and economics: monopoly, markets and corporations could not be understood as they had been by classical liberals during the 18th and 19th century. Indeed, the novel conditions of the 20th century, in particular the problems of cutthroat competition and trust, rendered the conceptual apparatus of law and economics obsolete. By rethinking the concepts of markets, corporation and monopoly, Neoliberals, now in their freakonomic mode, legitimised further concentration of wealth.

At the same time, Neoliberals appropriated Institutionalists’ and Legal Realists’ equation between economic and political power and redeployed it to de-legitimise attempts at regulating markets. Under this approach, the only permissible kind of technocratic governance
is the one characterised by the international institutions that sustain the status quo.

Legitimising the growth of corporations and allowing for the increasing concentration of markets led to a further entanglement between industry and science. Thus, during the Cold War, it became harder for Neoliberals like Polanyi to keep beating the drum of the autonomy of science against the Soviet enemy. The conspicuous presence of the military in the direction and funding of science, as well as the pervasiveness of industrial R&D laboratories, made it necessary to change the rhetoric. This led to a series of conceptual changes that eventually spawned to two parallel and mutually reinforcing ideas: systematic-innovation and the idea that knowledge is a form of capital.

These ideas resulted from the interplay of three Cold War theoretical constructs: Daniel Bell's thesis regarding the “end of ideology”, later reconceptualised as the “post-industrial society”; Fritz Machlup's statistical investigations on the “knowledge society” and Gary Becker's and Theodore Schultz's development of “human capital theory”. Bell and Machlup’s work stressed “knowledge” as a new factor driving economic and social change, rendering obsolete classical Marxist analysis. Likewise, human capital theory made everyone owners of capital in some sense, since everyone owns its body and the knowledge embedded in it. During the 1990s, this idea was given a progressive spin by authors such as Manuel Castells and Yochai Benkler.

The end-result of these conceptual developments was to stress the importance of “systematic-innovation” for modern economies, while cementing the idea that knowledge, like capital, can be reinvested to produce more knowledge. In this way, “fostering innovation” became the mantra of both progressive IP scholars and IP expansionists alike. Hence, all talk of progress was relegated to the dustbin of history.
These developments have led us to our current situation; IP scholars can endlessly discuss how much IP should there be to foster innovation. However, hardly a thought is given to what was lost in the transition from Progress to innovation. To be sure, IP scholars have written on the importance of IP for democracy and civil society (e.g. Netanel 1996). Nevertheless, note that this line of enquiry is all based on the assumption that the central fact on which IP theory should be based is that “information is both input and output of its own production process” (Benkler 2006, 37). The irony is that this is precisely the gist of the Neoliberal vision that allowed for the expansion of IP! In this sense, the critique against IP expansionism is being carried out in the terms set by its opponent. If it is to have any hope of success, what is needed is to recover the idea of Progress as a normative goal of IP. To do this, first, it is necessary to delve on the more profound political meaning of replacing Progress by innovation.

B. A NOTE ON METHODOLOGY: WHY CONCEPTUAL CHANGE IS IMPORTANT

This work has been written in the spirit that animated the intellectuals responsible for the conceptual shifts traced through the dissertation. Even if it cannot aspire to replicate their lucidity and erudition, its ambition has been to recover, however dimly, the interdisciplinary perspective that allowed them to tackle the multifaceted crises described here. Indeed, one is amazed by the abundance of viewpoints from which IP was approached during the period under study. This sense of perplexity grows if one further compares these controversies in all their interdisciplinary richness with the conceptual constriction and the disciplinary asepsis that characterises contemporary scholarship. To be sure much has been gained in terms of technical subtlety in legal theory, political science, sociology and economics. Alas, the massive production of individual hedgehogs in
academia does not amount to a collective fox. Thus, this research has aimed to disregard as much as possible disciplinary boundaries in an effort to catch a glance of the forest amidst the unsurmountable depth of the disciplinary trees. As it should be clear to the reader by now, this strategy is bound to leave a glaring trace of errors, omissions and inaccuracies that will annoy the specialist in each of the fields whose boundaries have been violated. The hope is that these will prove productive and kickstart a much-needed discussion among specialists from different disciplines about the more profound significance that IP has for our institutional and economic arrangements. In this sense, this research has aimed at contributing to science not by filling a gap but rather by opening one up.

Among the themes that could only be touched in passing in this research and need further investigation, three are the most relevant. The first theme is to study the expansion of IP from the standpoint of the development of the modern administrative State. It is widely acknowledged that the latter development had a significant effect on legal and political discourses in the 20th century. However, the connections between this process and the expansion of IP remain under-theorised. A second theme, also incidentally touched upon in chapter VI, is the transformation of the legal and economic concepts of labour/work and its role in legitimising the expansion of IP. Indeed, the understanding of the intersection between human capital and IP would be enriched by examining their linkages with conceptual developments in labour law as well as with discussions in social and political theory regarding the distinction between manual and intellectual labour.

Third, during the period surveyed in this dissertation, there has been conceptual changes in other fields, such as management and psychology. Although exploring the relevant literature in these fields exceeded the scope of the dissertation, one only needs to think of how the meaning of concepts central to IP, such as innovation and creativity, has shifted due to the conceptual development in these two
fields. Hopefully, this work will spark enough interest to motivate others to continue in these and other, yet unknown directions.

Beyond the epistemic gains that can be accrued by adopting a defiant attitude towards disciplinary boundaries, the method devised for this research should be understood as a first approximation towards an approach to the study of legal phenomena more generally. The method consists in tracing conceptual change in contexts of ideological controversy. This was done by (I) surveying the literature regarding the expansion of IP across disciplinary boundaries; (II) identifying the dominant explanations given in each discipline to account for this phenomenon; (III) contrast them in their strengths and weaknesses to finally (IV) integrate them by using methods adapted from conceptual history.

In principle, this procedure could be generalised. Hence, this dissertation should be seen as a general rehearsal for a version of legal realism, proposed in works developed in parallel (Figueroa Zimmermann 2020). This approach to legal realism consists in taking Otto Neurath’s insights regarding the conditions necessary for the unity of science and using them as a general framework to integrate law and other disciplines. In particular, the idea is that through piecemeal conceptual analysis and innovation, scholars from different disciplines can build from the bottom-up a common theoretical language that will allow them to compare their explanations regarding different legal phenomena and decide on appropriate ways of testing these explanations. Thus, the deeper motivation behind attempting to integrate the explanations regarding the expansion of IP offered by scholars from economics, political science and legal theory is to explore the difficulties and obstacles that arise while attempting such an integration.

The novelty of this approach is that unlike other naturalist approaches to legal phenomena (e.g. Leiter 2007) it does not eschew conceptual analysis. However, unlike formalist approaches to legal phenomena,
it takes conceptual analysis as the beginning rather than the end of the enquiry. The goal is to uncover the contexts of origin and conditions of possibility of concepts. In this way, it becomes possible to trace their shifts and gauge how they contributed to changes in legal and political discourse. In this sense, the approach devised here lies at the intersection of legal theory, historical sociology and conceptual history. Also, it can be used to investigate developments in a wide variety of scale, from the very big (as in this research) up to particular conceptual controversies (e.g. a controversy surrounding the use of a concept in a constitutional court).

Nonetheless, those interested in replicating the approach advanced here should be mindful of its limitations. Among these, the most important is that, in traversing alien disciplines, one is always in danger of misrepresenting their insights. Thus, in the present case, a significant limitation was a lack of formal training in economics. Indeed, from the study of the history of the discipline (e.g. Weintraub 2002), it appears that changes at the mathematical level have been a fundamental factor affecting many of its most important conceptual shifts. For example, the development of new mathematical technics played a substantial role in the development of Chicago-Style economics (Ebenstein 2015). One can indeed appreciate the gist of their teachings without having a thorough knowledge of mathematics. Nevertheless, it is also true that their contributions to economics took place in a context in which there were considerable shifts in the role that mathematics played within the discipline. To properly understand these developments, one should have a good grasp of economics theory and the mathematics behind it. If not feasible, one should have a keen awareness of their looming presence as a factor in conceptual change.

At the same time, it is unreasonable to demand from those wanting to locate their work in the boundaries between disciplines to have a fully developed grasp of each discipline’s theoretical nuances. Instead, one should demand that these people engage with
practitioners of the alien discipline. In this way, through their criticism, those involved in interdisciplinary work can improve and fine-tune their arguments. In this sense, the task for the immediate future will be to engage with political scientists, economists, lawyers and sociologists to ensure to the highest possible degree that the results are as accurate as pretended. Even a submitted doctoral dissertation is a draft open for revision.

C. THE FAILURE OF NEOLIBERALISM

The reader might be sceptical that redefining innovation rather than Progress as the goal of IP has had any measurable effect. The reader might even think that all this is merely a semantics issue. As the dissertation has sought to show, the shift from Progress to innovation altered the orientation of IP: the kind of issues that IP is supposed to solve became entirely different. In a nutshell, instead of focusing on the continuous expansion of humanity’s mental abilities, IP is now devoted to secure a permanent outputs of marketable products.

Progress could function as a political ideal for as long as its three aspects were intertwined. The shift towards innovation disentangled scientific, economic and social aspects of Progress. Thus, these aspects of progress were no longer seen as intrinsically related. However, by disentangling the three aspects of progress, each of them became vacuous, for they no longer were geared towards increased autonomy for all members of humankind.

As explored during the dissertation, Neoliberals reframed science, law and economics to provide a new vision for liberalism. In doing so, they needed to counter the aspirations of their opponents, which relied on the integrated notion of Progress previously explained. In each of the controversies illustrated, they had to reframe liberalism while at the same time legitimising the status quo and deflating their
opponent’s political aspirations. Thus, they kept the autonomy of science, but it became encased. Likewise, they retained the cosmopolitan aspirations embodied in the notion of social progress and international peace, but in the context of a highly unequal, hierarchical, and anti-democratic international legal order. The same transpired with the notion of economic progress. Neoliberals redefined markets, corporations and monopolies so economic progress could be compatible with high concentrations of economic power. The interplay between the ideological constructs of human capital, knowledge society and post-industrial societies completed the transition from Progress to innovation.

As a result, IP law has severed almost all theoretical links with agents’ autonomy. Furthermore, it is used to curtail autonomy. As described in chapter VI, IP is now geared towards the appropriation of agent-embedded knowledge.

The hope behind IP was that, by universalising knowledge, it would foster the spread of the Enlightenment ideas and increase individuals’ cognitive abilities. In turn, this would eliminate the necessity of deferring to heteronomous authority. In this sense, IP is akin to the university in its characteristically modern goal of enhancing or “uplifting” humankind (S. Fuller 2003b). On the contrary, the concept of innovation in the hands of neoliberals is animated by the opposing aspirations: innovation is merely a mechanism for the continuous output of consumer goods to keep capitalism going. Put bluntly: innovation is the apolitical mode of Progress.

The transition from Progress to innovation neatly parallels another key conceptual change which was also central to the renovating project of neoliberals: the widespread adoption of the bundle of rights theory.

In rethinking liberalism along political and epistemological lines, Neoliberals had to embark on a massive task of conceptual innovation. As Hayek put it in the first meeting of the MPS “(…), our
problems begin when we ask what ought to be the contents of property rights, what contracts should be enforced, and how contracts should be interpreted, or rather, what standard forms of contracts should be read into the informal agreements of every-day transactions” (Hayek 1958, 113)

Hayek’s mention of property rights and freedom of contract as critical categories to be rethought in the context of a crisis of liberalism is not casual. Indeed, one of the crucial political challenges for those rethinking liberalism was to overcome a problem common to classic liberal theories.

Generally speaking, classical liberalism characterised ownership as a necessary condition for autonomy in the sense that, to pursue their ends, individuals require to use and consume objects in the world. Correspondingly, they require stable control over them. In short, individual autonomy requires what David Hume called the three fundamental laws of nature “that of stability of possession, of its transference by consent, and of the performance of promises” (Hume, cited in Hayek 1993a, 40 [Vol. 2]).

Until the late 19th century, it was a common feature of liberal theories of property to understand property as a relationship between a thing and a person. The direct relationship with the thing, which agents possess, use and dispose to achieve their goals, justified both the standing of individuals as moral agents and property as a social institution.

In the novel economic context produced by industrial capitalism, property transitioned from being understood “as means for individual’s independence to [as a] means for individuals’ interdependence” (Rossi, p. 24). This transition was effected through the adoption of the bundle theory of rights. Likewise, this development coincided with the neoclassical revolution and the widespread adoption of an exchange theory of value (ibid.) According to Rossi, this entailed a decoupling of ownership and autonomy:
(...), in the bundle of right approach, value ceases to qualify moral attributes and characteristics of the single individual, and becomes a more “mundane” and immanent evaluation of the alternative property interests held by the various actors. It also became an inter-personal category emerging from interactions or transactions between individuals. This social (inter-personal) and a-moral (relative) understanding of a property interest’s value made the economic transaction the new locus of value and the “ultimate unit of economic investigation” in the new theory of value and distribution (Rossi, p. 36).

Ultimately, this conceptual shift amounted to a reconceptualisation of ownership in terms of contracts. Correspondingly, autonomy was reduced to freedom of contract or at least made subservient to the latter. As economic inequality grew during the early decades of the 20th century, it became clearer that equating freedom of contract and autonomy made the latter into a vacuous term.

This is the kernel of the neoliberal dilemma: a consistent pursue of freedom of contract necessarily entails that some individuals will fail to secure access to the use of goods they require to the advancement of their ends. Conversely, substantively securing autonomy would require restrictions of the principle of freedom of contract. However, once one has accepted that it might be necessary to restrict freedom of contract to secure autonomy, one has opened the door for intervening in the system of free trade. This was the road taken by American Progressives (i.e. Legal Realists and American Institutionalists). Hayek believed that, by accepting the necessity of intervening the economy, they had adopted their socialist adversaries’ ideology. Hence Hayek’s harsh indictment against the “opponents of socialism” at the beginning of his inaugural address to the MPS:

(...) the fact is that almost everywhere the groups which pretend to oppose socialism at the same time support policies...
which, if the principles on which they are based were generalised, would no less lead to socialism than the avowedly socialist policies. (Hayek 1948, 107)

Neoliberals’ alternative solution was to reframe liberalism in terms of the defence of what Hayek (following Simons (1948)) called a “competitive order”: the meaning of ownership and freedom of contract is to be determined in terms of its contribution to the functioning of an institutional system that fosters and guarantees competition. In this sense, defining property rights and freedom of contract in terms of their role within the competitive order kept the interpersonal approach to property that characterises the bundle theory of rights, but aimed at solving the tension between freedom of contract and autonomy at a higher level. In political terms, the idea of a competitive order meant that, instead of seeing ownership as directly securing autonomy, Neoliberals claimed it could only be secured indirectly by the constitution of a competitive order.

The price they had to pay for this was that the capacity of individuals to pursue their own goals is just an emergent property. At best, a likely consequence of the existence of a competitive order, but it was not guaranteed nor necessary. Individual autonomy and ownership were only contingently related.

The extent to which Neoliberals pressed the importance of coupling autonomy to ownership marks another perspective for distinguishing between the two modes of Neoliberalism. Eunomic neoliberals insisted on the necessity of keeping a strong linkage between ownership and autonomy. For example, Ordoliberals advocated policies aimed at securing access to the goods that agents require to pursue their goals. The Ordoliberals’ position entailed a strongly substantive view of what ends could be legitimately pursued.

The freakonomic side, exemplified by the Chicago School, insisted less on the importance of relating ownership to autonomy. Instead, the stress was put on the efficient functioning of the competitive order.
Thus, the freakonomic notion of the competitive order entailed moulding existing social formations to approach a state of affairs equivalent to what an efficient market would look like (no matter where the chips fell). This implicated a formal or negative sense of freedom, but fewer guarantees regarding individuals’ ability to secure the goods needed to carry on their life projects.

Likewise, the epistemological dimension of this rift, as mentioned earlier, implies two ways of understanding the metaphor of a “marketplace of ideas”. On the eunomic side, represented by Hayek, what is vital about property rights is how they allow individuals to use available knowledge. The important thing is to keep agents’ knowledge in flux to coordinate individuals’ actions and facilitate the market’s discovery process. In the ultimate instance, this means that the knowledge conveyed by the price system is beyond the processing capacities of any individual.

As Mirowski and Nik-Khan (2017) have argued, through a somewhat entangled development, Hayek ended up regarding markets (as opposed to individuals) as the ultimate epistemic agents. In this sense, humans are merely the material vessels through which knowledge travels.75

On the freakonomic side, represented by Coase, the marketplace of ideas metaphor was based on treating ideas as assets and ultimately, knowledge as a form of capital. Correspondingly, as with any other asset under capitalism, what is important is to maximise knowledge’s exchange-value. This usually means maximising its excludability, so one can extract wealth from charging for the use of its knowledge or from the advantages of being the only holder of this knowledge. These two strategies for capitalising knowledge correspond to IPRs and trade secrets. The first business model consists in charging a fee for the use of knowledge via licensing or even by making access to

75 In a similar fashion to Richard Dawkins’s theory of the selfish-gene (Dawkins 2006), in which humans are the vehicles for the survival and dissemination of genes.
knowledge into a service, while the second is to use knowledge, which is kept secret, to derive an advantage in the marketplace).

Both versions of the analogy of a marketplace of ideas dropped the Enlightenment’s aim making knowledge as widely available as possible, replacing heteronomy with autonomy, so that humanity can reach its collective potential. In the case of the Hayekian version, this goal is negated by devolving rationality to the markets. Knowledge cannot be universalised because of its embedded and dispersed character. The only “universal” knowledge is the knowledge that the market conveys through the price mechanism, but no one can question it. In the case of the Coasean version, the Enlightenment goal is negated by fostering the accumulation of knowledge, but not its dissemination. Under the Coasean marketplace of ideas, universalising access to knowledge is anathema: no market is possible if access is universal.

Hence, both in political and epistemological terms, Neoliberalism entails abandoning classical liberalism’s commitment to autonomy.\(^7\) In this sense, Neoliberalism has failed in its own terms: its aspirations of revamping classical liberalism have amounted to relegating autonomy to the background. In this sense, it managed to “save” liberalism, but only as an empty carcass. Thus, it is the task for those who oppose Neoliberalism to reclaim autonomy as a political ideal and in this way, rehabilitate Progress as a viable notion. The task for the opponents of Neoliberalism is to fulfil the emancipatory potential of classical liberalism. In this sense, a critical political task for our times is to bring back a fierce commitment with autonomy into the political arena. In turn, this would also bring back Progress as a guiding force for IP.

\(^7\) Of course, it might be argued that this commitment was contested from the very inception of liberalism as a political ideology. On this, see Losurdo (2014)
D. RETHINKING IP AS A TOOL FOR “EPISTEMIC TRUST-BUSTING”

In what follows, it will be argued repositioning Progress as IP’s goal should start by rethinking the conceptual shifts described in this dissertation. By doing this, it is possible to gauge the necessary conceptual turns that must be made to overcome Neoliberalism.

Thus, what must be achieved is outlining the main elements for (1) the de-encasement of science; (2) the replacement of neoliberal legal theory for a democratic vision of the legal order (both at the national and international levels); (3) a reinterpretation of the equation between economic and political power and (4) rethinking the role of knowledge in the remaking and reimagining of society.

Of course, a fully-fleshed program for realising the conceptual changes needed exceeds the aim of this research (not to speak about the capacities of the author). Thus, only a rough sketch, marking a general direction of development can be attempted.

The neoliberal project of encasing science was accomplished by establishing a fundamental distinction between “pure” and “applied” science (Polanyi) and between natural and social sciences (Hayek). Thus, de-encasing science requires challenging these distinctions, while at the same time preserving a sense of scientific autonomy.

Polanyi’s distinction between pure and applied science pivots around the issue of how relevance is ascribed to scientific problems. According to Polanyi, in pure science, relevant problems are defined as such by “scientific opinion” whereas in applied science there is an exogenous criterion for ascribing relevance. Based on this, Polanyi distinguishes two intermediate or hybrid forms of science, located between the two extremes of pure and applied science. First, he identifies “systematic technology”, corresponding to a branch of technology, that is developed in the same way as in pure science.
Despite the resemblance to pure science in terms of its systematic development, systematic technology is wholly predicated on the economic practicality of developing this particular branch of technology. Thus, its resemblance to science is merely superficial.

Second, Polanyi discusses “technically justified science”. Here, we are still talking about “pure science”, in the sense that it does not deal directly with technical applications scientific laws. The key difference between pure science and technically justified science is that in the latter, research is being conducted because an extra-scientific benefit is expected, i.e. this branch of science is being developed because of the usefulness of the knowledge produced. Thus, scientific activity is directed by the expectation of this benefit, not by the intrinsic interest of the problems.

The starting point to obliterate the distinction between pure and applied science is to take seriously the idea that in a deep sense, all science fits Polanyi’s criteria set for “technically justified science”. This can be done by taking seriously the pragmatists’ insight that knowledge is identified by its potential for extending agents’ capacity for action (Adolf and Stehr 2017 Ch. 2). From this, it follows that all knowledge claims are ultimately validated by their potential to extend human power. Even in the case of the most abstract and fundamental research, the ultimate goal is to maximise our understanding of reality with the less possible expenditure of cognitive resources (Pojman 2020).

The reader might object that this is a disingenuous way of framing Polanyi’s distinction. It might be argued that the issue for him is one of authority: who decides what counts as an interesting problem. Thus, the question would be whether the scientific community can be left to their own devices to choose the “right” problems or not. To answer this objection, it is enough to ask how are the members of society that do not belong to the scientific community going to assess whether the scientific community has chosen correctly?
Unless one is prepared to claim something like: “whatever scientists define as a relevant problem counts as one”\textsuperscript{77}, then an external criterion for relevance is required, i.e. a normative vision of what science aims to achieve. That normative vision used to be provided by the concept of Progress and needs to be recovered. In this sense, the notions of social and economic progress are the natural outgrowth of the goal of expanding human capabilities. This last point illustrates why the three aspects of Progress used to be intertwined.

If one accepts that the distinction between pure and applied science is less straightforward than it might appear at first sight, then what becomes of scientific autonomy?

Questioning the distinction between pure and applied science increases the autonomy of science: it makes explicit a criterion for assessing the general direction that science as a whole is taking, rather than accepting the status quo and continuing along the path of least resistance.

This latter point leads us to the distinction between natural and social sciences. Rather than assuming that the a priori structure of reality produces the current division of labour between disciplines, de-encasing science requires questioning the current organisation of science. The goal is to propose better forms of organising, instead of assuming that the latter reflects the optimal result of an organic evolutionary process. De-encasing science favours eroding disciplinary boundaries so that lines of enquiry overlap between disciplines. Thus, knowledge claims are subjected to the maximum amount of criticism since boundaries no longer shield disciplines. Inter-disciplinary criticism also helps to make explicit science’s goal of expanding human abilities. The intuition here is that scientists from different disciplines, if were to truly engage in interdisciplinary work, would end up adopting something like the proposed criterium of

\textsuperscript{77} This is what Polanyi ultimately claims when he says that science can only be understood from within, “when one applies oneself to it, like music or religion” (M. Polanyi 1956, 233)
maximising cognitive power while minimising cognitive expenditure, along the lines proposed by Ernst Mach (Pojman 2020) and CS Peirce (Mirowski 1987)

Such an organisation of science would provide an abundant source of “innovation” in the sense of practical applications of knowledge. Indeed, it would render the currently fashionable term “social innovation” into a tautology. All innovation would be “social” in the sense of made publicly available to the maximum possible extent and seeking to increase its impact upon our current practices.

In short, de-encasing science requires realising that what Polanyi characterises as immanent criteria for ascribing interest to scientific problems is a mystified view of science that misses that the endgame of science is to extend our capacities (cognitive and physical). Furthermore, adopting the perspective offered here can help individual scientists to gain further autonomy by opening up alternative paths for developing their scientific activities (rather than having to focus on the problems defined by “scientific opinion” to be the most important).

De-encasing science is the first step in re-establishing the linkage between scientific, social and economic progress. For this linkage to be realisable, the possibilities for institutional reform need to be widened. Individuals need to be able to make institutional arrangements their own. In turn, this will require going beyond the strictures of neoliberal legal theory.

Neoliberal legal theory, in its eunomic mode, is deployed to oppose reform efforts. Any attempt to change our current institutional arrangements is seen as the hubris of “constructivist rationalism”. Even partial attempts at reform, aimed at easing the harshest effects of markets are dangerous because they might be part of the “road to serfdom” (Hayek 2001). On the other hand, freakonomic legal theory narrows the scope of available reform policies to those directed at re-arranging social formations so that they mimic the functioning of
markets. In tandem, these two modes of neoliberal legal theory define the terms of what is possible to achieve via institutional change. Thus, what needs to be done is to provide an alternative to both modes of neoliberal legal theory.

As explored previously, Neoliberals opposed legal positivism mainly on two grounds. First, because of its linkage with constructivist rationalism: Second, due to its role in the “dissolution of the State”. In the eyes of Neoliberals, these two features made legal positivism responsible for the advent of Nazism. A legal theory that can replace neoliberal legal theory must develop a viable answer to these criticisms. In what follows, a tentative answer is attempted.

Rationalist Constructivism or “Cartesian” rationalism is, according to Hayek, a tradition of rationalism distinct from the one that emerged from the Scottish Enlightenment. Hayek claims that the former fails to recognise the limits of reason, thus leading to its misuse. In Hayek’s own words, the central tenet of Cartesian Rationalism is

(…) that all institutions which benefit humanity have in the past and ought in the future to be invented in clear awareness of the desirable effects that they produce; that they are to be approved and respected only to the extent that we can show that the particular effects they will produce in any given situation are preferable to the effects another arrangements would produce; that we have it in our power so to shape our institutions that all possible sets of results that which we prefer to all others will be realised; and that our reason should never resort to automatic or mechanical devices when conscious consideration of all factors would make preferable an outcome different from that of the spontaneous process. (Hayek 1966, 85)

The central issue here is what constitutes rational action under uncertainty. It is necessary to outline an alternative approach to this issue to begin crafting an alternative to neoliberal criticisms of social reform.
Under conditions of uncertainty, Hayek thought that most times is better not to act. Social reformers are likely to be unable to produce a better result than the institutions that “spontaneously” arose out of an evolutionary process. In this sense, the status quo has for Hayek a prima facie claim to legitimacy because it has endured the test of practicality.

Against the precautionary politics of Eunomic mode of neoliberal legal theory, revisiting Popper’s conception of “piecemeal social engineering” makes it possible to shift from a precautionary to a proactionary attitude to social and institutional change. Unlike Hayek, Popper78 thought it was better to have a critical attitude towards existing institutions.

As Notturno (2015) argues, despite their shared politics and mutual efforts to reach an agreement, the question of how to act in case of uncertainty divided Hayek and Popper. The latter’s epistemology led him to believe that it was possible to make social arrangements progressively more rational. The gist of Popper’s theory of piecemeal social engineering79 is that the only way to improve social arrangements is to take risks and make mistakes since they are the source of new knowledge. Thus, while Hayek’s political theory is risk-averse or precautionary, Popper’s is risk-seeking or proactionary (S. Fuller and Lipińska 2014).

Popper’s primary political concern was to answer how are we to collaborate in circumstances that (1) we are unaware of what our goals will be in the future and (2) we must avoid current suffering. For Popper, the problem is that we must act now, even though we do not know with certainty what the endgame is. Furthermore, we cannot postpone reform until the situation is more favourable, for human suffering demands immediate action, not when the conditions for revolution are ripe.

78 Which I would call, alongside Schumpeter, a heterodox neoliberal.
79 A notion he took from legal realist Roscoe Pound (Popper 1971 n.9, Ch. 3)
It is interesting to compare Popper’s take on social reform with that of Neurath’s. In striking similarity to Popper, the latter argued that in science, as in politics, we must act in conditions of uncertainty:

The necessity that action must take place even if insight is incomplete already follows from the fact that ‘non-action’ is also an action – the result of a decision. It is precisely this that matters, that the course of events depend on our decisions. (Neurath 1983, 2)

The wish to found action on perfect insight means to nip it in the bud. Politics are actions, always built on an inadequate survey. But a world-view, too, is action; embracing the manifold universe is an anticipation of unpredictable efforts. In the end, all our thinking depends on such inadequacies. We must advance, even without certainty. The only question is whether we are aware of it or not. Our pseudo-rationalists dare not face this fact. Frivolity! they cry when it is found that even with the most developed insight more than one way remains open for important decisions and that casting lots can thus become meaningful. They will not admit, precisely when some great task is to be undertaken, that insight becomes awareness of its own limits. (Neurath 1973, 158–59)

Seen from this standpoint, what Hayek demands from social reformers is something close to perfect insight. If that is not attainable (and for Hayek, this is the case by definition), then they must refrain from acting. Both Popper and Neurath regard Hayek’s attitude irrational because it conceals the auxiliary motive behind refusing to take political action, which is also acting. Thus, it precludes us from learning from our past mistakes so we can improve in the future.

Shifting from a precautionary to a proactionary approach to social reform is not enough. It is also necessary to widen the policy range beyond what Freakonomic Neoliberalism allows.
Extending our institutional imagination requires going beyond the neoclassical economics that support freakonomic Neoliberalism. The first step is to recognise that neoclassical price theory is only as good as the predictions it makes. And so far, its track record has not been outstanding, as attested by the rise of new fields in economics such as experimental, behavioural, evolutionary and neuroeconomics, aiming at filling in the gaps left by standard neoclassical models.

The methodological crisis brought by the advent of these new fields in economics has opened up an opportunity to erode disciplinary boundaries between disciplines in the social sciences. In turn, this opens up the sources from which political imagination can feed itself. The heightened, reciprocal interaction between the different social sciences could help imagine new institutional forms, enabling the kind of collective-risk taking required to enter into a continuous effort of social reform.

However, who is legitimised today to drive forward such changes? In particular, how can we avert the Neoliberals’ critique of technocracy based on the equation between political and economic power?

As explored in Chapter V, Frank Knight took the equation between political and economic power developed by Legal Realists and American Institutionalists. He used it to develop a crushing critique against giving public officials power to regulate markets: all the evils that could be ascribed to economic power could also be predicated of political power. Just as with economic power, political power tends to concentrate. Hence, attempts at regulating markets tend to create a self-serving class of government technocrats that seek to extend their power.

Likewise, technocrats’ ruling contributes to the dissolution of the State, in Schmitt’s sense. The officials tasked with the regulation of different aspects of social and economic life are subjected to the pressure of diverging interest groups. Thus, they are prone to
enacting ad-hoc policies which lack coherence, further de-legitimising the institutional order.

Paradoxically, in their distrust of bureaucracy, Neoliberals are closer to Marx than their Progressive counterparts. Their solution was the replacement of the personal dictates of experts and public officials with the impersonal dictates of the market. Thus, the lure of conceptualising all forms of social interaction as implicit markets is based on the idea that in this way the need for experts, technocrats and bureaucrats can be done away with (that is, except for the experts necessary for designing new markets).

Thus, on the surface, Neoliberals seem committed with the Enlightenment’s project of dissolution of power (political and economic) by flattening epistemic hierarchies. Yet, the Neoliberal remedy against power concentration is strained by a tension. As Steve Fuller (2002) has noted, taken to its extreme, the project of dispersing knowledge undermines the conditions for its production: as the dispersal of knowledge increases, its (exchange and use) value decreases. Eventually, this means that the capacity to distinguish what constitutes knowledge in a social setting becomes increasingly problematic since both exchange and use value are ways of identifying knowledge in a social setting. Hence, in a society in which knowledge is fully dispersed, there are no experts. Thus, knowledge is conflated with subjective belief80, as Hayek and Machlup came to believe.

This fundamental tension should be at the centre of IP theory because it opens up the opportunity to reconstruct the link between Progress

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80 This would be an alternative vision of what post-truth politics is about. Rather than seeing post-truth politics from the standpoint of those who have more to lose from it (i.e. experts), one could see it from the standpoint of those who could see their situation improved (i.e. those excluded from the possibility of making knowledge claims due to their lack of credentials). This remark is not intended necessarily to endorse post-truth politics, but rather to point out that the criteria for taking one standpoint or the other should be made explicit. Nowadays, we are too quick in adopting the standpoint of experts on the matter without realising the stakes they have in keeping their epistemic advantage (which may or may not be warranted)
and IP. For the notion of Progress to have any meaning, it is necessary to be able to distinguish between knowledge and subjective belief. However, this immediately opens a space for the formation of knowledge-based hierarchies, between those who have knowledge and those who don’t. The issue is how to find a way of having the cake and eat it too: to distinguish between knowledge and belief, thus allowing for the existence of experts, while finding a way of systematically attacking their epistemic claims and preventing experts from blinding them through the erection of epistemic barriers, such as authority arguments, credentialing or discipline-based obscure jargon. In short, what must be done is to avoid the concentration of knowledge, or, as Steve Fuller calls it, to develop “epistemic trust-busting” in a systematic way (S. Fuller 2020).

Hence, what is needed are different institutional mechanisms for dispersing knowledge. Political economy is a crucial source of institutional models. To see why this is so, consider different political ideologies attitudes towards wealth concentration and what the epistemic equivalent would be.

Neoliberalism stands for the idea that most monopolies (including epistemic ones) are fundamentally unstable. Those that are not unstable is because they are efficient. Thus, the Neoliberal recipe for eliminating epistemic monopolies is using the State to foster competition among epistemic agents and then only keep those monopolies that can survive. It is not a problem if Amazon or Walmart are economic behemoths; they have that position because they can deliver the goods at the lowest price. In epistemic terms, this means that knowledge can only be differentiated from belief ex-post, as those who know something come out on top vis-à-vis those who do not.

Against this, Progressives and Social Democrats believe that there are always ways in which economic (and epistemic) agents can side-step the eroding forces of competition. Thus, they advocate using the
State to enact strong redistributive measures that allow for massive concentration of wealth but are designed to prevent it from turning into a source of coercive power (political and economic).

In epistemic terms, this entails allowing for the existence of experts (i.e. agents were knowledge is concentrated) but protecting non-experts from abuses of power from the former. Put harshly, a social-democratic approach to epistemology would consist in a sort of “soft” enlightened despotism, in which experts themselves are supposed to enact the policies aimed at protecting the populace from their epistemic power.\(^8\)

Finally, Anarchists and Socialists think that using markets and the State for curtailing concentrations of economic and political power is a self-defeating strategy since they are mutually reinforcing. Correspondingly, both believe that collective ownership of the (epistemic) means of production also entails the withering away of the State. They disagree on which is to be given ontological primacy: socialists see political power as a by-product of property and wealth and thus the latter as primary. On the contrary, anarchists see political power as primary (Pels 2002 Ch. 3).

In epistemic terms, this disagreement can be re-stated as a dispute on whether experts (i.e. epistemic monopolists) are recognised as such because they have knowledge (property over power) or rather, they have knowledge because they are recognised as experts (power over property). In short, the alternative is between calling experts those who have knowledge, versus defining knowledge as what experts have.

\(^8\) The case of Sweden is illustrative. It has a relatively high number of billionaires for a country its size and most of the biggest firms are under the control of a few families. This is combined with a strong welfare state, which protects people from the oppressive aspects of wealth concentration and secures the existence of a large middle class. Notably, the Wallenberg family, which through their company “Investor AB”, controls many of the largest Swedish companies representing close to half the Swedish stock market, adopted as a family motto \textit{Esse, non Videri} (“To be, not to be seen”) (“Wallenberg Family” 2020; “Investor AB” 2020; “Foundation Asset Management AB” 2020)
The latter approach corresponds to a view of knowledge based on the ascription of epistemic authority based on a previously accorded formal criteria: having a particular credential authorises an agent to make knowledge claims. This view of knowledge is underpinned by the fact that as experts multiply, an alternative to independently judging each knowledge claim is required (S. Fuller 2007, 35–40 (Expertise)). Thus, instead of assessing each knowledge claim on its own, some proxy is utilised (e.g. academic credentials). Ultimately, this leads to some version of “knowledge is what experts claim”.

Based on this, Anarchists would do away with experts altogether, forcing each matter to be judged on its own, no matter the costs. In politics, this is equivalent to requiring that political decisions are to be taken when all members of the assembly have reached a consensus after considering the issue. The limitation of this strategy is that it tends to benefit those who can devote more time or resources to reaching consensus (Kauffman 2015).

On the contrary, seeing experts as those who have knowledge implies that there is an independent way of evaluating their knowledge claims. At the same time, it links the existence of experts to the necessity of opportune action. The problem with this strategy is that it can easily lead to the formation of a knowledge-based caste or class.

From this perspective, the difference between Socialists and Anarchists’ hinges (once again) upon the necessity of acting under conditions of uncertainty. The former stress the necessity of acting promptly, while the latter the necessity of reducing uncertainty by making sure all viewpoints have been considered.

The following paragraphs offer a synthesis of both positions to regain some of the normative weight that the notion of Progress used to have.

First, it must be acknowledged that temporary inequalities in epistemic authority will quickly arise in any relatively complex society,
given the realities of the distribution of (intellectual) labour. Thus, as new knowledge is produced (akin to the Schumpeterian entrepreneur creating new products, tastes, forms of economic organisation, and even markets), epistemic monopolies tend to arise and consolidate. Incumbents have all the incentives to uphold their newly obtained position and thus will establish barriers to shield their claims. Against this, a method for systematically criticising knowledge claims must be put in place.

According to Schumpeter, the tendency of capitalism to generate monopolies was supplemented by a countervailing tendency to achieve increasingly efficient means of producing any good, thus making them accessible to a broader range of people.

In epistemic terms, this means that knowledge that was previously in the hands of an elite progressively becomes accessible to more people. As this process unfolds and the cost of reproducing knowledge decreases, previously valuable knowledge, becomes a commodity, in the non-Marxist sense of being a fungible good. Now, for knowledge to be accessible requires that the “consumers” have the intellectual tools to understand it and use it in a meaningful way. Neurath’s vision of the unity of science, based on the notion of Encyclopaedia, is a fruitful approach tackle this issue.

Neurath’s project for the unity of science was based on the development of a bottom-up, decentralised effort to erode disciplinary boundaries by developing a common language, based on every-day usage, for all disciplines. What is needed is to identify knowledge claims and search for alternative ways of stating them. This way, they can reach an increasingly larger number of people. A more accessible language amounts to a vaster universe of potential sources of criticism, which would render fragile all positions of epistemic privilege. Furthermore, this process of epistemic trust-busting takes a reflexive turn, in the sense that recipients of knowledge become active users of that knowledge, thus producing further knowledge.
This proposal for epistemic trust-busting overcomes the limitations of each of the ideologies reviewed above. While keeping the distinction between knowledge and belief, it is geared towards the empowerment of citizens by making a continuous effort to eradicate the division between experts and laypeople (rather than paternalistic protection). Moreover, this State of affairs is not something that is dealt with outside the mode of knowledge production, as in social democratic ex-post income distribution, but rather it is an inbuilt feature.

This proposal reverses the theoretical standpoint of current mainstream IP theory. Instead of starting from the widespread assumption that knowledge is naturally a public good and then deriving policy consequences for IP from that fact, what is proposed here is to start from the opposite assumption and then work our way towards a desired state of affairs. Thus, the central question for IP scholars should be: how does IP contribute towards making knowledge behave like a public good?

In this sense, this proposal is inspired by Neoliberalism’s central insight: making knowledge behave like a public good requires sustaining a very particular set of institutional conditions, just like Neoliberalism’s political project could only be achieved under specific institutional conditions. (S. Fuller 2002)

Thus, IP theory is refocused on a critical aspect of the relationship between knowledge and knower: how having (or owning) knowledge empowers agents towards the realisation of their life projects. This aspect harks back to the intuition that having goods is valuable because it allows us to do things with them. As the Enlightenment philosophers already knew, taking this point seriously, makes IP into the primary form of ownership, for it is in IP where the connection between ownership and autonomy is more clearly manifested.

The reader might object that this proposal only opens up more questions: What would this mean to the concept of labour? How
would firms need to be re-organised to put this normative ideal into practice? What are the obstacles involved? Which forms of oppression are likely to arise for this re-arrangement? The list of questions could go on indefinitely.

Moreover, the complexity of answering these questions points to how far we are yet from achieving such an ideal. What is certain is the relevance of these problems for IP theory and the importance of opening it up to the vistas offered by other disciplines such as social theory, historical sociology, intellectual history and political economy. This work has been conceived as the first step in this direction.
VIII. REFERENCES


and John Finnis. London: Palgrave Macmillan UK.
In Research Handbook on Critical Legal Theory, edited by
Emilios Christodoulidis, Ruth Dukes, and Marco Goldoni.
Edward Elgar Publishing.
https://doi.org/10.4337/9781786438898.
https://doi.org/10.1215/00182702-18-1-1.
Davies, William. 2014. The Limits of Neoliberalism: Authority,
Sovereignty and the Logic of Competition. Theory, Culture &
Society. Los Angeles: SAGE.
Deere, Carolyn. 2009. The Implementation Game: The TRIPS
Agreement and the Global Politics of Intellectual Property
University Press.
Dekker, Erwin. 2014. “The Intellectual Networks of Otto Neurath:
Between the Coffeehouse and Academia.” In European
Encounters, edited by Carlos Reijnen and Marleen Rensen,
———. 2016. The Viennese Students of Civilization: The Meaning
and Context of Austrian Economics Reconsidered. Historical
Perspectives on Modern Economics. New York, NY:
Cambridge University Press.
Embrace of the New in Schumpeter’s Original Theory of


https://doi.org/10.4324/9780203165683.


Reitz, Tilman. 2017. “Academic Hierarchies in Neo-Feudal Capitalism: How Status Competition Processes Trust and


Uebel, Thomas E. 2000. “Some Scientism, Some Historicism, Some Critics: Hayek’s and Popper’s Critiques Revisited.” In The


