Fragmented Horizons:

Multinational Firms & Ethical Life in the Anthropocene

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List of abbreviations

ANT: Actor-Network Theory

BOE: Barrel of Oil Equivalent

CCS: Carbon-Capture Storage

CFDT: Confédération Française Démocratique du Travail

CFP: Compagnie Française des Pétroles

CODEV: 'Multinational Companies and Development of Emerging Countries', research programme at ESSEC Business School

COP: Conference of Parties (of the UNFCCC)

CNRS: Centre National de la Recherche Scientifique

CSR: Corporate Social Responsibility

EP: 'Exploration and Production' branch at Total

EU-ETS: European Union Emissions Trading System

EROI: Energy Return On Investment

GHG: Greenhouse Gases

IPCC: Intergovernmental Panel on Climate Change

GCC: Global Climate Coalition

LNG: Liquefied Natural Gas

NGO: Non-Governmental Organization

OGCI: Oil and Gas Climate Initiative

SCD: 'Strategy and Climate Division' at Total

STS: Science and Technology Studies

UNFCCC: United Nations Framework Convention on Climate Change

Abstract

In this research project, I engage in the task of delineating the conditions of possibility of human action in the institutional structures of contemporary capitalism, in the age of the Anthropocene. In other words, I reflect on the circumstances required for people to relate appropriatively to the socio-ecological practices they deploy at the workplace, so that these resonate with their fundamental aspirations and thus positively contribute towards the collective search of the good life, with and for others, in just institutions.

Once described as the 'blue planet' which sphericity could be admired from outer space, the Earth has become, with the advent of the Anthropocene, a thin, tiny, fragile pellicle – a critical zone with frail equilibriums in which human beings have to live, and that admits no outside. However, as most societies have embarked on an unprecedented spiral of acceleration, attempts to redefine sustainable ethical horizons and to articulate corresponding transformative practices stumble over the rigidity of existing social structures, which technological lock-ins inherited from the past significantly reinforce. This inertia is particularly critical in the case of the fossil fuel industry: it is indeed now widely recognized that the unchecked extraction of hydrocarbons is a key propelling force to the perturbation of the core biophysical processes that regulate the Earth system. The 'business-as-usual' activities of public-listed oil and gas multinational firms generate a non-negligible share of these material flows: as such, these significantly contribute towards re-shaping nature-society relationships by accentuating climate change.

The doctoral work I have developed addresses this conundrum through the prism of an empirical case study, and draws for that matter on a fieldwork research conducted between 2015 and 2017 with the employees of the French corporation Total, both in France and in the

Republic of Congo. In this dissertation, I develop an in-depth analysis of the empirical material gathered by interpreting it through the concept of alienation, which I argue can fruitfully be 'put to work' to assess the ethical experience of individuals at the workplace in the fossil fuel industry. More precisely, I demonstrate that the concept of alienation accommodates the resources required not only to outline fine-grained descriptions of the multi-layered social reality in which Total's employees evolve, but also to develop a normative critique of the generic form of life that gets articulated in the corporate realm. This leads me to introduce the concept of dwelling as a dialectical opposite to alienation, and to suggest that it can be used as a normative yardstick to describe constructive relationships with the self and the world. More particularly, I put this concept in tension with empirical reality in order to identify workable, context-sensitive institutional principles that would enable to re-embed human work and business firms in their background social-ecological framework. By undertaking such an intellectual project, I hope to formulate an argument that builds insightful bridges between social philosophy and political ecology by both honouring and offering a fresh view on a longstanding tradition of critical, humanist thought in the social sciences.

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"In your struggle against the world, side with the world."

Franz Kafka, *Unpublished works 1916-1918 – Aphorism 52.*

CHAPTER 1

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Introduction

1. Research rationale

In this research project, I engage in the task of delineating the conditions of possibility of human action in the institutional structures of contemporary capitalism, in the age of the Anthropocene. In other words, I reflect on the circumstances required for people to relate appropriatively to the socio-ecological practices they deploy at the workplace[1]; these need to resonate with their fundamental aspirations, for their self to get progressively integrated – that is, embedded in narrative structures of interpretation that offer the canvas on which identities are constituted.

Over the last few years, the scientific community has become closer than ever before to a stabilized consensus and, in the event of internal discussions continuing, now largely endorses the claim that humanity has entered a new geological period, named after its own genus – the Anthropocene (Waters and al. 2016). Although the starting point of this new era is well behind

1. In this dissertation, I deliberately use the neologism "appropriatively", which is introduced in the translation of Jaeggi's (2014) book on alienation in order to designate a certain way, for agents, of relating with the relationships in which they are always already involved – see details in chapter 4.

us[2], its recent emergence as a matter of concern has followed the development, in most Western countries, of a greater awareness that human activities are now altering the core biophysical processes that regulate the stability of the Earth system on an unprecedented scale, by jeopardizing the integrity of the biosphere and accentuating climate change (Steffen et al. 2015). As the planetary boundaries that ensure a "safe operating space for humanity" come to a close[3], the most basic conditions for the existence of human life, hitherto taken for granted, appear vulnerable. The view of the Earth as a 'blue planet', the sphericity of which one can observe from space, has never been so divorced from our experience of it; even if the wide-ranging phenomenons that Earth system scientists describe unfold below the threshold of our senses (Casey 2017), their cross-checking reveals the contours of an Earth that resembles a "thin, tiny, fragile pellicle" – a "critical zone" with frail equilibriums in which we have to live and that admits no outside (Latour 2018). Although this new picture is slow to inform cultural imaginaries, the baseline premises that underpin shared understandings of the good life are shifting imperceptibly[4]. As a hermeneutic being with an open-ended identity (Taylor 1985, 1992), man has started to reinterpret (and re-evaluate) the forms of life in which he is inserted, so as to integrate the Anthropocene watershed into his ethical horizons[5]. Yet, as Western

2. Diverse hypotheses are still being discussed: different scholars antedate the start of the Anthropocene to (1) the agricultural revolution in the Neolithic period (Ruddiman 2003); (2) the introduction of smallpox to the American continent by European settlers in 1610, when approximately 50 million indigenous deaths caused a drastic reduction in farming, natural reforestation and a subsequent dip in global carbon dioxide levels (Lewis and Maslin 2015); (3) the invention of the steam engine by Watt (Steffen et al. 2011); or (4) the detonation of nuclear bombs, which generated particles that are now easily identifiable in stratigraphic records (Zalasiewicz et al. 2015).
3. On climate change, see Allen et al. (2009); and McGlade and Ekins (2015).
4. These baseline premises are meant to be stripped of metaphysical assumptions – or, as Walzer (2006) puts it, to be 'thin' rather than 'thick'. Honneth (2007) suggests defining them as "the general conditions for the free articulation of ideals of human life". Caney (2009) provides a good example: he argues that climate change jeopardizes key human rights – the right to life, the right to health, and the right to subsistence. Although these rights retain a high degree of universality (they are indeed assumed to exist in all imaginable conceptions of the good life), Caney somehow contextualizes them, by indirectly demonstrating that their securing presupposes a stable biophysical environment.
5. We should not overrate the argument that the Anthropocene constitutes a complete transformation of our relationships with the environment. Locher and Fressoz (2012) demonstrate that modern societies have developed a strong environmental reflexivity from very early on, long before the consolidation of 'standard' environmental and Earth system sciences: in the nineteenth century, people expressed their climatic worries against the backdrop of an organicist worldview, which

societies have embarked on an unprecedented spiral of acceleration, attempts to articulate transformative socio-ecological practices stumble over the rigidity of existing social structures, and lack stable anchoring points (Trejo-Mathys 2015).

An important vector of this social acceleration, and hence of the advent of the Anthropocene, has been the rise of capitalism as a mode of production, which has contributed towards embedding, decade after decade, an "inescapable compulsion in the material structures of society" (Rosa 2015: 161). Many observers have rightfully highlighted this connection and argued that the change in geological regime has signalled a transition to the 'age of capital' rather than to the 'age of man' (Bonneuil and Fressoz 2016; Malm and Hornborg 2014): as such, it is indeed the British industrial take-off that initially induced the deep-seated dependence of the capitalist economy on fossil fuels (Malm 2016), the availability of which has since then remained a constant precondition for the reproduction of socio-economic structures (Giraud and Kahraman 2014) and a hidden premise for the elaboration of a disembedded economic science (Mitchell 2008). It is therefore now widely accepted that, under the coercive constraint of intensifying competition, the unchecked deployment of corporate activities has been – and still is – an irresistible propelling force to the perturbation of the core biophysical processes that regulate the Earth system (Ekwurzel et al. 2017; Österblom et al. 2015).

Placed against this contrastive background, the problematic nature (and thus legitimacy) of the research question outlined above appears more clearly: for individuals working in multinational firms that engage in activities that directly jeopardize planetary equilibriums, the possibility to contribute to articulating a sound ethical life, and one intersubjectively recognized as such, seems significantly more fragile – if not definitively hollowed out (MacIntyre 2015). In this doctoral dissertation, I aim to demonstrate that the concept of alienation can fruitfully be 'put to work' to assess the ethical experience of individuals at the workplace in the fossil fuel

conceived of Earth as a living being to which humans were related. However, I remain sympathetic to Hamilton's (2016) argument that the Anthropocene represents a radical epistemic rupture, insofar as it breaks away from the providential tone that prevailed in earlier narratives and relies on the systematized, disenchanted accounts of modern science.

industry, and that it enables one to outline a balanced diagnosis of the social misdevelopments underpinning the unprecedented degradation of ecosystems occurring in the Anthropocene. By undertaking such an intellectual project, I hope to formulate an argument that builds insightful bridges between social philosophy and political ecology, and thus to honour (and offer a fresh view on) a longstanding tradition of critical, humanist thought in the social sciences.

2. General context

An important particularity of my research lies in the fact that the theoretical contribution I aim to bring builds on an empirical case study for which I was able to conduct fieldwork. In this dissertation, I deploy the research rationale outlined above through an in-depth analysis of the ethical experience articulated by the employees of the French multinational oil and gas firm, Total – with climate change being the paradigmatic systemic perturbation that corporate activities generate.

When I started to reflect on my research project in 2013, the failure of the 15th Conference of the Parties (COP15) in Copenhagen had laid bare the structural deficiencies of the multilateral negotiations conducted by the United Nations Framework Convention on Climate Change (UNFCCC). Although by then the Earth system science community already largely supported the working hypothesis of a 'global carbon budget' (Allen et al. 2009), a renascent transnational climate movement led by influential figures had only just started to harness it and bring it to a wider audience (Della Porta and Parks 2014; Dietz and Baer 2014). With the prospect of the COP21 lying ahead, multinational oil and gas firms were being exposed to unprecedented levels of reputational risk, and there was increasing concern about the possibility of their assets becoming stranded (Carbon Tracker Initiative 2014a; *The Economist* 2013). In the short term, this growing pressure could not substantially challenge their status as

'material central banks' of the economy[6], but it at least amplified public debates about the legitimacy of these institutions in the Anthropocene.

This dissertation thus intends to make contribution to debates on climate justice. While a significant part of the literature devoted to the topic remains largely tributary from the intellectual premises of liberal political theory and neoclassical economics (a good example is Gardiner et al. 2010), in this study I turn my gaze to the private realm, the ambiguous position of which scholars often dismiss as infrapolitical and, consequently, rarely analyse it. If it is now widely recognized that multinational corporate actors have gained sufficient influence in the world-power system (Robé et al. 2016) to corrode (if not simply hollow out) shared imaginaries and public regulation, the structuration of their internal dynamics remains a significant blind spot to social theory. Of course, this relative lack of in-depth description is undoubtedly because the corporate environments of financialized capitalism are difficult to penetrate. However, if accessibility is clearly a limiting factor, the relative dullness of corporate bureaucracies, which Graeber (2015: 45–104) characterizes as "dead zones of imagination", also amplifies their lack of attractiveness to social scientists, who rather enjoy studying "exotic life-worlds" – with the risk, though, of looking away from the exploitative dynamics that most contribute towards accentuating environmental degradation (Hornborg 2017). Given the powerful way in which the industrial/extractive activities of some multinational firms shape nature–society relations (Arboleda 2015; Huber 2017), I suggest that we should take seriously the persistence of such an epistemic gap concerning the corporate environments in which they get organized. It is precisely this shortcoming that I aim to address in this study by taking it as a premise that one can best address the threat to the Anthropocene by rigorously challenging the

6. As I mentioned earlier, and will elaborate on later, fossil fuels have become so deeply ingrained in the material substance of commodities that their continuous availability is a prerequisite for economic activity. Just as central banks 'create' money out of a 'free' resource (mutual trust), the fossil fuel industry 'creates' disposable energy by harnessing 'free' natural resources.

forms of rationality that structure 'critical' business-as-usual activities (and the forms of human work that underpin them)[7].

In this perspective, I mobilize the concept of alienation as a heuristic tool, which I use to reconstruct finely-grained descriptions of the multi-layered social reality in which Total's employees evolve. At the same time, the concept also accommodates the resources required to develop a normative critique of the generic form of life that gets articulated in the corporate realm (Jaeggi 2016). By casting light on the socio-material circumstances under which the process of production (and thus of capital accumulation) unfolds at the firm level, I aim to give a coherent account of the ideal-typical patterns that structure contemporary capitalism – and thus to provide an "analytically rigorous grasp" (Hornborg 2017) of the dilemma that most critically characterizes ethical experience in the Anthropocene. The intellectual project I develop thus aims to depart from a purely "expressionist critique" (Pineault 2008), which would immediately reify the institutions of capitalism as if they were monstrous *per se*; rather, I seek to anchor the critical gist of my intellectual project in a meticulous description of socio-technical phenomena and their interrelations. Engaging with this never-ending task of deciphering the texture of this complex reality is, I argue, a prerequisite to evaluating whether the institutional arrangements that characterize contemporary capitalism fulfil the demands of the "minimal normative consensus" (Honneth 1996: 42) that individuals who take part in it (not only within but also outside the corporate realm) implicitly expect.

I have drawn the bulk of the empirical material I mobilize to investigate this question from my case study of Total. These resources provide the data I need to describe the dynamics that structure corporate activities in the oil and gas industry, and, on this basis, to question their compatibility with the attainment of a sound ethical life in the Anthropocene.

7. 'Critical' corporate activities are those that directly alter the core biophysical processes that Steffen et al. (2015) identified.

3. Contribution to the literature

My aim in this dissertation, as I have said, is to decipher the coordinates of the moral universe in which Total's employees are immersed; to do so, I identify the different facets of the process of ethical deliberation that should accompany the exercise of practical reason at the workplace and, by the same token, the concrete circumstances that hinder its deployment. To date, I have not heard of a researcher drawing (or having drawn) on an empirical case study to embark on such an intellectual journey. By opening this so far unexplored axis of research, I aim to make a contribution to a variety of debates that already exist in the established disciplines.

First, this doctoral work aims to enrich the debate on how individuals shape their moral identities in contemporary capitalist societies. This topic has, of course, been the object of countless diverse enquiries in both philosophy and the social sciences.

The fields of political and social philosophy have generated insightful concepts with which to describe the avenues and impasses of ethical life in our age. For a few decades now, it has become increasingly accepted among social philosophers that the structural dynamics of society (like, for example, market forces) can obstruct the deployment of rational cooperative practices and thus generate specific "social pathologies" (Honneth 2007, 2009; Renault 2009): among these, alienation has been closely studied, with recent monographs by Fischbach (2009), Haber (2007) and Jaeggi (2014) – which I discuss later in the theoretical framework. Although in this dissertation I have no intention of challenging the theoretical premises of this concept from top to bottom, I do want to 'put it to work' to test its heuristic potential for confronting the task of interpreting empirical reality. While alienation and "social pathologies" represent the impasses of contemporary ethical life rather than its ways of development, it is worth emphasizing that I also explore this second facet. In this endeavour, I build on the works of philosophers who have attempted to define the moral backbone of modern selfhood – Taylor's (1992) study on

the ethical values guiding modernity's self-understanding, Honneth's (1996) post-metaphysical reconstruction of Hegel's struggle for recognition, and Ricoeur's (1995) articulation of an hermeneutics of the self appear here as landmark contributions. However, more than seeking to challenge the theoretical premises of these frameworks, I try rather to assess how their core questioning (establishing the conditions of the good life) can be 'plugged into the field': on this precise point, Rosa's works (1998, 2015, 2017) constitute a decisive reference point.

However, it is crucial to emphasize that, beyond philosophy, this dissertation contributes to a variety of fields in the social sciences. My account of how moral identities are shaped is fundamentally positional, context-sensitive and attentive to practicalities. I engage in a dialogue with several disciplines to qualify the empirical material gathered at Total. Studies on the 'acculturation' of Foucault's theoretical framework to the corporate realm by critical management scholars (Aggeri 2014; Lambert and Pezet 2012; Miller and Rose 1990) and cultural political economists (Jessop 2004, 2010) offer ample resources with which to unmask the logics of power hidden behind corporate narratives. I mobilize the sociological literature devoted to corporate elites to evaluate the professional identities of Total's managers, with a specific focus on the French context. Since Boltanski (1987) produced the first study on French 'cadres', both French (Comet and Finez 2010; Dujarier 2015; Flocco 2015) and English-speaking scholars (Maclean et al. 2014) have closely observed this sociological category. Beyond this field, the sociology of work appears as a pivotal discipline in the theoretical structuration of this dissertation. I draw extensively on the diverse resources of this field to analyse the working activities of Total's employees. As such, the sociology of work is a variegated discipline, one that conjoins studies that display historical tonalities (Castel 2002; Trentin 2012) with others that engage with normative issues (Ferreras 2007; Nanteuil 2016), or that forge connections with human psychology (Clot 2008, 2015). It is worth noticing that this field has benefited, in France, from original theoretical inputs from both psychiatry (Dejours 2006, 2011, 2014) and ergonomics, the discipline that studies the fine-grained modalities of human activity (Schwartz 2004; Wisner 1995). I am particularly interested in this thesis to

harness these intellectual frameworks and apply them to new terrains. Beyond providing an in-depth study of human work, I hope that this dissertation will serve as a sounding board for some of the core questions that mobilize labour law scholars (Arthurs 2013; Langille 2006, 2013; Supiot 2001, 2015b), even if obviously it cannot claim to make a comprehensive contribution to that field.

From all this, it becomes clear that each of the different fields I have delineated casts a specific light on the complex dynamics that structure the formation of moral identities at the workplace. By engaging with them in this thesis, I aim to emphasize the complementarity of these disciplinary perspectives and to set the stage for further discussions.

Second, another aspect of this study is that it casts light on different perspectives in the multi-faceted, ongoing debate on the dynamics of capitalism. The reconstruction of our contemporary ethical landscape (or at least of a part of it) that I outline here highlights two features of current-day capitalism that remain insufficiently examined and that deserve greater attention.

One of these features is the relative neglect in the literature of firms and corporate power. It is worth noting that the bulk of critical studies of capitalism prioritize the 'macro' level, so focus predominantly on larger aggregated entities such as the state or markets. This is particularly evident in Fraser's (2014a, 2014b) attempt to redefine capitalism; although her analysis is compelling and innovative, it relies too heavily on Marxist categories (like 'capital' and 'surplus') that remain relatively undistinguished at an institutional level. Likewise, Streeck's (2016) interpretations mostly draw on macro-sociological categories. These approaches tend to neglect the 'meso' level, which is where the operations of the capitalist economy take place, with hierarchically-integrated institutions (firms) playing an unavoidable role in determining how adversarial social and cooperative social relations get mutually imbricated. In setting out a critical political economy of Total for this study, which it goes without saying will remain incomplete, I accord significant importance to this 'meso' level. Consequently, I seek to build

bridges between the different discussions that take place within distinct research communities, for each in its own way has some contribution to make towards renewing the theoretical scholarship surrounding business firms. Economic geographers represent the first community: over the last two decades, they have indeed been a driving force in the effort to provide contextualized accounts of the institutions of contemporary capitalism. They have done this in a number of ways – by reflecting on their own interpretation of the firm (Asheim et Taylor 2001), by highlighting the salience of the geographical factor to explain changing patterns in modes of accumulation (Clark and Wójcik 2007; Dixon 2011; Hall and Soskice 2001), or by analysing the emergence of global production networks – with Bridge (2008) being a good example for the oil and gas industry. Since the financial crisis, political philosophers have also entered the debate on the institutional status of business firms: they have approached the democratic deficit that hampers the corporate realm by employing methods that are both constructive (see Néron 2009, 2015 for a liberal-egalitarian account) and empirically-informed (Bommier and Renouard 2018; Ferreras 2017; Renouard 2007). In this endeavour, they have often received support from institutional economists (Chassagnon 2014; Favereau and Roger 2015). To cap it all, legal scholars have also played a decisive role in renovating the scholarship on business firms – notably by interpreting the mutations of 'sovereignty' in the post-Westphalian world order (Catá Backer 2007, 2008; Muir-Watt 2011; Robé et al. 2016), by describing the emergence of new 'normative spaces' and the pluralization of legal regimes (Lhuilier 2016; Teubner 2011), or simply by examining the firm's legal foundations (Deakin 2012; Robé 2011). With the case study developed in this research, I thus aim to lay the ground for a mutual cross-fertilization of discussions currently held among geographers, philosophers, economists and legal scholars about the nature and status of corporate power in contemporary capitalist societies.

The other feature of present-day capitalism requiring further examination concerns the poor characterization of environmental boundaries. Neither 'macro' nor 'meso' narratives on capitalism tend to consider how the structuration of the economic system shapes collective

relationships to the environment – notably through the consumption of fossil fuels. By addressing this specific topic, I aim to deepen the debate by engaging with the sustained discussion that has emerged from exchanges between geographers (Huber 2009b, 2013; Labban 2010) and historians (Malm 2016; Mitchell 2013) studying fossil fuels from an approach rooted in political ecology. More generally, this study unfolds under the aegis of the works of ecological economists who have, in the wake of Georgescu-Roegen (1975), emphasized the deep intertwining of economic activity with energy consumption (Ayres and Warr 2010; Giraud and Kahraman 2014). As such, by placing my focus on the symbolic case of Total, I aim to highlight the embeddedness of capitalist societies in natural environments.

Third, I intend to make a contribution to the recent debate on the concept of planetary boundaries (Rockström et al. 2009; Steffen et al. 2015). So far, there has been very little research on the structural socio-political factors that disrupt core biophysical processes, or on the specific involvement of private actors. Apart from a recent study on the causes of marine biodiversity loss (Österblom et al. 2015), it is predominantly the fossil fuel industry and its response to climate change that has attracted the scientific community's attention. Yet, whether studies on multinational oil and gas companies have focused on (i) their contribution to historical greenhouse gases emissions (Ekwurzel et al. 2017; Frumhoff et al. 2015; Heede 2014; Heede and Oreskes 2016), (ii) their CEOs' discourses (Deneault 2017; Ferns et al. 2017; Gendron et al. 2017), (iii) their corporate culture (Levy and Spicer 2013; Nyberg and Wright 2015), (iv) the impressive management techniques they develop (Cho et al. 2015; Matejek and Gössling 2013), (v) their reserve replacement strategies (Bridge and Billon 2012), or (vi) the increasing concern of institutional investors (Caldecott and Rook 2015; Caldecott et al. 2013; Carbon Tracker Initiative 2014a, 2014b), nearly all, with the notable exception of Lovell (2009), have approached the industry from an external perspective. By casting light on the internal dynamics that structure Total's corporate activities, I hope to fill this gap. Fleshing out

such an insider approach will, I argue, enable me to enrich the debate surrounding the contested legitimacy of multinational oil and gas firms in the Anthropocene.

For all its merits, this dissertation also has its limitations. For a start, by organizing the case study to provide an empirical basis for discussing the concept of alienation, I have ruled out certain options. For example, I have not engaged in a comparative approach (such as comparing Total with BP, or Shell), which might have broadened my insights into the French firm; I have not developed an in-depth analysis of Total's activities in the Republic of Congo (see methodology); and I have not attempted to produce an exhaustive monograph on Total. For these reasons, this doctorate will surely fall short of the expectations of specialists in the oil and gas industry, and of corporate historians.

Another limitation of this research is that it can only partially challenge the premises of the theoretical frameworks that inform the various disciplines with which it engages. Since I have conceived of this dissertation as a kind of 'journey' that goes through successive stages to embrace the different facets of the process of ethical deliberation, I consider that its epistemic contribution comes from the emphasis it places on the linkages and connections that enhance a dialogue between different fields, rather than from the specific advances it makes in a discipline. While one can interpret this as a shortcoming, I suggest that uncovering such articulations can help us identify new pivotal points to rejuvenate our approach to ethical life in contemporary capitalist societies.

4. Outline of the dissertation

By approaching alienation through its various guises and meanings, I aim to demonstrate that the concept can be 'put to work' not only to describe a complex socio-ecological reality, but also to reveal theoretical and practical ways of interpreting it creatively. I pursue this aim throughout the four empirical chapters that make up the core of my research. However, before

that there is a general introduction (this chapter), a methodological chapter, and an in-depth presentation of the overarching theoretical framework, which is split in two parts. Given that in this study I seek to develop a multi-faceted analysis of alienation, it is my intention that each successive chapter will build on its predecessor, so that each constitutes a specific moment of a more systematized reflection. I organize the dissertation as follows:

The *methodological section* contains contextual information about my own input into the project, as well as the circumstances under which I finalized the research agreement with Total. In addition, it includes a comprehensive explanation of the choices and constraints surrounding the design of the study and the collection of the data.

I start the presentation of the *theoretical framework* by positioning the research project within existing disciplinary boundaries. For this endeavour, I focus especially on two distinct fields, social philosophy and political ecology, which I present successively. Although these disciplines seem naturally to share multiple points of contact, I point out that scholars have drawn few (if any) connections between them. On the basis of these preparatory discussions, I introduce the concept of alienation itself in a second chapter. After having delineated its genesis, I go on to explore its potential and limitations, arguing that it offers significant interpretive resources with which to characterize the ethical experience of individuals at the workplace.

In the *first empirical chapter*, in which the focus is on *'cultural' alienation*, I highlight the modalities through which the firm produces and spreads a corporate 'climate imaginary' (both within and outside its organizational perimeter) that legitimizes its involvement as a key actor in climate change mitigation, while at the same time securing its social licence to operate. From a classical viewpoint, this attempt to deconstruct discursive formations can be compared to a critique of ideology: by taking stock of the gap that exists between symbolical commitments and substantive outcomes, I intend to show how a specific corporate 'cultural form' has emerged

that profoundly shapes the views of Total's employees and executives on climate change issues. Yet, the findings of this chapter suggest that, far from being self-sustaining, the structuration of the corporate 'climate imaginary' is deeply tributary from the deployment of a wider socio-economic process, namely capital accumulation.

The contribution of this chapter to the overall argument is that it describes an important facet of the process by which individuals come to lose their ability to relate appropriatively to the social practices they deploy at the workplace. In this case, the diffusion of a discourse depicting a distorted image of Total's socio-material entanglements precludes the stabilization of a balanced worldview among the firm's employees. Yet, if the employees are to exert their practical wisdom (*phronesis*), which is a necessary condition to the flourishing of human action, they require access to a realist picture of the firm's actual position.

In the *second substantive chapter*, I posit that one can use the notion of *objective alienation* fruitfully to describe the effects of capital accumulation. Decades of economic growth have turned Total into a global firm operating in the international markets, thus contributing to its image as a seemingly unshackled social entity emancipated from human agency. My core aim in this chapter is to identify what conditions made this growth possible: to this end, I develop a 'more inclusive' history of the firm and try to highlight how, over time, the continued organization of capital accumulation led to the articulation of specific socio-ecological regimes. Objective alienation and environmental degradation take on the appearance of intertwined phenomena, with specific intra-firm institutional arrangements largely shaping their dynamism.

The purpose of this chapter is to show that the ossification of the socio-ecological relations that has accompanied Total's growth trajectory over the last decades has been exposed to historical contingency. However, the massive growth in the firm's size and the rigidification of its structures have been an important vector for reinforcing alienation at the workplace, since these processes have dispossessed individuals from their ability to alter the conduct of the business. In this perspective, the apparent 'emancipation' of Total (which disappears when one

historicizes corporate activities) thus relies on individuals losing their grip on the productive power they effectively deploy.

The focus of the *third empirical chapter*, which moves on from the structuralist perspective of the previous ones, is on *subjective alienation*. Although one might consider it a truism, it is necessary to start by emphasizing that there has been an increasing tendency in critical discussions on contemporary capitalism to elide the centrality of work (understood here as a complex dynamic activity performed by human beings) in the production and reproduction of social institutions. I pay special attention to the practicalities that characterize individuals' working experiences: studying these enables one to pinpoint the various modalities through which employees and executives come to develop distorted relationships to their self and to the world at the workplace. The underlying hypothesis I defend in this chapter posits that it is precisely the conjunction of these simultaneous, fragmented experiences of subjective alienation that constitutes a crucial precondition for the deployment of objective alienation[8]. Exploring these experiences thus constitutes a further step in my attempt to outline a genetic analysis of socio-ecological reality through the lens of alienation.

After two chapters on the structural processes (i.e., the diffusion of a corporate imaginary and the movement of capital accumulation) that deploy at the expense of individuals by harnessing their cognitive resources and productive power, the contribution of this chapter to the overall argument is that it emphasizes the diverse modalities through which alienation occurs at the workplace. This examination of alienation qua social pathology therefore completes our understanding of structural processes, for the reproduction of the latter is predicated on the pervasiveness of the former and the two phenomenons reinforce one

8. Since social institutions are *not only* the instantaneous products of the intersubjective exchanges that their members perform *but also* simultaneously received by them as 'always-already instituted', the articulation between subjective and objective alienation I defend in this dissertation does *not* consist of a unilateral causation (SA=>OA or OA=>SA), but rather is a more complex relationship of mutual implication – see details in chapter 4.

another. This third chapter closes the descriptive part of this work dedicated to exploring the analytical potential of the concept of alienation.

In the *fourth empirical chapter*, which I base on previous findings, I introduce the concept of *dwelling as an alternative to alienation* to describe figures of constructive relationships to the self and to the world. I mobilize this concept as a regulatory idea with which to structure a critical discussion of the political status one should confer on human work and on the socio-economic institutions that harness it, with the focus here on multinational firms. Given that I confined the focus of the three previous chapters to analytical descriptions, in this last chapter I introduce a new perspective by attempting to outline a normatively-principled critique of the previously reconstructed form of life – in which working activities deployed by living individuals on the one hand, and ossified corporate culture and socio-technical structures on the other become mutually enveloped to form the 'firm'. To do so, I analyse the extent to which a corporate form of life can fulfil the "moral potential that is structurally inherent in [the] communicative relations between [the] subjects" that constitute it (Honneth 1996: 67). By providing evidence of the pervasive ethical shortcomings of the corporate environment, I identify some of the key normative claims that could orient transformative practices towards bridging the gap – that is towards re-embedding human work and business firms in their background socio-ecological context. For these practices to materialize, corporate life has to prove malleable enough to facilitate rather than hinder the deployment of successful collective learning processes (which might put in tension existing structures) (Jaeggi 2016): this point also comes under scrutiny.

By the end of this fourth chapter, my exposition will have come to an end: by highlighting the concrete conditions under which it becomes possible to link transformative practices oriented towards dwelling to a corporate context, I will have offered a clear picture of the demands implied by any attempt to articulate a sound ethical intention to achieve "the 'good

life' with and for others in just institutions" (Ricoeur 1995: 161) in the age of the Anthropocene.

In the *conclusion*, I summarize the findings of the research project and highlight its contribution to existing debates. I also discuss some of its limitations and identify unexplored theoretical axes for future research.

CHAPTER 2

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Methodology

The originality of this dissertation lies in the fact that I elaborate its theoretical contribution against the backdrop of a specific case study of the French multinational firm, Total. In what follows, I start by outlining how the study materialized practically and reflect on my own positioning as a researcher. I then provide some information about the research agreement that has underpinned the project before going on to describe the methodology that I have developed to conduct semi-structured interviews with employees.

1. Studying Total: the twists and turns of a personal journey in a virtually limitless corporate universe

As I embarked on my research, it quickly became apparent to me that the reality that this simple term 'Total' denoted was far too complex, fluid and multi-faceted to be apprehended once and for all: it would thus be impossible to apply a single approach to analyse an enterprise that has a workforce of nearly 100,000 employees of all nationalities, that attracts equity and debt capital from all over the world, that has a legal structure consisting of thousands of imbricated limited liability corporations registered in a constellation of countries, and that

develops both onshore and offshore operations in every continent on Earth. This realization was hardly surprising: after all, the intuition that it is impossible to produce a full-circle account of a firm like Total is commonsensical. And in fact, my first encounters with the fundamental heterogeneity of the corporate reality brought concrete, quick (and probably healthy) confirmation that my research project would necessarily remain fragmentary. Now that it is complete and my findings consolidated in the present doctoral dissertation, it should be clear that, rather than an all-encompassing view of Total, the perspectival, "situated knowledge" (Rose 1997) of the firm that this study provides has emerged both from what I have learned from informants in the field and from the dialogues I have initiated with texts and theories.

1.1. Empirical sources

In this first subsection, I lay out the concrete circumstances under which I have been able to reconstruct my perspective on Total's corporate context. In this respect, my field experience was not only decisive, but also particularly demanding: once I started to gather information on the firm and to attend my first meetings at its headquarters, it quickly became apparent that to delineate the boundaries of my research (and hence my relationship to it) would be a delicate exercise. 'Total' presents indeed an elusive social reality[9], one that an indefinable diversity of socio-material practices, not only within but also beyond the corporate realm, instantiates. Although the firm's numerous reverberations are often heterogeneous and irreducible to one another, I have tried to mobilize them for my enquiry as so many types of empirical sources. The confluence of these various sources has helped to shape my understanding of the firm: in what follows, I identify three channels through which I have gathered empirical data.

The first of these channels consists of publicly-available material, including corporate institutional documents (annual factbooks, investor presentations, sustainability reports, etc.), public talks by CEOs, newspaper articles (from *The Financial Times* to left-wing independent

9. In what follows, I put 'Total' in quotation marks when I want to stress that the social reality that lies behind the term is ultimately impossible to grasp.

titles, via the mainstream press), books issued on the company (with varying agendas, ranging from self-congratulatory accounts to in-depth investigation), scientific literature, reports from NGOs and think-tanks, memoranda from financial institutions, and films and documentaries.

The second channel consists of my fieldwork experience, which could only materialize once I had signed a research agreement with the firm (see section 2). However, this channel generated an invaluable opportunity to discover the corporate environment from the inside, both in France (from September to December 2015) and in the Republic of Congo (in April 2017), where I took part in a research project that the local subsidiary supported[10]. Exposure to social interaction in such different contexts enabled me to gather a rich variety of first-hand empirical material. Although I was able to capture some of these data through conducting semi-structured interviews with employees (±40) (see details in section 3), an important part remained 'below' the line of formalization, yet directly sharpened my knowledge and understanding of 'Total'. In some sense, one could label such empirical data 'experiential' or 'biographical', for they are so tightly woven into a researcher's experience that they remain detached from any formalized theoretical thinking (Schwartz 2008). In this respect, delving into Total's corporate universe in France turned out to be a genuine ethnographic experiment. Passing the high-security gates of the 'Total tower', engaging in small talk in high-speed lifts up to the 30th floor and catching glimpses of Paris while walking along uniform corridors, having breakfast with a senior official to negotiate the terms of my project, trying to explain to a fully-fledged engineer that social scientists are not really equipped to 'produce indicators', attending a conference-call with employees from here and there, and, in the meanwhile, listening to countless stories about the previous restructuring of Total's organization, the career trajectory of Mr So-and-So, the current situation in Nigeria, and the drop in oil prices – all these details

10. Because the opportunity to complete my fieldwork with a trip to the Congo only materialized late in the research project, the argument developed in the present dissertation does not emphasize the specificities of that 'sub-case study'.

gradually came together to create a background picture of the firm, which, by remaining open-ended, never quite stabilized.

The picture became even more complex when a chance to complete my fieldwork with a four-week stay in Pointe-Noire, in the Republic of the Congo, materialized; there, alongside two other young researchers, I participated in a research project with Total's local teams. My experience of immersion in the Congo was even more pronounced than it had been in France. Since there was relatively little publicly-available documentation on local corporate activities (thus seriously restricting access through the 'first channel' identified above), I had to gather the bulk of my empirical material through ethnographic engagement. Interviews were, of course, the most formal way of collecting data, but here again informal situations and unexpected interactions were what fleshed out my 'sense of the place'. Experiences such as having drinks with French expatriates in the chic bars of Pointe-Noire, engaging in discussions with talented young Congolese aspirants about their career prospects in France and beyond, catching sight of a 'Louis Vuitton' sack in the office of a Congolese middle manager, passing through the gates of Total's private industrial yard in the Pointe-Noire harbour, attending the very select "Congo International Hydrocarbons Conference and Exhibition" in Brazzaville, and witnessing a courteous sparring between a Congolese civil servant and the managing director of Total-Congo all obviously contributed towards shaping my interpretation of the local situation. More broadly, diving into a different corporate context sharpened my understanding of Total as an integrated multinational firm (but also, and more generally, of the multinational firm as an ideal-typic form). Being in the Congo allowed me indeed to develop a better sense of the subtle dialectics of proximity and distance that characterize relationships between headquarters and local subsidiaries, and hence that play a part in shaping corporate identities.

Yet, in this description of the 'second channel' of my research project (the one the research agreement covers), I should draw attention to two significant limitations. First, I could probably have mobilized the corporate archives, to which I had access, more systematically; however, access was not that straightforward because it entailed scheduling appointments with the

archivist and having a precise idea of what material I needed. As the archival holdings turned out to be colossal, I decided (early in 2015) not to rely extensively on them: nonetheless, some of these archived documents enabled me to prepare the first empirical chapter of the thesis. The second limitation is not due to me but is still worth mentioning. At Total (as in any multinational firm), a significant amount of the information linked to the organization of internal corporate processes remains undisclosed to anyone outside the departments in question. Although access to data relating to such things as transfer pricing practices, payroll policies, business development strategies, partnerships, and contracts with third-parties could dramatically increase our understanding of the firm, such empirical material is rarely (if ever) available – even to the firm's own employees.

The third channel through which I approached 'Total' consisted of formal or semi-formal interviews and discussions with a wide variety of stakeholders. In France, these included the CEO of an asset-management company involved in shareholder activism; the campaigner for 350.org in France; a cyber security expert; several employees working for Total subcontractors on offshore projects (including Technip, and Saipem); and a range of academics and researchers working on the oil and gas industry. In the Congo, there were members of civil society organizations (including Caritas, ReNatura, and the Commission nationale des Droits de l'Homme); numerous Europeans working in the oil and gas sector (whether for the government, oil services companies, or other multinational oil and gas firms); and an even larger number of ordinary Congolese people, be they maids, waiters, drivers, hotel night watchmen, or vendors in the local market. In the United Kingdom, these stakeholders consisted of the various academics and scientists working on carbon budgets at the School of Geography and the Environment at the University of Oxford.

This overview of the various empirical sources I have mobilized for my study suggests that if I have effectively opted for the 'deflated' paradigm of a situated and perspectival approach, I have nonetheless had sufficient material to develop it in a demanding way. Being able to

multiply the cross-references and back-and-forth movements between a diverse empirical field on the one hand, and my own research on the other, gradually gave me enough confidence to venture beyond a purely agnostic approach to 'truth', and hence to reconstruct a stylized picture of the firm and its structuring dynamics. The fact that a strong normativity saturates the corporate environment, and hence makes it easier to detect recurrent organizational patterns, justified this move. In my attempt to grasp and circumscribe some of the structural features of the generic form of corporate life that typically unfolds at Total, I have therefore tried to forge a link between wide-open empirical observation and a cautious elaboration of stylized facts, with the assumption that both approaches are "part and parcel of an inevitable and never-ending test of claims in the construction of social knowledge" (Clark 1998). It is on the basis of such a 'stabilized' (yet still open-ended) understanding of the firm that I have tried to articulate a wider reflection on alienation. However, before engaging with the concept as such (see chapters 3-4), it is essential that I highlight some of the core implications of its use in relation to my own personal take on the field.

1.2. Positionality and critique

When I started my doctoral work, I had just acquired a double master's degree from two French *Grandes Ecoles*; one of these, HEC-Paris, is one of the world's leading business schools – and in French society it enjoys high prestige and the reputation of being a haven for national elites. During the years I spent there, my awareness of the 'politics of education' that business schools deploy (Chiapello 2012) remained largely intuitive: however, I grew dissatisfied with both the intellectual dishonesty of the mainstream curriculum and the widespread 'soft cynicism' of the students. These reflections would find greater articulation later as I continued my double degree as an engineering student at AgroParisTech, while simultaneously studying for a bachelor's degree in philosophy at Université Paris-Ouest: this gave me the leeway I needed to develop the more substantiated critical approach for which I

had until then been searching. As the prospect of focusing my research project on the case of Total started to take shape (2013–2014), the climate justice movement was on the rise and attaining greater global-level coordination. I was sympathetic to its core claims, which were increasingly supported by findings from Earth system scientists (McGlade and Ekins 2015). In this context, I initially conceived of my doctoral work as access to an insider perspective on 'Big Oil', and thus as a privileged opportunity to engage in a critical analysis of the process of production that one of its representatives (namely Total) deployed.

These biographical details are significant because, as Fassin (2008) points out, research projects in the social sciences that stem from some sort of moral indignation, which I have to admit applies to me, carry "the obvious risk of confusion between anthropological interpretation and moral evaluation". Shedding light on this fact, however, draws attention to the moral factor that I have, despite myself, introduced. Stoczkowski (2008) sees this morality – or network of complex and heterogeneous presuppositions – as an inescapable "part of the axiomatic infrastructure of [the researcher's] heuristic tool-kit". In this context, delineating the conditions of production of ethnographically-generated knowledge appears as the best way to face serenely its inherent contingency, and to reconcile "the apparent antinomy between moral and epistemological constraints" (Stoczkowski 2008).

That said, I must mention that the premises on which I initially predicated my critical stance towards Total are confirmed rather than challenged[11]. In the meantime, however, the nature of my critique has undergone significant transformations from a somewhat romantic formulation to a more stripped-down, deflated one. While conducting this research, I have done my best to draw a fine line between the two "symmetrical drifts of 'moral positioning'" (Fassin 2011), polarized by the figure of the "moral entrepreneur" demonizing 'Big Oil' in the name of universalist values on one side, and that of the "cultural relativist" invoking the incommensurability of forms of life to justify a permissive indulgence on the other. This

11. Recent scientific publications have more precisely circumscribed the conundrum that multinational oil and gas firms effectively face: I discuss some of them in the conclusion.

tension is decisive and, indeed, it is around its different modes of resolution that important segments of French sociology have been restructured in recent decades. Bénatouïl's (1999) analysis of the rift that opened between Bourdieu's critical sociology and Boltanski's sociology of criticism foreshadows the "symmetrical drifts" identified above: while the former primarily aims to unveil the logics and mechanisms of domination, the latter prioritizes the translation of the justifications provided by the social agents to motivate their actions into a formal grammar. Drawing on Walzer's (2002) discussion of Plato's well-known metaphor, Fassin (2017) suggests that ethnographers cannot really choose whether they stand outside (like Bourdieu) or inside (like Boltanski) the cave: rather, they occupy the threshold, and weave between the outside and inside, thereby intricately experiencing the social world as both "a real construction and a constructed reality". It is along these frail lines that it becomes possible to articulate a "critical moral anthropology" (Fassin 2011); as such, this vanishing point has orientated my practice in the field.

1.3. Disciplinary anchoring(s)

A distinctive feature of this doctoral work is that I have extracted its core theoretical questions from an ongoing confrontation with a dense, multi-layered empirical reality, namely 'Total'. In many ways, one could say that it is this "resistance of the real" (Dejours 2011) that has primarily motivated and spurred my research, rather than any specific theoretical issue raised in a particular intellectual field. It is therefore primarily from this 'experiential material', and through critically putting it into perspective, that I have gradually elaborated the research axis that structures this dissertation: this framing largely explains the porosity of my research from a disciplinary perspective.

It is worth mentioning that, until I started my fieldwork, I tended to envisage anchoring my research mainly in political theory/philosophy – a reflection of both my track record as a philosophy student and my wish to endorse a normatively-oriented approach. The important

literature that had emerged around the topic of 'climate justice/climate ethics' (Broome 2012; Caney 2009; Cripps 2013; Gardiner 2013; Gardiner et al. 2010; Jamieson 2007; Markowitz et al. 2015) was then a central source of inspiration. However, the 'irruption' of empirical reality that accompanied my experience in the field made me realize that I needed to reshuffle the intellectual coordinates of my research project. The classical tools of political theory (namely free-standing, constructive justifications of norms of justice) quickly revealed inappropriate to combine the different disciplines that I started to juggle with, as I tried to qualify the multi-faceted material gathered on the field – i.e., critical management studies, the sociology of work and of industrial relations, economic geography, political economy, and political ecology. As I delved into the social sciences, I did not, however, lose sight of my initial project to integrate my empirical findings into a normatively-driven theoretical framework. Social philosophy (see my presentation in chapter 3) seemed to provide sound bedrock on which to build this intellectual project: as such, the reconstructive approach that characterizes this discipline requires philosophers to abandon any sort of overhanging position and to enter a dialogue on equal terms with the other social sciences. I conceived of this equalization as the only way of developing a critique that is both stripped of its idealistic bias and more informed by the empirical reality with which it has crossed swords. This line of interpretation obviously resonated with my field experience: from this perspective, the reasons why I gradually shifted towards finally adopting social philosophy as an integrative framework appear more clearly.

However, despite all this, I do not think that this dissertation is a work of pure social philosophy, even if the discipline encapsulates its structure and organization. The social philosopher's core concern is indeed to lay out the abstract first premises required to formulate a "formal conception of the good life": as it is, my doctoral work does not engage directly on that ground. I attempt to do something different: rather, I aim to 'incarnate' this fundamental quest (that is, to seek the premises of the good life), by recasting it through the lens of the sociologist, whose core interest lies in the dynamics that structure social integration, as well as through the lens of the geographer, whose focus is on the modes of spatialization that

precondition (or derive from) these dynamics. In other words, the ultimate concern of social philosophy – a normatively-principled conception of the good life – has, throughout this work, continuously acted as a thorn in the side of the empirically-focused analysis I have articulated with the resources of sociology and geography – a thorn (I hope) that will drive the analysis forward. That said, it is crucial to stress that the movement has not just been one-sided; as I suggest in the previous paragraph, the social sciences have, by taming and qualifying the empirical material I gathered in the field, acted as a thorn in a free-standing intellectual apparatus, forcing it to come down to earth to get more attuned to the coarse texture of social reality – which in-depth analysis is therefore an essential step of critique.

Given all this, from a disciplinary perspective, the positioning of this doctoral work clearly lies 'somewhere in-between'. In this respect, Rosa's proposal to define a "sociology of the good life" as wielding "the socially predominant ideas of a successful life, whether explicitly formulated or implicitly held, against the structural conditions under which those conceptions are pursued" (Rosa 2015: 32) has been a significant source of inspiration, and I undoubtedly intend to take the theoretical project I defend in this dissertation along those lines. As such, I could probably label it a form of 'geographically-contextualized social philosophy' (which probably sounds a bit complicated), a new kind of 'geo-social philosophy' (which is better, but the identification of abstract first premises would probably remain the core focus), or simply a 'geo-sociology of the good life' (which is probably the best option)[12]. This framing could possibly be a way of engaging with Rosa's proposal by integrating more explicitly the ecological dimension of the good life, for the latter can only flourish when embedded in a natural environment that constitutes its overarching condition of possibility.

Whether a doctoral thesis can legitimately rearrange disciplines in such an ambitious manner is, of course, largely questionable; in any case, the systematic advances required for

12. I owe the epithet "geo-social" to Latour (2018). In what follows, I often use the adjectives "geo-social" and "socio-ecological" interchangeably. However, "geo-social" better captures the enveloping of the social by the natural, with the prefix "geo-" implicitly hinting at this encompassing relationship; "socio-ecological", by comparison, suggests more of a juxtaposition.

such an endeavour would exceed both my competence and the scope of this study. At this stage, therefore, I formulate the idea that, as a prospective hypothesis, this doctoral work consists of a 'geo-sociology of the good life': as such, its relevance remains fundamentally open to critical discussion.

2. Some details about the formal aspects of the field

2.1. Research agreement

For this present research, I have benefited from an agreement concluded in January 2015 between the University of Oxford and Total. Elaborating the terms of the partnership prior to signing the final document was a lengthy process, made possible through Dr Renouard's long-lasting relationships with senior executives at Total through the 'CODEV' research programme (Multinational Companies and Development of Emerging Countries – ESSEC Iréné). As a PhD candidate, Dr Renouard had undertaken an extensive investigation into the social impacts of Total's corporate activities in the Niger Delta (Renouard 2007); she then further extended her knowledge of the firm by supervising a PhD on the Nigerian subsidiary (Renouard and Lado 2012). As this research project was reaching a conclusion, she persuaded senior executives at Total to open new avenues for research; in 2012, as the divestment campaign was gaining traction, analysing Total's responsibility for the stewardship of global common goods – especially the climate – seemed a promising route. Continued exchanges with executives (in which I gradually became involved) finally generated the idea of exploring this topic through a doctoral dissertation. Once the School of Geography and the Environment had agreed to host me as a DPhil candidate, Dr Clark, Dr Renouard, Total's corporate executives and I set up several meetings in order to finalize the general terms of the research. These discussions culminated in the signing of the research agreement (see Appendix 1): in its final form, the agreement guaranteed access to the field but explicitly exempted the firm from any

commitment to fund my research. Nonetheless, I did receive financial compensation for my participation in the Congo research project (which another research agreement covered): I was defrayed of all my expenses and remunerated (795€) by CODEV (which in turn received funding from Total) for my part in writing the research report.

2. 2. Interviewing protocol

Semi-constructed interviews with corporate executives working for (or having worked for) Total constitute the bulk of the 'formal' empirical material gathered in the field.

Total organizes its activities into four business sections – an 'upstream' one encompasses activities associated with the exploration and production of oil and natural gas; the 'refining and chemicals' section brings together all the industrial processes that transform crude hydrocarbons into various sub-products; the 'marketing and services' section covers the supply and marketing of final products; and the 'gas, renewables and power' section gathers together the group's different initiatives in low-carbon businesses (including the production of electricity and energy-efficiency technologies). These four business lines function beneath a higher tier, which coordinates the development of corporate activities and articulates strategic business plans at the group level. Below, I outline the methodology underpinning the collection and interpretation of data in the field by elucidating the successive phases that have punctuated it.

The *preliminary design of the sample* has been elaborated from the perspective of the general research question, namely corporate responsibility in the face of climate change. The aim of the fieldwork was to explore the tension that the emergence of a new 'paradoxical imperative' generated for the firm, through the necessity (or at least strong inclination) to sustain core business activities while showing corporate commitment on climate issues. To set up the sample, I used three main criteria.

First, I chose two areas of the organization from which to select interviewees: these were the oil and gas exploration and production division (part of the 'upstream' section, later referred as

'EP') on the one hand, and the group holding, or higher tier, on the other. I also conducted some additional interviews with employees involved in projects related to renewable energies, which were then (before becoming an autonomous business segment in 2017) part of the 'marketing and services' section. The firm traditionally regards EP as a strong vector of Total's corporate culture because it is the business segment with the strongest concentration of wealth and power, and the one that offers the best route to successful careers. In this branch, the employees directly orient their working activities towards the extraction of fossil fuels; their positioning in the corporate value chain thus makes them particularly exposed to shared responsibility for the 'production' of climate change. The group holding is the structure that ensures the continuity of corporate identity; and, since it hosts the top management, it is the part of the firm that validates decisive investment choices and defines Total's strategic orientations. For this reason, it also seemed to be a key area to investigate.

Second, another important hypothesis in the composition of the sample was that it would be profitable to establish the views of employees at a range of levels in the hierarchy. Since greenhouse gases (GHG) emissions from fossil fuel combustion constitute a diffuse (and distant) externality of corporate activities, one cannot ascribe their causation in a straightforward way to discrete individuals (which is different in the case of local externalities such as oil spills); rather, emissions implicate all employees, although their degrees of responsibility vary depending on their position in the decision-making processes. The use of this criterion naturally led to interviewing employees of different ages, ranging from recently-graduated engineers to senior managers approaching retirement: I also interviewed some retired senior executives.

Third, I was particularly concerned to ensure that the sample reflected a balance between employees occupying 'interface' positions and those vested with more conventional missions. While the former continually engage in interactions with external stakeholders (mostly NGOs), they tend to be less destabilized by claims that are hostile to the industry, such as issues related to climate change; the latter, on the contrary, who constitute the bulk of the workforce, are

involved in intra-firm business-as-usual activities and, as such, are quite isolated from external claims. Once again, controlling this criterion was central to getting a fair view of the industry's perception of climate change – and not just the perception of CSR experts.

To *select interviewees*, I relied on non-probability sampling methods, namely a combination of 'purposive' and 'snowball' techniques (Tansey 2007). Although there is much emphasis in the literature on how problematic it often is to gain access to elite interviewees[13], in my case, the research agreement considerably eased the process. For the interviews conducted in France, the recommendations of Dr Renouard and our contact-person at Total helped me identify some promising respondents; browsing professional social networks (such as LinkedIn) soon turned out to be a complementary channel; and personal relationships added a few more candidates. Interviewees in the first round of interviews then helped towards identifying further potential respondents. In the Congo, the availability of an organizational chart of the subsidiary, as well as the active support of its managing director, facilitated the identification of respondents.

As Tansey (2007) observed, such a combination of non-probability sampling techniques (that is, 'purposive' and 'snowball') has advantages (control over the selection process, targeting important actors) and disadvantages (greater bias, limited potential for generalization). Relying on personal recommendations to compose a sample enables one to mobilize respondents with an enhanced willingness to talk, but it also carries the risk of favouring one kind of profile among the interviewees, which is why I also solicited 'isolated' interviewees. Moreover, one cannot consider a qualitative study carried out on a limited sample size to be statistically representative of a firm with nearly 100,000 employees. However, interviewing elites remains an insightful exercise: their prominent position in the hierarchical chain of command gives them the authority to contribute significantly to the modelling a shared corporate imaginary. In the present case, having access to the most senior managers involved (or having been involved)

13. See Lilleker 2003; Morris 2009; Rice 2010; Welch et al. 2002.

in issues linked to climate change enabled me to gather valuable material with which to contextualize the discussion on alienation.

The *mobilization of interviewees* materialized through two channels. I contacted the large majority of them by email, with an indirect (though explicit) endorsement of the project by the group's hierarchy and sent email copies to the research project's corporate contacts. I contacted the remaining minority, mostly composed of Dr Renouard's contacts and my own acquaintances, informally, that is without informing our corporate contacts; this enabled me to neutralize the hierarchical bias. Overall, the response rate to emails was high, with most of the employees I contacted agreeing to an interview.

I centred *the semi-structured interviews* on a generic questionnaire (see Appendix 2), which I systematically enriched with additional questions to accommodate each respondent's profile and area of expertise. Maintaining a core structure allowed me to identify patterns of responses to (as well as variations in) open questions, while tracking more specific information on precise topics. To give a proper account of the interview process it is necessary to clarify one's handling of the correlative pitfalls, and here I identify two; the first concerns the complexity of broaching sensitive topics with corporate executives during interviews; and the second is to do with the fact that asymmetric power relations between interviewer and respondents might interfere with the process of collecting reliable data.

An important concern in qualitative research is how much openness one can expect from the interviewees. This issue is particularly crucial when respondents belong to an organization that has a strong group identity, and when the topic under investigation is sensitive (Welch et al. 2002), which are indeed two characteristics of the case study. Consequently, I took some practical steps towards enhancing the respondents' openness: in France, all the interviews took place face-to-face without the presence of any third party, mostly in closed corporate offices but sometimes in external places such as cafés in Paris (meeting in a neutral place often increases a respondent's confidence). In the Congo, the situation was different because two other

researchers were collaborating in my fieldwork, so most interviews had to take place in a group. To foster greater mutual trust, each interview began with a systematic presentation of the ethical protocols surrounding the research project, thus assuring the informants that we would preserve their anonymity.

To limit self-censorship on touchy topics, the most efficient available option was to refrain from making any audio recordings of the interviews[14]. I therefore systematically wrote up all the interviews on a computer in the hours following their occurrence, with the help of hand-written notes taken during the conversations. As a result, the interview excerpts cited in the dissertation are not *verbatim accounts* strictly speaking, but rather accounts that I *reconstructed*, doing my best to remain as faithful as possible to what I had heard. The decision not to use audio recordings was a deliberate methodological choice, and a quite significant one: audio recording remains indeed a widely accepted paradigm (Kuhn 1996) for collecting qualitative data in the social sciences (Clausen 2012). Abstaining from its use indeed seems to have epistemic consequences, but these are not necessarily negative in the framework of sociologically-oriented research such as this (Clausen 2012). Reconstituting conversations in a 'literary form' (which inevitably contain omissions and distortions) rather than in a 'fully-transcribed form' indeed enables one to escape the positivist penchant in the social sciences that aims to extract 'objective data' from informants; rather, it highlights the incontestable fact that the research material produced by interviewers can never be cut off from the latter's particular interpretive context, and from the type of relationship they manage to create with their informant. This hermeneutical process through which to produce qualitative material is therefore better described as an engagement in *dialogue* (a term implicitly calling for mutual recognition and cooperation) rather than the simple conduct of an *interview* (a term implicitly associated with the positivist notion of an objective transcription).

14. In the Congo, the situation was different and there most of the interviews were recorded. To this day (March 2018), not all of them have been transcribed, for we distributed them between the three of us engaged in the fieldwork.

However, beyond these practical dispositions aimed at fostering the informants' openness, it is necessary to explain why respondents are generally so willing to share their views on sensitive issues, for I encountered very little reluctance to do so during the interviews. One reason is that corporate elites often express strong confidence in the strategies that the firms that hire them deploy: in this case, managers were willing to adopt a 'nothing-to-hide' discourse because, as they estimated that Total was effectively proactive on climate change, thus turning the threat into a source of new business opportunities. Another important reason is that respondents unwittingly tend to take the interview as a 'coherence test' of their own beliefs; demonstrating an ability to cooperate in an interview focusing on climate change, or an ability to criticize openly one's own firm, may act as a psychological reward that lowers the intensity of pre-existing cognitive dissonance. A variety of motivations can therefore explain the respondents' willingness to talk; and the modalities of their expression often vary depending on the type of role that respondents endorse during interviews (Clark 1998).

Another potential pitfall flagged in the literature on elite interviewing is the impact of asymmetrical power relations (Clark, 1998; Costa and Kiss, 2011; Harvey, 2010; Welch et al., 2002). Unless the interviewer finds ways of thwarting the initial imbalance that favours the respondent, it can indeed alter the quality of the data collected. Corporate executives in the oil and gas industry tend to enjoy high social status, are very well educated and receive substantial salaries: in laying the foundations for a dialogue the interviewer must to some extent match these credentials – and in my case, being able to demonstrate a good knowledge of the industry and having prestigious academic qualifications (a strong marker of social status in France) helped me to maintain my authority during the interviews. Even if the 'status gap' cannot be entirely filled (Costa and Kiss 2011), the interviewer's ability to communicate a sense of legitimacy to the informant is a prerequisite for asking awkward and/or provocative questions. When broaching sensitive issues in the conversation, sustaining the conditions for a genuine dialogue and avoiding any kind of escalation become an art (Clark 1998); in this research project, I have fortunately seldom encountered any real tensions. While reducing the power

imbalance is thus a prerequisite for producing knowledge through close dialogue, it is important to stress that this knowledge will not be 'objective' in the positivist sense but is rather 'situated' and 'positional', thereby reflecting the conditions of its production, which the respective positions of the interviewer and interviewee in the hermeneutic circle largely determine.

In the *interpretation of the collected data*, I have aimed primarily to integrate the plurality of worldviews witnessed in the field by identifying patterns of response among the respondents. Before engaging with the normative questions, however, it was essential at least to attempt to reconstruct coherent stylized facts from the situated particularities (Clark 1998), in other words, to connect the "microlevel of everyday experience to the macrolevel of power relations" (Rose 1997).

CHAPTER 3

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Alienation unpacked (1/2):

Initiating a dialogue between social philosophy & political ecology

1. Introduction

In this short, context-setting chapter, I aim to delineate the contours of the wider theoretical background on which the concept of alienation implicitly rests, and I thus leave its in-depth elucidation for the next chapter. In much the same way as Fraser (2014) argued that "we lack conceptions of capitalism and capitalist crisis that are adequate to our time", I suggest that we need to understand this theoretical background precisely because we lack conceptions of ethical life that mirror the complexity of the socio-material features of contemporary capitalist societies. To address this shortcoming, I argue, we need to build bridges between two distinct disciplines, social philosophy and political ecology, which, despite their multiple affinities, have rarely been paired. Laying the foundations for this theoretical synthesis will, I contend, prepare the ground for the ensuing discussions on alienation by increasing the range of intellectual resources available to analyse human flourishing. Assessing the latter shall not only consist in evaluating whether some specific forms of social ties are more horizon-broadening than others,

but also in considering if the type of collective relationships these mediate with the wider natural world deserves the same epithet.

In the first section of this chapter, I outline the main orientations of certain contemporary critical studies on capitalism and suggest that their attempts to shed light on the core features of capitalist societies bring us to our point of entry. The analytical distinction these studies often implicitly endorse between the two empirically intertwined sectors of 'the social' and 'the natural' casts light on capitalism's *hinterland*, which at once points to the need to justify their respective internal consistencies. This preliminary section thus paves the way to a sequential analysis, in which I evaluate successively the specific input of each disciplinary field by clarifying the contours of the realm on which it focuses (that is 'the social' and 'the natural'). I then re-situate these developments in the broader discussion of alienation. I demonstrate that if the concept first burgeoned in the field of social philosophy, the advent of the Anthropocene means that one should allow allied fields in nature–society studies, such as political ecology, to alter it.

2. Studying capitalism in the Anthropocene: some implications

Since the last financial crisis, all the more convincing attempts to describe contemporary capitalism seem to have systematically rejected the paradigm of a strict disciplinary division of labour between economics and other social sciences, and thus dismissed the simplistic view that capitalism is just a particular kind of economic system that can be studied independently of the society in which it is inserted. Streeck (2016: 201) argues that before the rift opened, most prominent economists (such as Smith, Pareto, Schumpeter and Keynes) and sociologists (like Weber, Durkheim and Veblen) somehow contributed towards cross-fertilizing their respective disciplines; he claims that only through renewing the tradition of a political-economic theory

could one expect to find reliable resources with which to identify the core institutional patterns that characterize capitalism today.

Over the last decade, recent initiatives in this direction suggest that the intellectual coordinates of critical theories of capitalism are evolving. Although Marx's (1992) account of industrial capitalism still provides a unique source of inspiration, the failure of many of its scientistic and deterministic predictions to materialize has weakened its legitimacy as an overarching framework. In parallel, Polanyi's (2001) description of the fundamental 'embeddedness' of capitalism has enjoyed a substantial reappraisal, as its theoretical apparatus offers complementary resources with which to interpret the reconfigurations of current-day capitalism. Streeck (2016) and Fraser (2014a, 2014b), among others, have developed insightful descriptions articulating these two frameworks. Below, I briefly outline their accounts and discuss their relevance to the present study.

Streeck, "practising Polanyian as [he has] become", hesitates, however, to "discard the Marxian heritage light-heartedly" (Streeck 2016: 229). Concerned about the acritical mobilization of the concept of embeddedness (Beckert 2007) in the varieties-of-capitalism approach (Hall and Soskice 2001), he suggests that it is a mistake to interpret Polanyi's core concept in a straightforward way, for that typically leads one to conclude that a primacy of politics governs a capitalist political economy. Instead, Streeck (2016: 232–3) contends that, to grasp the sobering possibility that "social institutions built to protect society and humanity from the 'vagaries of the market' *may be overrun by these*", we should approach embeddedness dialectically. Identifying this fundamental dynamic, Streeck argues, enables us to construe capitalism as a system with a fundamental unity (which, as Marx emphasized, is not necessarily devoid of internal contradictions), beyond the cross-sectional differences that characterize it in different geographical areas. At the end of the day, it can indeed be said that wherever it develops, "capitalism entails an ever-present possibility of self-destructive destruction of its social containment, in the course of a politics of liberalization conceived as progressive removal

of boundaries of all sorts" (Streeck 2016: 225). For all its merits, however, Streeck's attempt to challenge static (and thus innocuous) interpretations of Polanyi falls short on a crucial point – it pays too little attention to the Hungarian sociologist's decisive claim that "what we call land is an element of nature inextricably interwoven with man's institutions" (Polanyi 2001 [1944]: 187). While Streeck scrutinizes the effects of an intensifying commodification of labour and money, his analysis remains insufficiently reflective on the fundamental fact that the "bonds of solidarity that unite human communities presuppose nature as a constitutive element" – an elementary observation that remained, until recently, a blind spot in modern sociology (Charbonnier 2013).

It is better to integrate this crucial aspect of Polanyian theory into the theoretical framework developed by Fraser. In her perspective, capitalism is best described as an "institutionalized social order" that relies on non-economic realms that are "part and parcel of capitalist society, historically co-constituted in tandem with its economy, and marked by their symbiosis with it" (Fraser 2014a). Non-human nature is one of these realms, for its capacity to support life and renew itself is a limiting factor in the deployment of economic production. If, by entering the 'hidden abode' of production and placing the focus on the wage relation, Marx was the first to shed light on capitalism's core foreground features, he did not develop a systematic analysis of its implicit background ones[15]. According to Fraser (2014b), Polanyi's contribution largely filled this gap, and thus constituted a decisive epistemic shift in our understanding of capitalism. However, Fraser (2014b), like Streeck, argues that it retains deficiencies that we must address. Polanyi introduced indeed another of its core concepts, fictitious commodification, which one could define as the dialectical opposite of embeddedness, in a way that is mostly defensive, de-

15. Some of them are nonetheless explicitly identified, notably in his analyses of the working day (Marx 1992: 340–416), primitive accumulation (Marx 1992: 873–942), and the "metabolic rift" (Marx 1992: 636–42) – the latter describing how capitalism, "by pitting direct producers against owners of the means of production, also tears apart natural cycles: it carries away nutrients from the soil, interrupts the reproduction of species, [and] burdens the atmosphere with an excess of carbon dioxide" (Malm 2017b). Although Marx repeatedly criticized the degradation of nature, he did not develop a systematized analysis of the ecological background conditions of capitalism. It was only long after his death that scholars attempted to reconstruct systematic accounts of Marxist ecological thought – see O'Connor (1988), Foster (1999) and for a recent account, Foster and Burkett (2016).

historicized and insensitive to domination. Fraser thus challenges this 'ontological reading' of fictitious commodification, and suggests replacing it with a 'structural reading' stripped of any romantic imaginary and oriented towards the elaboration of a multi-faceted critique of capitalism. On this basis, Fraser's balanced account of capitalism thus emerges: while she still takes Marx's hypothesis that crisis tendencies originate in contradictions internal to the capitalist economy (class struggles) very seriously, Polanyi's belief that they can also emerge from "capitalism's foreground–background relations, [which] harbor built-in sources of social instability", or boundary struggles, complements it (Fraser 2014a).

All this suggests that Streeck's and Fraser's accounts of contemporary capitalism are not mutually exclusive, but rather complementary. It also suggests that their respective contributions, each of which consists of an attempt to rearticulate critically Marxian and Polanyian theoretical frameworks, both highlight a crucial point. This is that any comprehensive study of capitalist societies must take account of the socio-ecological hinterland that their economic systems actively configure and on which they ultimately rely.

This point alone is sufficient to explain my interest in coupling social philosophy and political ecology in this study. Each discipline refers to one 'segment' of capitalism's hinterland, without really considering the other. Whereas social philosophy, with the support of sociology, examines the concrete conditions under which the successful articulation of the intersubjective processes through which the formation of the self occurs, it often remains strictly socio-centred and oblivious of its natural constituent – in this case, Streeck represents the rule and Fraser the exception. Conversely, although political ecology describes the means through which specific modes of human interaction alter biophysical processes, its focus on the interface between the social and natural realms rarely goes below the structural level. In other words, it rarely questions the "moral grammar of [the] social conflicts" (Honneth 1996) that structure the formation of individualities, even although these conflicts play a decisive role in modelling collective relationships to the natural world. In this dissertation, I do not try to merge the two

fields: rather, I aim to explore how one can tie them together without either losing its specific identity – and thus enter a dialogue in which their horizons somehow come to be 'fused', thereby offering a theoretical backdrop against which a sound concept of alienation can take shape. Establishing such an intellectual junction is, I suggest, a relevant option in the effort to outline a more integrated account of how to articulate human action (and hence ethical life) in the institutional structures of contemporary capitalism, in the age of the Anthropocene.

3. Social philosophy

From a disciplinary viewpoint, the concept of alienation has its roots in social philosophy and, in this section, I aim to delineate the contours of this field. By casting light on the key questions that have structured the school of thought that historically contributed to problematizing alienation, I not only aim to prepare the ground for the next chapter, but also to highlight the broader potential that this whole intellectual tradition retains when it comes to formulating an ethics for the Anthropocene.

As a specific field of enquiry, social philosophy has its origin in the eighteenth century. Although Hobbes introduced the term to designate his own effort to bring out the speculative conditions of a just socio-political order, it was Rousseau's attempt to ascertain the causes of civil society's degeneration that constituted social philosophy's inaugural moment (Honneth 2007: 5). This discipline is now commonly understood as "primarily concerned with determining and discussing processes of social development that can be viewed as misdevelopments (*Fehlentwicklungen*), disorders or 'social pathologies'" (Honneth 2007: 4). As such, its intellectual approach still resonates with Rousseau's critique of civilization. Before fleshing out a more complex view of how the field is currently structured, I suggest that retracing the successive transformations that it underwent over the last two centuries will provide much-needed historical depth.

After Rousseau, Hegel undoubtedly helped to consolidate social philosophy as a specific form of intellectual enquiry. As Honneth (2007: 11–13) observes, Hegel was concerned that the extension of subjective rights in both France and Germany could only bring a purely 'negative freedom', and that it thus threatened to atomize political communities by reorganizing them through purely formal bonds: his philosophical works aimed to transcend this aporia (see Hegel 1991). Although Rousseau and Hegel had both witnessed the early development of industrial capitalism, their critique of the negative effects of the modernization process remained wide in scope in that they considered its cultural, political, social and economic facets. It was only with Marx that these last two dimensions moved to the forefront of social philosophy (Honneth 2007: 13). As the industrial revolution unfolded, the internal logics of the capitalist mode of production seemed increasingly coercive, to the point that the German philosopher considered that it constituted the core (if not the only) source of social pathologies. However, although the young Marx (1988 [1844]) was still inclined to engage with a normatively-driven analysis of socio-economic processes, he finally rejected the 'anthropological-ethical' premises that sustained this approach. By declaring that "philosophers have only interpreted the world in various ways; the point is to change it" (Marx 1998: 571), he implicitly considered that his early critique had been only "raised aloft by airy ideals", and that it had to be recast on the "firm foundation of fact" (Cohen 2001: 102), by revealing the objective scientific laws governing irrepressible historical trends. This intellectual shift suddenly hollowed out the *raison d'être* of social philosophy in Marxist social sciences, since any normative discourse was bound to reflect bourgeois ideology (Cohen 2001: 101–15; Lukes 1985). Around the same time, and still in the nineteenth century, Nietzsche's pessimistic diagnosis of the modernization process shook the foundations of social philosophy. Since the nihilist mood that had overtaken the Western world implied that "every orientation upon life-affirming values was [henceforth] placed under self-critical reservation" (Honneth 2007: 16), any hope of anchoring a social critique on stable ground vanished. The advances attained by Marx and Nietzsche thus placed social philosophy between a rock and a hard place.

Its gradual re-legitimation broadly coincided with reconfigurations in the intellectual apparatus of critical theory, which led to the progressive elaboration of "reconstructive social criticism", itself seeking a synthesis between a left-wing Hegelian critical model and Nietzschean (later Foucauldian) genealogical research (Honneth 2009: 43–53). From this perspective, social criticism systematically harnesses genealogical analysis "to ferret out the social shifts of meaning of its leading ideals", thereby acquiring greater self-awareness (Honneth 2009: 53). This recent reformulation now constitutes the theoretical premise of most contemporary works in social philosophy, which will be discussed more closely in chapter 4 (Fischbach 2009; Haber 2007; Jaeggi 2014; Renault 2009).

In the previous lines, I have briefly described how the ways through which social philosophy had described its object of investigation had constantly changed over time and that this had enabled the discipline, over the course of a few hundred years, to shift from Rousseau's straightforward, romantic critique of civilization to a 'deflated', post-metaphysical critique of 'forms of life' (Jaeggi 2015). I now focus on a feature of social philosophy that has remained unchanged throughout time – its determination to remain anchored in empirical reality. On this precise point, Rousseau's, Hegel's and Marx's conceptions of man as an inherently social being emerged from a long philosophical tradition that one can trace back as far as Aristotle and that includes, among others, Aquinas and Spinoza (Fischbach 2009). All these philosophers aimed to go beyond merely speculating about ideal forms of life and attempted to consider the concrete constraints placed on the realization of the good life (such as the vagaries of human passion in the case of Spinoza). Although Rousseau and Hegel could still afford to remain on a purely philosophical plane and thus to be elusive about exactly which empirical factors characterized these constraints, the first half of the nineteenth century saw a significant change: in collective imaginaries, the sphere of interhuman relationships was starting to be theoretically analysed as such, hence without passing through the classical concepts of 'law', 'legitimacy', 'representation' or 'sovereignty'. This shift marked the gradual autonomization of a

'social sphere'. Influenced by Saint-Simon and Comte, Marx became a key protagonist in achieving this 'alteration' of *philosophia perennis* by the social sciences (Karsenti 2013: 9–22): in his mature works, especially in *Capital*, Marx built his arguments on an impressive mass of empirical data. With this shift, "the turn to a liberating practice of cooperation [ceased to stem] [...] from affective bonds or feelings of membership or agreement but from rational insight" (Honneth 2009: 28): from this perspective, the mediation of the social sciences becomes unavoidable in any attempt to identify the structural limitations imposed on human self-realization. The irreversible decline in speculative philosophies of history (which was still self-evident to authors like Marx and Lukács) strengthened the appeal of the empirical sciences for contemporary social philosophers. Since these philosophers take it as a premise that "the norms or principles to which critique refers [can] only be those that [are] in some way anchored in historical reality itself" (Honneth 2009: 49), they must necessarily give detailed accounts of this reality without immediately reintegrating it into all-encompassing narratives.

In this respect, I would like to mention an important suggestion made by Honneth (2007: 42). The German philosopher argues that, in a post-metaphysical context, excavating the core features of a formal anthropological model might well be a promising way of giving social philosophy a firm basis. In its effort to build bridges between a philosophical reflection about the criteria for the fulfillment a meaningful life and the empirical findings of social sciences (i.e., sociology, anthropology, psychology, etc.), social philosophy requires indeed a normative yardstick anchored in historical reality. As I demonstrate in chapter 4, such a stripped-down model could constitute an effective backdrop against which to form evaluative judgements. In any case, engaging in such a task presupposes developing a comprehensive dialogue between philosophy and the social sciences – and it is precisely here that the *raison d'être* of social philosophy lies. That said, it is important to highlight that the social philosophers I have mentioned (the heirs of the Hegelian Left or Frankfurt School) were not the only ones to take on the arduous task of delineating the deep-seated traits of 'human nature'. In fact, in

contemporary philosophy, thinkers like Walzer, McIntyre, Taylor or Ricoeur have each played a significant role in highlighting the narrative structure of human self-understanding, notably by drawing on other important intellectual traditions that had been less explored by critical theorists – such as phenomenology or hermeneutics. As the next chapter will show, their insights can effectively help to renovate the theoretical framework underpinning social philosophy.

In the previous paragraphs, I have delineated the contours of social philosophy, a discipline that straddles both philosophy and the social sciences, to describe and evaluate the intersubjective processes associated with the formation of the self. By doing so, I have shed light on the larger theoretical framework from which the concept of alienation originally sprang, and suggested that in a post-metaphysical age, it is possible to attain a sound elaboration of social philosophy by tying it down to a sparse anthropological model, which I discuss in greater detail in chapter 4. If this discipline is crucial for describing the inescapable 'social embedding' of ethical life, it is important to emphasize that its specific framing tends to under-thematize its no less inescapable 'ecological embedding' and thus to relegate it to theoretical boundaries. Some concerns are, of course, expressed. For example, Honneth (2014: 220) explicitly refers to the "climate catastrophe" that looms on the horizon. However, he does not really take it as an enveloping reality that would constrain the re-articulation of 'social freedom' (the expression he favours) into a more inclusive form of 'socio-ecological', or 'geo-social' freedom. Engaging in a dialogue with political ecology creates an opportunity to progress in that direction.

4. Political ecology

A core hypothesis I defend in both this chapter and the next is that, in the Anthropocene, one cannot consider a strictly socio-centred description of alienation sufficient. Rather, I argue that it is necessary to elaborate a comprehensive account of the concept, likely to capture the

reconfigurations of nature–society relationships that an alteration of social bonds can mediately generate. To flesh out this more integrated picture, I suggest, it is first necessary to highlight the key research questions that have structured the development of political ecology over the last few decades before going on to show how they can pave the way to an enhanced interpretation of alienation.

Prior to marking out the boundaries of the discipline, I hint at some core insights into why it is necessary to use political ecology in the theoretical apparatus of this dissertation. In section 2, I have argued that the constitution of an autonomous social sphere had indeed been a first 'baptism of fire' for philosophy, for it inaugurated an era in which the discipline would have to think itself through the prism of empirical social sciences in order to sharpen its critical resources (Karsenti 2013: 9–22). One can reasonably hypothesize that the Anthropocene represents an equally important tipping point: in recent decades, it has become increasingly clear that, if it is to keep developing a relevant critique, philosophy will more and more have to think itself through what composes the 'natural constituent' of social bonds. That said, I want to emphasize that it is no coincidence that the two realms ('the social' and 'the natural' to put it crudely) analysed successively in two sections of this chapter correspond to Polanyi's description of the fragile *hinterland* of capitalism, which is in constant threat of being overrun by its forces. While social philosophy has, with the support of 'socio-centered' social sciences, developed its enquiries in the boundaries of the first realm, political ecology has pioneered a systematized analysis of the dynamic relationships between human societies and natural environments. In what follows, I retrace the intellectual genesis of the discipline, before highlighting two key debates structuring it, which I argue are relevant to our enquiry about ethical life in the Anthropocene.

Compared with social philosophy, and for that matter with most of the other 'socio-centered' social sciences, political ecology has only recently become a separate field. In their seminal work on the socio-economic determinants of land degradation in the Himalayas,

Blaikie and Brookfield (1987) stabilized a definition of political ecology as "combining the concerns of ecology and of a broadly defined political economy" – clarifying that this "encompassed the constantly shifting dialectic between society and land-based resources, and also within classes and groups within society itself" (Blaikie and Brookfield 1987: 17; see also Martinez-Alier 2003: 70–72; Robbins 2011: 14–19). At the time, their research agenda aimed not only to challenge the cultural influence of the Malthusian narratives that had resurfaced and gained ground in previous decades, notably in the wake of the works of Ehrlich (1968), Hardin (1968) and Meadows et al. (1972), but also to offer a theoretical sounding board for the broad-based environmental interest that had flourished in the 1970s. In their attempt to demonstrate that environmental degradation was not accidental but propelled by the vagaries of the market, Blaikie and Brookfield developed a theoretical framework with firm roots in Marxian political economy and world systems theory. As the field expanded and diversified, Foucauldian, post-colonial, actor-network theory and feminist approaches enriched its intellectual apparatus (Benjaminsen et Svarstad 2012). Since then, the sustained coherence of political ecology as a fairly unified field has derived from (1) its theoretical commitment to critical theory (as just mentioned), (2) its methodological attachment to in-depth field studies (supplying qualitative and/or quantitative empirical material), and (3) its explicit political positioning in favour of social and ecological justice (Perreault et al. 2015).

While this explicit normative agenda has helped to forge the identity of the discipline, political ecology cannot claim any special hegemony in nature–society studies. It is important to stress that it has long engaged in dialogues with other 'parallel' fields, including environmental history, hazard and vulnerability studies, environmental sociology, ecological economics, and sustainability studies. It is equally crucial to stress that the discipline emerged in the 1970s from an intermeshing of already existing disciplines, namely cultural ecology and ecological anthropology (Watts 2015), and of their hybridization with critical social sciences and peasant studies. This brief genealogy therefore suggests that the contours of political ecology remain fuzzy, and should not therefore be over-essentialized. Audier's (2017) recent contribution

corroborates this diagnosis, for it shows that, against the common preconception that social movements had systematically endorsed a productivist/industrialist narrative since the beginning of industrialization, many had in fact been so outraged by the environmental degradations induced by the development of capitalist economies that they had developed fully-fledged narratives of ecological emancipation[16]. That said, it is possible to hypothesize that the structuration of contemporary political ecology has somehow synthesized a higher stage in the rationalization and systematization of the description of nature–society relationships – an advance undoubtedly permitted by the close cooperation between social scientists and biophysical ecologists (Zimmerer 2015). The discussions of these two epistemic communities on the mutual dovetail of heterogeneous types of scientific knowledge have made a decisive contribution towards shaping the discipline's own self-understanding (Walker 2005). At the same time, they have (unsurprisingly) generated tensions, notably on the fault line separating (so-called) 'realists' from 'constructivists' in their accounts of what is 'nature'. Below, I retrace the main lines of this debate and clarify my position.

It is worth mentioning, first, that construing 'the social' and 'the natural' as two analytically distinct realms, as I have done in this chapter, actually makes a strong epistemological claim. As such, its justification somehow amounts to taking a position in the realism/constructivism debate. Although in this dissertation I endorse a rather realist position, but without neglecting the substantial contributions of post-structural approaches (as chapters 5 and 6 will show), I am indeed sensitive to the reservations of Hornborg (2017a, 2017b) and Malm (2018) about casually rallying constructivism to describe the transformation of nature–society relationships. Nonetheless, their objections (especially Malm's) are probably exaggerated, for constructivists have provided balanced accounts of their position (see for example Demeritt 2001a, 2001b; Evanoff 2005), and made useful interventions to ward off the spectre of Malthusianism (Antonio and Clark 2015; Castree et al. 2014). However, their critique of the ambiguous effects

16. Audier's argument is directed against the thesis that ecological thought is an exclusive heir from the anti-modern Romantic tradition.

of Latour's (1993) landmark proposal to 'hybridize ontologies' is, I argue, justified[17] (Malm 2018: 44–77). As it is, following the 'ontological turn' and dismissing questions of representation, subjectivity, identity, and the whole narrative of modernity, would have merely led to a dissolution of the concept of alienation itself[18].

Briefly summarized, the position I hold here is that society and nature are made of the same substance (substance monism) but that there are (at least) two higher types of property – physical and mental (property dualism)[19]. The scission that property dualism introduces hence authorizes an analytical distinction between the two continuous parts of the world ('the natural' and 'the social'), but without ignoring the deep intertwining of the phenomena they denote in empirical reality. On this basis, Malm (2018) suggests that (1) nature can be defined as "structures and processes that are independent of human activity (in the sense that they are not humanly created), and whose forces and causal powers are the condition of, and constraint upon, any human practice" (Soper 2009), and that (2) society can be defined as consisting not "of individuals, but [as expressing] the sum of interrelations, the relations within which these individuals stand" (Marx 1993: 265). Defending a broadly similar position, Hornborg suggests that the dividing line between phenomena generated only through pre-symbolic processes and those generated through symbolic ones as well, analytically separate these two realms[20]. From this perspective, one can interpret society as being "built on and maintained through" (Malm 2018: 66) the natural world. Operating such an analytical disentanglement is essential, I argue,

17. Latour's (2004) suggestion that we replace 'critique' with 'composition' has resulted, Feenberg (2017) argues, in a 'disappointingly abstract' politics. In his most recent works, Latour (2017, 2018) becomes somewhat sharper, but still hesitates to call a spade a spade. However, Feenberg, like Castree (2002) before him, suggests that actor-network theory can positively contribute towards reconstructing the Frankfurt School's rational critique of reason.
18. A personal conversation I had with Latour at the beginning of my DPhil confirmed this point!
19. As Malm (2018) observes, 'hybridists' tend to defend an integral monism of both substance and property.
20. Hornborg (2017a) illustrates this with the example of agriculture. As such, this practice presupposes both the existence of "forces and regularities that do not require explanations referring to the symbolic capacities of human beings", such as photosynthesis or photorespiration, *and* other aspects that are distinctly cultural, such as the type of seeds used, the spatial organization of fields, and so on. Although the boundary between the two realms is sometimes fuzzy (as the example of the seeds illustrates), endorsing a full-scale hybridism is not justified.

to describe properly the "foreground–background relations" (Fraser 2014a) that characterize contemporary capitalism. At a deeper level, it also enables one to single out the order of being (the underlying natural world) through which philosophy (as critique) must think itself to retain its incisive character. From this viewpoint, the spaces and places in which human beings gather and cooperate to 'manipulate' this underlying natural world thus acquire a new, critical status. Transposed at the individual level, the constitution of this new realm ('the natural') implies that individuals pay greater heed to how their actions radiate out in time and space, in the attempt to anticipate better their causal reverberations in *and beyond* the social world. As the advent of the Anthropocene comes with a growing intertwining of "chains of explanation" (Blaikie et Brookfield 1987: 47), this effort to think through 'the natural' seems a new prerequisite for overcoming alienation (see chapter 8) at both the individual and collective levels.

That said, it is essential to delineate more precisely the 'critical' segments of this nature–society interface – that is, the type of human activities that most affect the Earth's core biophysical processes: it is indeed only by taking seriously the reality of the material flows generated by these activities, or, said differently, by thinking (and altering) its conceptual tools through it, that critique can remain sharp and principled. The attempt to demarcate these 'critical' segments impinges on a debate among political ecologists that has recently gained traction and that I shall review below.

As Huber (2017) recently observed, the field has remained "overwhelmingly concerned with the primary sector of natural resource and land-based production, and not the secondary sector of manufacturing and industrialization" (see also Bridge and Barca 2015). Political ecology has, however, fully participated in renewing the critique of capitalism by showing that economic development intensified primitive accumulation (and thus dispossession) in peripheral zones and thereby helped to multiply environmental 'boundary struggles' (Fraser 2014a). Huber (2017) suggests however that, by holding to this line and placing the focus on struggles over resources and land (which no doubt deserve consideration), the discipline has succumbed to

the risk of 'following politics', that is documenting political mobilization *already* happening elsewhere, instead of reflecting on what a sound political ecological analysis should elucidate.

In this respect, Haberl et al. (2011) have demonstrated that the "seemingly dematerialized post-industrial society continues to depend on a material-intensive, largely machine-operated and ecologically destructive foundation"[21] – and that in this respect, the facilities of only a handful of sectors (hydrocarbon extraction, mining, chemicals, cement, steel) can be interpreted as the "central metabolic sites" (Huber 2013: 61) of Western societies. Even if these industrial sites are often inaccessible to the public (Huber 2017), the quantities of material flows they process make them (and their operators) key agents in the continuous reshuffling of the nature–society relationships that characterize the Anthropocene (Smil 2013). The invisibility of these large-scale material transactions (or, in other words, the non-politicization of the human activities that organize them) thus presents a stark contrast with the multifaceted forms of ecological degradation that they generate at the tail end. Calls to "industrialize political ecology" (Huber 2017), or as Barca (2014, 2015) would have it, to rearticulate it with the labour movement's existing practices, therefore aim to avert the risk of political ecology focusing exclusively on peripheral struggles. From this viewpoint, researchers would need to pay greater attention to "hidden middle ecologies of industrial manufacturing" (Huber 2017) and "workplace ecologies" (Barca 2015), since these are significant determinants of wider socio-metabolic dynamics.

This whole perspective therefore complicates Fraser's clear-cut distinction between class and boundary struggles, and her implicit idea that the environmental criticality of business activities should be 'tested' first and foremost along the 'external margins' of the process of production (for example, by studying interactions with 'authorized' stakeholders). Instead, a comprehensive approach should rather analyse how specific combinations of social relations in the hidden abodes of industrial production effectively restructure nature–society relationships. From this perspective, it becomes necessary to look at the struggles (*or* absence of struggles)

21. For an early account, see Steinberg (1986).

"over control of commodity production and distribution of surplus value" (Fraser 2014a) through a new lens to assess their contribution to the dynamics of environmental change. Hornborg's (2006) meticulous study of the "ecologically unequal exchange" that the success of the British textile industry produced in the early nineteenth century makes a point along these lines, in that it refutes the possibility of the natural world remaining 'external' to any kind of production process. The findings of Hornborg's analysis of material flows reveal that Britain accumulated its wealth at the expense of its colonial peripheries, which supported the social and ecological prejudice of that development. Technology and money were there the vectors of a "[labour] time–[natural] space *appropriation*", which could not but result in a 'zero sum game' at the expense of the poorest nations. Hornborg (2009) contends that this "ecologically unequal exchange" dynamic continues to the current day and that it is assuming increasingly complex forms as the economy becomes more and more interconnected.

From all these examples, it seems clear that there are strong reasons for political ecology to pay greater attention to the industrial "metabolic sites" (Huber 2013: 61) of Western societies, since these often constitute the nodal points from which dynamics of "ecologically unequal exchange" (Hornborg 2006, 2009) radiate out in time and space.

5. Conclusion

In this chapter, I have attempted to prepare the ground for the subsequent discussion of alienation by attempting to mark out the wider theoretical framework into which the concept takes shape. In this endeavour, I have first emphasized that, over the last decades, macro-sociological studies of capitalism had tended to explore more systematically the trails that Polanyi had opened by describing how the expansion of the process of accumulation had notably presupposed the mobilization of free, disposable resources located in (at least) two distinct realms, which I called 'the social' and 'the natural'. Then, I have outlined the successive

intellectual trajectories of the disciplines that have problematized these two orders of being, and highlighted how one could fruitfully combine them. This disciplinary encounter has been motivated by both the under-thematization of the natural constituent of social bonds in social philosophy and the predominance of strictly structural approaches in political ecology. On this basis, I have suggested that the prerequisite of a sound account of ethical life (and hence of alienation) in contemporary capitalist societies is that the philosophical critique lay itself open to alteration by the concreteness of these intertwined but analytically distinct segments of reality, and more particularly by the realm of 'the natural', the critical importance of which remains underplayed for most critical theorists in the Anthropocene.

CHAPTER 4

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Alienation unpacked (2/2):

Delineating the contours of the concept

1. Introduction

In this chapter, I argue that the concept of alienation contains rich interpretive resources with which to grasp the fundamental traits of the ethical experience of individuals at the workplace in the age of the Anthropocene. I contend that, once stripped of its shortcomings and recast on firm theoretical ground, this philosophical concept has strong heuristic potential. There are two reasons for this. First, it allows one to examine how the ceaseless reconfigurations of social relations, which the structural dynamics of contemporary capitalism command, affect the exercise of practical reason. And second, when paired with its dialectical opposite, 'dwelling', it can be harnessed to articulate a normatively-driven evaluation of forms of life. The concept of alienation will thus play a pivotal role in my attempt to draw the contours of a 'geo-sociology of the good life'.

In what follows, I arrange my critical discussion of the concept of alienation in four successive steps, each corresponding to a section of the chapter. In the first I give some details

about the concept's provenance; in the second, I evaluate its position vis-à-vis other critical concepts and its specific epistemic value; and in the third, I analyse its internal articulation by casting light on its constitutive facets. Then, in the fourth and last section, I argue that to develop a more comprehensive interpretation of alienation – an interpretation that goes beyond the technical and socio-political realms to reach out to the ecological one – it is necessary to highlight some of the distinctive features of the formal anthropology that the concept presupposes. When placed against the wider disciplinary backdrop outlined in chapter 3, this in-depth presentation of alienation completes the theoretical framework of the present dissertation and prepares the ground for the analytical developments of the empirical chapters that follow.

2. A flawed concept – or a renascent one?

Since it is not obvious why the concept of alienation should form the theoretical backbone of a doctoral dissertation, I need to justify its use. It is remarkable that, despite its theorization by the young Marx (1988 [1844]), who was then deeply impressed by his readings of Hegel and Feuerbach, and its later revival by Lukács (1972 [1923]), the concept failed to attract more attention from twentieth-century critical theorists. In his attempt to delineate the many ramifications of the discussions on alienation, Ricœur (1968) even went so far as to qualify as "flawed" a concept he considered subject to both a "semantic surcharge" and a "proliferating ambiguity". This complex status of alienation is notably because, since its early description by Rousseau[22], it has always carried a romantic imaginary, which had the ambivalent effect of making it appealing to popular culture while compromising its analytical potential. Haber

22. Honneth suggests that, by writing in his *Discourse on inequality* that "the savage lives inside himself; the man accustomed to the ways of society is always outside himself and knows how to live only in the opinion of others", Rousseau certainly "gave birth to the philosophical idea of alienation – if not the concept itself, then certainly the issue it describes" (Honneth 2007: 6). Honneth claims that it was only with Marx that alienation started to be interpreted as a social pathology generated by the capitalist mode of production.

(2008) thus retrospectively suggests that this reluctance of critical theorists to mobilize the concept of alienation was not entirely unjustified. He highlights that, although Marx gave the concept a pivotal role in his early *Economic and Philosophical Manuscripts* (1844), its formulation was insufficiently precise to make it the cornerstone of a thorough critical theory of society. That would have meant explaining how the concept's two components (objective and subjective alienation) could be joined together, and more generally clarifying a "speculative concept of human capacities" (Honneth 2007: 14), which Marx refused to do. This incomplete theorization logically led first and subsequent generations of critical theorists to demote the status of alienation in their intellectual toolbox (Haber 2007).

Meanwhile, other concepts were gaining ground, most notably exploitation, which runs through the text of *Capital* and constitutes its theoretical backbone (Nanteuil 2016). Marxist scholars quickly identified exploitation as the ideal, objective, value-neutral concept, the one that would preserve their "commitment to hard-headed historical and economic analysis" (Cohen 2001: 102) and pave the way to the construction of a robust scientific Marxism[23]. The writings of Kautsky, Lenin and Luxemburg quickly confirmed this polarization, as did the theoretical contributions emerging from the Second and Third Internationals down to those of the structuralist Marxists. Althusser's deeply influential hypothesis on the existence of an 'epistemological break' in Marx's thought indeed reinforced this trend[24]. Given that the concept of alienation had been forged during Marx's early 'anthropological-ethical' period, that is before his 'mature' period when, mainly through *Capital*, he would lay the basis for 'rock-solid Marxism', Althusser did not hesitate to discard it as a "pre-Marxist ideological concept", and lamented that "many Marxist philosophers [still] seem[ed] to feel the need to appeal to [it]"

23. Haber (2007: 43) insists that Lukács introduced the concept of reification by offering an objective, value-neutral description of it. Although Lukács's project seems to consist of a rigorous reformulation of the concept of alienation (to make it cogent with claims of scientificity), when the Hungarian philosopher wrote his own text he had not yet read the *Manuscripts* – for they were only republished in 1932 (which also largely explains why alienation got neglected for such a long time).
24. More generally, Haber (2007: 158) suggests that the development of so-called 'anti-humanist' schools of thought in the wake of the Second World War, which Heidegger, Foucault and Barthes among others embodied, contributed towards the elision of alienation.

(Althusser 2010: 239). In the Anglo-Saxon world, the birth of 'analytical Marxism' and its clear-cut detachment from core premises of orthodox Marxism did not challenge this centrality of exploitation (Cohen 2000). Even Thompson (2013 [1963]), who severely criticized the then dominant structuralism and advocated repositioning the focus on the lived experience of workers, did not resort to the concept of alienation to frame his analysis of the daily life of English workers during the Industrial Revolution. Rather, he stressed how these forged their own popular culture by continually reinterpreting and subverting factory constraints.

Yet, after some decades of structuralist/postmodernist suspicion about the substantial resonances that seemed to reside in the concept of alienation, its relative marginalization in critical theory has recently come to term. This renewed interest owes much to the works of Haber (2007), Fischbach (2009), and Jaeggi (2014), each of whom has helped to demonstrate that a *relational* conception of alienation could (and therefore should) supersede a *substantial* one[25]. While the latter approach frames alienation in terms of the loss of an underlying, pre-existing essence, the former (broadly) conceives of it as the degradation of an individual's ability to relate appropriatively to the social practices that he or she deploys.

However, before articulating a more precise definition of the concept (that will come later in this chapter), an important question remains. How does one interpret this late resurgence of the concept of alienation and its conceptual re-foundation? With hindsight, Haber suggests that this recent dynamic brings to light decades of unfulfilled (or at least partially fulfilled) cross-fertilizations between different schools of thought that seemed to offer one another potential 'intellectual affordances'. These include the long-lasting legacy of *Kulturkritik*, which comes mainly through Weber and Simmel, both of whom Nietzsche influenced (Haber 2007: 111–15); the major achievements attained by psychoanalysis (Haber 2013b); the deep-seated influence of phenomenology from Husserl to Sartre, but not forgetting Heidegger; and, finally, the more recent groundswell of postmodernism. The parallel gradual rearticulation of critical

25. Rosa's (2010) account, which links alienation to acceleration, is a no less decisive contribution here. However, I have to admit that I only recently realized that this contribution (2010) came *after* the one on acceleration (2015) – an order that the dates of the English translations fail to reflect.

theory in the second half of the twentieth century can also explain the late resurgence of the concept of alienation. Although, in the wake of Marx's impulse, critical theory had initially remained focused on *relations of production*, a framing that the subsequent crystallization of Marxism would consolidate, it gradually extended its scope to *relations of understanding* (Habermas) and to *relations of recognition* (Honneth) (Rosa 2015: 315). This last shift opened new perspectives, notably by inducing a methodological refocus on individuals and on the social pathologies that affect them. It is therefore in this context that the long-elided concept of alienation has re-emerged as an analytical category.

From all this, it seems clear that compared with other critical concepts, alienation has had quite a twisted career – hastily harnessed by the young 'anthropological-ethical' Marx, abandoned by the 'analytical-empirical' one, then eventually outshone by others in the intellectual apparatus of mainstream Marxism. Yet, the concept has never ceased to resurface. Its recent reappraisal comes as confirmation of its intrinsic epistemic value, which I shall delineate further in the next section.

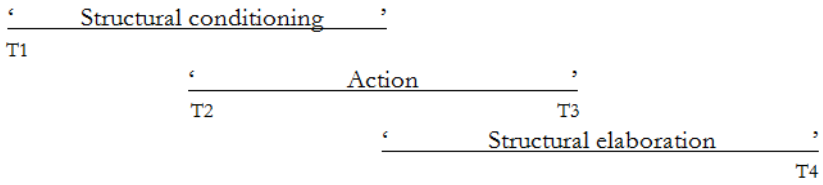
3. Positioning the concept (a detour via social ontology)

Before fleshing out a definition of the concept of alienation, I suggest that it might be helpful to elucidate its positionality vis-à-vis other critical concepts. For this purpose, a detour via social ontology – the field that scrutinizes the nature and basic structure of social reality – seems particularly useful. It is indeed highly probable that alienation has long been marginalized precisely because the 'standard' background picture of the social world against which critical theory was (implicitly) leaning left little room for such a concept. I shall now put into perspective the premises that give this background picture its shape, and suggest that they cannot go unquestioned. Given Marx's inaugural contribution to the constitution of critical theory as an independent school of thought, I take his work as a starting point for discussing

the nature and basic structure of social reality. In this respect, it is worth mentioning that, since Marx had a long and prolific career and his publications spanned nearly four decades, these are not underpinned by a constant, steadfast social ontology. Rather, his underlying conceptions of the social seem to have evolved over many years and he rarely seized the occasion to make them explicit. For instance, in *Capital*, he aimed to "reveal the economic law of motion of modern society" (Marx 1992: 92) by analysing how nascent capital accumulation was propelling an unstoppable structural transformation of social relationships in industrial England. Yet, the role he reserved for human agency in his description remains at best unclear. However, for decades, the standard view has been that the ontological bedrock of Marx's critical theory was a strong form of holism that dissolved agency into social structures. As I mention below, contemporary readings of his works find such a unilateral interpretation misguided. Based on this preliminary observation, I suggest that one might fruitfully extend, and hopefully supersede, Marx's core intuitions on social ontology by examining recent sociological discussions about the agency/structure problem.

Archer's (2010) "morphogenetic" approach to the social, which she subtly forges against the backdrop of Giddens's "structuration" theory, is particularly insightful in this respect. Although both sociologists posit that social reality is Janus-faced, with 'agency' and structure' presupposing one another (against the views that methodological individualists and structuralists/holists defend), Archer considers that Giddens's core thesis of the "duality of structure" is inherently flawed. By building on the hypothesis that structure is *simultaneously* "both medium and outcome of the reproduction of practices" (Giddens 1979: 69), hence the duality, Giddens's thesis implies that the sociologist's task is to grasp 'action' and 'structure' *at once*, as if they were the two faces of the same coin – both perfectly coextensive and covariant. According to Archer, this insistence on the contemporaneity of 'agency' and 'structure' leads to a temporal conflation that does not mirror reality. Rather, she argues that "each possesses autonomous emergent properties which are thus capable of independent variation and

therefore of being out of phase with one another in time" (1995: 66). Archer thus predicates her 'analytical dualism' on the premise that 'agency' and 'structure' work on different time intervals. According to her, one can best describe the structuring over time of social systems when time is "incorporated as sequential tracts and phases rather than simply as a medium through which events take place" (1995: 89). This continuous temporal interplay between structure and agency create 'morphogenetic cycles', the basic structure of which can be unpacked as follows (Archer 1995):



In structural conditioning, systemic properties arise as the aggregate consequences of past social interaction and shape the context for action. Archer observes that the malleability of a social structure largely depends on the quality of these properties, that is on the stringency of the constraints they impose on agents. In any case, action is never structurally determined, but only conditioned. Agents can of course rightly feel trapped into replication; yet, they inescapably retain a residual degree of freedom, which can be transformative when enacted. Structural elaboration then postdates action and is largely an unintended consequence of "group conflict and concession, which together mean that consequential elaboration is often what no one sought or wanted" (Archer 1995: 91).

Activating Archer's 'critical realist' framework to analyse the economic structures of capitalist society enables one to recast Marx's insights with greater precision. When, in his first preface to *Capital* (1992: 92), he affirms that his "standpoint [...] can less than any other make the individual responsible for relations whose creature he remains, socially speaking"[26], Marx is

26. The entire excerpt reads: "I do not by any means depict the capitalist and the landowner in rosy colors. But individuals are dealt with here only in so far as they are the personifications of economic categories, the bearers of particular class-relations and interests. My standpoint, from which the

making it clear that the upsurge of capitalism has created social structures that impose stunningly stringent constraints on individuals. Exploitation can legitimately be described as "the indirect coercion of circumstances" (Jaeggi 2016), and manifest itself as an overarching condition from which it becomes almost impossible to escape. The structures of capitalist society thus lock agents into an 'iron cage' (Weber 2001), which severely constrains their capacity to engage collectively in transformative processes of structural elaboration. As a result, individuals tend to heartlessly reproduce the social institutions to which they belong (e.g., firms), to the point that the latter seem to conquer a consistence of their own, by entering an autopoietic process of reproduction that turns out to be indifferent, if not downright hostile, to human ends. However, despite Marx's insistence on the quasi-ineluctability of the constraints, he fails to 'make the leap' to conclude that these merge to form a full-circle, unidirectional determination that, in turn, lays the foundations of an implacable structuralism, condemning individuals to measly passivity. Some of his works, like *The German Ideology* (1998 [1845]), explicitly suggest the opposite by depicting men as "the producers of their own conceptions, ideas" – in other words, as fundamentally active beings (Ricoeur 1988: 87–103). Haber (2008) insists that even in *Capital,* Marx never ceases to describe how accumulation concretely materializes in the social world: the constraints put on individuals, the situations of oppression from which they suffer, the conflicts in which they engage are all empirically and ethnographically documented; and each singular situation mediates this impersonal domination of capital in the social world. Marx's determination to show the contingent manifestations of 'capital' ensures that, if it betrays an evident penchant for 'autotelism', we cannot interpret capital as the subject of history: its reproduction and expansion ultimately rely on the activity of agents who daily enact multiple social mediations. Hetzel (2015) develops an argument along these lines and suggests that a cautious reading of *Capital* reveals that, in Marx's late period, human productive activities still constitute an anthropological basis that is irreducible to the

development of the economic formation of society is viewed as a process of natural history, can less than any other make the individual responsible for relations whose creature he remains, socially speaking, however much he may subjectively raise himself above them."

power of socio-historical determinations[27]. As such, all these observations are compatible with Archer's insistence that agents persistently experience 'internal conversation' (Archer 2007: 23), which implies considering them as "always active (or potentially so)" (Archer 2013: 12), and thus precludes any analytical conflation of agency and structure.

Yet, Archer sees this risk of a dissolution of individual agency looming from the Bourdieusian paradigm of the *habitus*, which she considers plainly antinomic to the 'reflexive paradigm' on which she draws (Archer 2013). However, many scholars from the critical realist tradition have challenged this incompatibility and attempted to integrate several aspects of Bourdieu's approach into Archer's analysis (Elder-Vass 2007; Mouzelis 2007; Sayer 2013). Others, like Farrugia and Woodman (2015), have been more confrontational. By pinpointing how Archer's critique of Bourdieu reproduced dated understandings of the *habitus*, they suggest that her excessive focus on cognitive reflexivity has led to the (unfortunate) elision, in her analysis, of embodied, pre-conscious dispositions[28]. Yet, Farrugia and Woodman hold that, far from making all action a pre-determined outcome of external constraints, the integration of these dispositions into the *habitus* enables Bourdieu to provide, through this concept, a subtle account of the creative and strategic nature of action, while insisting on its socially-embedded nature. In Bourdieu's eyes, considering the *habitus* as "a kind of monolithic principle" would therefore be nothing but "an easy triumph over a caricatured adversary of one's own making" (cited in Farrugia and Woodman 2015). Once rigorously assessed (through an in-depth discussion of the benevolent detractors' objections), Bourdieu's account allows one to

27. Ricoeur (1988: 100) already seemed to support this hypothesis when he suggested that "Marx has abandoned the word 'alienation' because it belonged too much to the language of consciousness and self-consciousness, to what now appears an idealistic vocabulary. When replaced, however, by the basic structure of the self-assertion of individuals, then the concept's non-idealistic intent may be recovered. In fact, all the concepts of the *Manuscripts*, previously encapsulated more or less an ideology of self-consciousness, are now recovered for an anthropology of self-assertion, of self-affectivity. [...] [From *The German Ideology* onwards,] *Selbstbetätigung* is the fundamental concept." In his mature period, Marx thus reformulates his previous ideas on alienation in a conceptual framework that he considers more grounded.

28. In this respect, Bourdieu's approach seems cogent with the famous claim made by Marx and Engels in *The German Ideology* that "life is not determined by consciousness, but consciousness by life". Individuals can be interpreted as being active and creative, but these powers do not necessarily rely exclusively on cognitive mediation – something that Archer's position seems to imply.

emphasize the stringency of constraints, while clearly avoiding any form of 'easy holism/structuralism'. In many ways, his nuanced views seem somehow to resonate with the raw (but visionary) insights that, in his time, the young Marx had expressed[29]. Yet, considering all this, a question seems to persist. Why were these insights barred from the German philosopher's later works?

It is well-known that, when he wrote *Capital*, Marx was utterly dazzled by the remarkable achievements of the natural sciences: it is through the lens of that fascination that his rejection of alienation is understandable. His ambition to elaborate an analytical framework that would pierce the veil of social life and bring to light the workings of its underlying mechanisms indeed aimed to establish the scientific legitimacy of political economy. However, this intellectual enterprise carried a risk very similar to the one that Galileo had (unconsciously) faced a few centuries earlier, which Husserl (1970 [1935]) forcefully highlighted. The German philosopher demonstrated how the conceptual leap initiated by the founder of natural sciences had been predicated on the formulation of scientific descriptions abstracted from lived situations. Fearing that a new phase of acceleration in the disembedding of the realm of abstraction from its primordial, human ground (*Boden*) could pave the way to a collapse of European civilization, Husserl launched a vibrant call to urge the scientific community to "go back to the things themselves". By emphasizing the transcendental nature of the concept of *lifeword*, he laid the foundations of a "social ontology reflective of its own critical and normative stance" (Haber 2013a). Yet, his call did not prevent generations of social theorists exhibiting the same 'concealing genius' (Bitbol 2016) as natural scientists since Galileo had done. Among them, orthodox Marxists cautiously followed Lenin's line by "subordinating the 'ethical standpoint' to the 'principle of causality'" (Lukes 1985: 21), thereby discarding the value of subjective evaluations in their interpretations of social phenomena. Rather, they would take abstract

29. Despite this congruence, it is worth highlighting that Bourdieu himself never mobilized the concept of alienation to include the different phenomena he was observing. Like the mature Marx, he instead embraced a deflated 'analytical-empirical' tone, (officially) devoid of any 'anthropological-ethical' resonance (Haber 2007: 200).

categories as the starting points from which to reconstruct and interpret the real movement of social reality[30].

Perspectival in nature, the concept of alienation appears extremely antonymic with such full-scale objectivist/structuralist approaches. It indeed assumes that "the social is, at least at first glance, *present* and accurately *discernible* in the way in which individuals test it, especially in negative experiences when their social environment appears as an obstacle, as a source of disappointment, embarrassment, frustration and suffering" (Haber 2012). As such, one can interpret the very use of the concept as a robust 'phenomenological guarantee' against any geometrical, homogeneous, or systematic conceptions of social life, for it enables one to highlight how its texture looks rather irreducibly complex, cracked, many-sided and opalescent. Yet, it is important to stress that the concept of alienation does not supplant the analytical relevance of other critical concepts, most notably exploitation. Rather, one can best appreciate its specific perspective on social reality when viewed in relation to the accounts of alternative concepts, which often operate on different but complementary levels. Discussing interpretations drawn from *The German Ideology*, Ricoeur observes that "there are methodological rules for applying this or that language game, the language game of the individual [centred on the anthropological concept of alienation], or the language game of the class, forces and form [best synthesized with the economic concept of exploitation]" (Ricoeur 1988: 101). Jaeggi (2016) corroborates this hypothesis of a functional imbrication of critical concepts. She demonstrates that, far from disjointed, the three main types of argumentative strategies commonly deployed to criticize capitalism (functional, moral and ethical) mutually combine with one another, while retaining each specific epistemic virtue. From her perspective, the functionalist critique implicitly relies on the moral critique (primarily targeting exploitation), which in turn ultimately builds on the ethical critique (directed against alienation). Shedding light on the deep-seated positionality of critical concepts thus undoubtedly appears as a

30. Henry (2009) demonstrated that most orthodox/structuralist interpretations of Marx's mature works were based on partial readings, marked by a strong inclination to positivism, and he contended that Marx, unlike most of his successors, had never fallen into the 'reductionist trap'.

precondition to the elaboration of a fruitful, multi-faceted description of social life. In this apparatus, the concept of alienation plays a decisive, but not all-encompassing role.

4. The two sides of alienation

Having introduced the context of the (re-)emergence of alienation (in the first section) and articulated its epistemic relevance for conducting a social ontology reflective of its normative and critical stance (in the second), I now outline a more comprehensive definition of the concept. In order to do so, however, I need to point out that the concept of alienation has two facets (subjective/objective)[31]. The distinction drawn below between these two facets is purely analytical, for in reality they are inseparably entangled[32]. After having delineated the characteristics of each facet in the first two subsections (4.1. and 4.2.), I outline a description of their mutual interrelationship in the third one (4.3.).

4.1. Objective alienation

Interpreting the capitalist mode of production through the prism of 'objective alienation' involves being aware that the processes that continually structure the socio-material world get invisible as they cohere to pre-existing entities. Beyond a certain threshold of complexity, some of these entities (be they machines, firms, markets or anything else) come to fetishize the

31. Most accounts of alienation place their exclusive focus on subjective alienation, that is on *who* is subject to alienation and *how* this phenomenon is manifested in the life of those who experience it (whether consciously or not). Yet, this approach is incomplete, for it fails to shed light on *what* actually generates alienation. Haber (2013b) provides the sole account in which objective alienation, the 'locus of this *what*' (namely entities becoming emancipated from individuals and exerting negative feedback in return), is explicitly analysed as such.
32. By emphasizing the analytical nature of this distinction, I build on Dreyfus and Taylor's (2015) argument that a 'contact' theory building on the achievements of phenomenology and analytical philosophy should supersede the 'mediational' structure of knowledge inherited from modernity (which is largely a legacy of Cartesian dualism). While the latter posits a sharp in/out divide between self and world, the former takes as its premise the largely unarticulated background sense human beings have of their own being-in-the-world. The 'realism' that Dreyfus and Taylor advocate is fully cogent with the thesis that the self is inherently and inescapably social. See details in the next section.

relations that constitute them, appearing then as emancipated social powers gifted with their own self-consistency – thereby acquiring a kind of transcendence over social life. Confronted with them, individuals tend to take for granted their apparent autonomy and to consider in turn that their own socio-material environment offers them little room for 'structural elaboration' (following Archer's terminology). In what follows, the expression 'objective alienation' precisely points towards these entities *insofar as agents target them as objects external to them – and/or experience them/relate to them as such*[33].

Since the dawn of industrial capitalism, this recurring pattern of 'objective alienation' has served to denounce the power of a wide variety of socio-material entities; yet, there is no reason to believe that it is possible to apprehend its fleshing out in discourses outside its historical context. Rather, it is necessary to stress that throughout the history of critical theory, there has been a continuous effort to circumscribe more precisely the *loci* of objective alienation; and the images, though always pointing to touchstones of capital accumulation, have differed significantly over time. The steam engines of industrial England were probably the first entities in modern capitalism to embody 'objective alienation'. As Malm's (2016) study suggests, by dictating a ceaseless acceleration of production rates that led to an unprecedented intensification of discipline, their swift introduction to factories hugely affected labourers' working conditions. Although machines were – and still are from a phenomenological point of view! – material, inert, spatially-circumscribed devices and, furthermore, deprived of proper agency, Malm reports that their demonization, which became an integral part of British working-class culture, almost led workers to personify them systematically, which amounted to ascribing to them a kind of residual metaphysical subsistence[34].

Although machines still constitute privileged *loci* of objective alienation, the unprecedented integration of the world economy in recent decades has enabled a multitude of other segments

33. Like this definition of 'objective alienation', the three complementary definitions of 'subjective alienation' that I shall outline in subsection 3.2. will appear in italics.
34. Malm (2016: 241) quotes the following poem, published by a Chartist activist in *The Northern Star* (11 February 1843). "There is a King, and a ruthless King,/ Not a King of the poet's dream;/ But a tyrant fell, white slaves know well,/ And that ruthless King is Steam."

of socio-material life to generate patterns of 'objective alienation'. On a more macro-scale, multinational firms are probably the entities that best embody 'objective alienation' in globalized capitalism. Legally structured as limited liability corporations, these "strange, exotic creatures", the direct offshoots of that "endless proliferation of metaphysical entities so characteristic of the Middle Ages" (Graeber 2014: 304), have, since the Industrial Revolution, been the vectors of a deep, uncontrolled transformation of public life (Pettit 2015). This influence of firms was epitomized in the United States by a Supreme Court ruling on *Citizens United v. Federal Election Commission* that even former President Obama (*New York Times* 2010) saw fit to criticize publicly. In contrast to machines, firms are institutions: as such, they are the *loci* of objective alienation that are mainly social[35], dynamic, spatially-unbundled and, unlike machines, often regarded as self-standing corporate agents[36]. It is important to note that the two examples I have developed – machines and firms – are not mutually exclusive; rather, various patterns of objective alienation tend to overlap in social life, but by doing so on different scales. For example, I can experience this machine with which I am working, and/or perhaps the corporate department to which I belong (and/or even the firm as a whole), as each retaining a certain kind of autonomy, and as simultaneously exerting constraints on my agency (details on the forms of subjective alienation follow).

It is essential to stress here that if individuals *effectively* target some socio-material entities as if they were self-consistent (and relate to them accordingly), the whole intellectual effort of generations of critical theorists has been to demonstrate that any attempt to capture the fluidity

35. From an actor-network theory (ANT) perspective, one can describe both firms and machines as socio-material assemblages, though one could say that in the case of firms the social dimension has antecedence over the material one, whereas the reverse applies in the case of machines. Such a view deviates from the standard framework of ANT, which strongly rejects dissociations such as the one I have just outlined (namely between the social and the material). However, I argue that it is useful to introduce this dichotomy to explain how the nature of assemblages generates distinct types of objective alienation.

36. Remaining on a macro scale, it is possible to identify entities other than firms as *loci* of objective alienation: here, markets are a notable case in point, for they often acquire metaphysical subsistence in ordinary language. Yet, markets differ from firms in several ways – their internal coordination is much looser (if it exists at all), their spatial inscription is more fragmented, and they lack any sort of group intentionality.

of social life in the rigid categories of language is necessarily reifying. Far from being clearly delineated and substantial, socio-material entities are rather relationally-constituted and always in the making: if we are to attain greater analytical clarity, it seems unavoidable that some segments of social life will temporarily be 'solidified' while others come under scrutiny. In *Capital*, Marx consciously used the word 'capital' as an expedient, for he knew that this single term is supposed to encapsulate an array of social relationships, which, far from being frozen, constantly evolve in the never-ending flux of the process of production. The word is thus a second best and aims to pinpoint the diaphanous reality that lies behind it: 'capital' is neither a subject, nor an object, but rather a bundle of relations. It is precisely when individual agents fail to interpret the socio-material world through this relational lens (and to act accordingly) that objective alienation looms. Entities gradually solidify by fetishizing the wider networks of relationships that constitute them, and eventually 'throw away the ladder', appearing unshackled and disembedded to individual agents – whereas these nevertheless remain the ultimate conditions of possibility of social structures[37].

4.2. Subjective alienation

In this subsection, I return to the more commonsense meaning of alienation by focusing on the concrete ways in which individuals experience it. Before going into greater detail, I would like to emphasize that the description of subjective alienation that follows will stand out better if we consider it against the backdrop of a self radically immersed in the world, with this relational embedding being the individual's inescapable condition. From this viewpoint, the idea that individuals can abstract themselves from the world to find refuge in an inward, pre-social self, or that they can lose (or retrieve) an authenticity that predates the social relations in which they are engaged, are both equally impossible. As Jaeggi (2017: 217) puts it, "if the self emerges only

37. Hornborg (2017) rightly recalls that "when a fetishized object has the appearance of having agency, it is the perception of the object which influences human agency, not the object itself that acts". This suggests that it is not "justified to dissolve the crucial difference between purposive agency [which is devoted to sentient living beings] and merely having consequences [that is devoted to artefacts and social formations]."

in relation to *something* [...] [then] this world is always a social world." Considered against this backdrop, alienation can thus no longer refer to the loss of a substance; rather, it is better interpreted as the unfortunate transformation of a set of relations. All three of the philosophers mentioned above (Fischbach, Haber and Jaeggi) follow this line of reasoning when highlighting each specific aspects of the concept of alienation.

By suggesting that alienation *characterizes the experience of "de-objectified beings", who have somehow "lost [access to] the world"*, Fischbach (2009) is the only one of these philosophers still to mobilize the semantic field of the 'loss'. A careful cross-reading of Marx and Heidegger underpins his neo-Arendtian diagnosis, for both philosophers emphasized that the emancipated subjectivity that modernity so praised had remained abstract, formal and unable to give an account of individuals as beings with needs. According to Fischbach, this is because the emergence of this emancipated subjectivity rested on a primal dissociation between the subject and objects, which the deployment of technology and capitalism continually fuelled. Overcoming alienation presupposes that individuals oppose the social processes that accentuate this deprivation from the world by elaborating new ways of objectifying their own beings, which supposes that they forge meaningful, de-reifying links in their social life.

Although they display different tonalities, the accounts by Haber (2007) and Jaeggi (2014) converge in several ways and, more specifically, highlight the shift from a substantial to a relational conception of alienation. Using a diachronic analysis, Haber stresses that, from the early developments of psychoanalysis down to postmodernism, the intellectual achievements of the twentieth century have dealt the decisive blow to 'naïve/easy' conceptions of the subject. Far from being self-sufficient, one needs to understand the latter as "always-already exposed to alterity" (Haber 2007: 211); scholars now widely interpret this immediate condition of openness to oneself (*Selbstwelt*), to the other (*Mitwelt*) and to the world (*Umwelt*) as being constitutive of the subject. Haber suggests that alienation *precisely refers to the alteration of those very relationships that concretely instantiate this openness*. A reconstruction of the concept thus entails "going through a symptomatologic study of how these relational distortions

are manifested" (Haber 2007: 238), by focusing successively on the three aforementioned 'worlds'. Though constructed in a very different way, Jaeggi's (2014) baseline argument shares most of Haber's insights. Drawing on both the analytical and continental traditions, the German philosopher develops a thorough theoretical framework that aims to supersede essentialist interpretations of alienation by enabling a robust recasting of the concept in relational terms. Conducting such a conceptual renovation opens new perspectives for critical theory, by giving alienation a pivotal role in the production of an "immanent critique of forms of life" (Jaeggi 2015) that does not need to appeal to ultimate ethical values. Building on an in-depth analysis of four empirical cases that each shed light on specific facets of alienation[38], Jaeggi comes to the conclusion that if "self-alienation is also alienation in and from the social world [a hypothesis she defends], then the problem, understood as a disturbed relation to self and world, can be solved only in, not beyond, the world of social practices" (2014: 217). Alienation thus points towards *the very experience of the individual who fails to relate appropriatively to the social practices in which he or she is ineluctably engaged* (be it in her family life, at the workplace, etc.). Conversely, this suggests that self-realization is "to be understood not as a realization of something [...] but as a way of being active". Jaeggi (2014: 206) follows by underlining that "we realize ourselves insofar as, through this externalization, we emerge out of the 'night of possibilities' into the day of reality (Hegel)." Her argument that self-realization is only possible through activity in (or contact with) the world underpins her critique of other influential "contemporary 'worldless' accounts of self-realization", which tend to focus exclusively "on the realization of individual uniqueness [and] on originality" (Jaeggi 2014: 209), as well as to conceive of a way out from alienation in terms of self-invention. According to her, such a conception of self-realization is unsatisfactory, for it implicitly suggests that the self "invents itself as something new, and that it is free and unhindered in this fashioning process" (Jaeggi 2014: 188). Against this somewhat demiurgic model, she defends

38. Jaeggi suggests that subjective alienation often manifests in (1) a feeling of powerlessness in the face of one's actions, (2) the loss of authenticity in social roles, (3) the experience of internal division, or (4) indifference to the world.

her view that self-realization is best clarified when framed in terms of self-appropriation, as a process "in which finding and inventing, constructing and reconstructing, are equally primordial. [...] The process of appropriation [thus] always reckons with the existence of something prior that it takes over and transforms" (2014: 188). Jaeggi's attempt to anchor alienation in a renovated, explicitly Hegelian framework enables her to develop a 'thick' conception of the concept, which draws on an embedded and comprehensive image of the self-in-the-world that does not overemphasize cognitive reflexivity[39]. From what precedes, it thus seems quite clear that Jaeggi's background picture is largely compatible with the arguments that both Fischbach and Haber deploy.

When viewed in relation to these three perspectives on subjective alienation, Farrugia and Woodman's (Bourdieusian) critique of Archer's reflexivity stands out more clearly. When they observe that, in late modernity, "reflexivity is valorized just as the conditions for its successful operation are increasingly foreclosed, creating 'fractured reflexivity'" (Farrugia and Woodman 2015), these sociologists are offering an implicit description of the concept of alienation that resonates with the one I have just outlined. The 'conditions' they mention indeed point towards the socio-material, worldly constraints that concretely impede individuals from really (rather than formally) overcoming alienation[40].

4.3. Mutual relationship

Above, I have outlined a two-sided definition of the concept of alienation and suggested that drawing an analytical distinction between objective and subjective alienation makes it easier to

39. Jaeggi's emphasis on this 'obstinacy of the given', that is on the fact that there is ineluctably some antecedent, underlying material that is "taken over and transformed" through action, has great relevance for our study. It implicitly suggests that alienation can be interpreted as having an environmental 'negative'. Depending on the extent to which the agent effectively succeeds in relating appropriatively with the social practices she deploys, these will take different shapes, and will thus take over and transform their underlying 'natural constituent' in varying ways – without this necessarily surfacing to the agent's conscience.

40. For example, it is possible to overcome alienation formally (but not really) through an intellectual self-distancing from one's own acts. Haber (2007: 370) suggests that it leads to a kind of "second-order alienation", where the subject is ironically (or tragically) self-aware of his or her alienation, but prefers to downplay (or ignore) this cognitive dissonance (see chapter 5).

capture the movement of social reality. In other words, I suggested that mobilizing this concept enables one to harness a fluid reality without reifying it, by highlighting the chains of relationships that ultimately structure it. As Jaeggi stresses, alienation is therefore a heuristic tool that enables one to "mediate between unsatisfying alternatives – between ethical subjectivism and objectivism, between refraining from and espousing substantial moral conceptions of the good life, between abandoning the idea of autonomy and holding onto illusory conceptions of subjectivity" (Jaeggi 2014: 32). At this point, however, an important question remains: how are objective alienation and subjective alienation connected to one another?

As I have argued, the internal, subjective/objective distinction I propose is purely analytical and developed against the backdrop of a realist hypothesis that does not draw a clear-cut line between the self and the world, but rather considers them as inescapably entangled in the same continuum. Yet, if the social reality that the concept of alienation aims to put it into perspective retains such an ontological continuity, its structuring over time is *not* homogeneous. In the previous section, I suggested that Archer's analytical dualism made it easier to frame this temporal dimension of the articulation between objective and subjective alienation. From her perspective, agency and structure unfold through desynchronized, differentiated temporalities while maintaining close contact. This suggests that subjective and objective alienation do not symmetrically co-emerge in an ever-flowing present. While the progressive sedimentation of a continuous phenomenological/hermeneutical experience is what structures the moral identities of individuals, the ceaseless crystallization of social institutions requires the transmission (and transformation) of various sets of rules and conventions, with technical and material infrastructures constraining the range of recompositions. These two types of processes obey distinct temporalities. It is probably an (implicit) perception of this temporal decoupling that leads Haber to state cautiously that "objective alienation [...] constitutes one of the causes and one of the typical contexts of subjective alienation – but not more" (2007: 340). Pursuing his

efforts to highlight the intertwining of these two incommensurable facets, Haber later suggests that "the term 'alienation' should *first and foremost* refer to something that affects the individual and *only then* (even if this complementarity has firm theoretical ground) be used to talk about some particularities held by certain social entities" (2007: 342). This amounts to saying that there is a "methodological primacy of subjective alienation, which is experienced as such [and so can therefore be subjected to phenomenological enquiry], over objective alienation, which is rather understood as a sociological phenomenon" (Haber 2008). If each facet of alienation points towards segments of reality that somehow appear heterogeneous to one another, I suggest, following Archer, that "the full implicative force [that combines them] can only be grasped *over time*, since feedback takes time" (2010). By providing such a 'temporal lens', the morphogenetic perspective thus enables one to give a first account of how objective alienation emerges from dispersed experiences of subjective alienation, and how it radiates back on them.

At this point, I argue that Rosa's (2015) critical diagnosis of the transformation of temporal structures in late modernity provides the wherewithal with which to complete Archer's analysis, thereby adding an additional layer to our understanding of alienation. Rosa (2015: 282) contends that if classical sociological thinkers have each described the process of modernization through four key dimensions – rationalization (Weber), individualization (Simmel), differentiation (Durkheim) and domestication (Marx) – each of these dynamics remains temporally determined. On this basis, the German sociologist argues that "classical sociological analyses of modernity can always be reconstructed as diagnoses of acceleration" (Rosa 2015: 300) and that one can thus fundamentally describe modern societies as acceleration societies. As accelerations in technical advancements, social change and the pace of life become caught up and magnified in a self-reinforcing spiral (Rosa 2015: 97–150), the continuous transformations and growing desynchronizations of social time structures

undermine the prospect of individuals closing the widening gap between the time of their life and the time of the world – and this thus reinforces alienation.

By emphasizing the malleability of the temporal factor, Rosa thus deepens our understanding of Archer's description of the temporal articulation between agency and structure – and, by extension, between subjective and objective alienation[41]. From his perspective, the acceleration of social change is what primarily dictates the acceleration of the pace of life. As the temporality that determines the structuration of social organizations and the temporality that shapes the formation of agents' moral identities become more and more decoupled, the prospects of their mutual integration through positive feedback wither. Addressing the temporal dimension of alienation thus enables one to describe more precisely how both of its facets (subjective and objective) get reciprocally structured, and to understand better why this social pathology might epitomize, more than anything else, "a creeping and unnoticed restructuring of the order of values as a result of problems with time" (Rosa 2015: 317).

5. Elements for a formal anthropology

I wish to emphasize here that the developments in the previous section only allowed us to establish *how* alienation manifests itself subjectively (that is as the incapacity of individuals to relate appropriatively to the social practices they deploy) without saying much (if anything) about the formal structure of the relational self, the thriving of which alienation blocks. At this stage, the crucial point here is to avoid the kind of idealism that Marx (1977: §279) diagnoses in the late work of Hegel: "precisely because Hegel starts from the predicates of universal determination instead of from the real *ens* (*hypokeimenon*, subject), and because there must

41. It is curious that Archer's argument about time remains framed in a rather static perspective. Although she insists on the importance of taking the temporal dimension into account, she does not notice that the latter is itself characterized by a significant plasticity.

be a bearer of this determination, the mystical idea becomes this bearer." It is therefore of utmost importance, I argue, to describe more precisely *who* is this individual that alienation is affecting. In this endeavour, I aim to specify Marx's overarching description of man as a "corporeal, living, real, sensuous, objective being" (Marx 1988: 154) without, however, ascribing to it a pre-existing, substantial nature[42]. In what follows, I argue that uncovering some elementary features of this concrete self will enrich our understanding of alienation, for it will more precisely highlight the nature of the relational canvas on which it manifests itself.

To do this entails defining the contours of the 'universal anthropological substratum' that the concept of alienation I have just discussed implicitly mobilizes. Yet, talking about such a 'substratum', or more simply about 'human nature' does not go without saying. As Taylor astutely notes, "the very words ring alarm bells", as "we fear that we may be setting up some reified image, in the face of changing forms of human life in history, that we may be prisoners of some insidious ethnocentrism" (quoted by Honneth and Joas 1988: vii). Yet, as I handle it, I portray 'human nature', or alternatively 'human essence', only in a weak, post-metaphysical sense to refer to "the unchanging preconditions of human changeableness" (Honneth and Joas 1988: 7). From this perspective, one can describe the human animal simultaneously as an "intersubjectively constituted fragile being of needs and feelings, capable of social suffering" (Marcelo 2012), or as a "constrained set of historically developing potentialities" (Jaffe 2015) – the cross-cutting of these two basic descriptions forming here a more comprehensive, but still wide-ranging description that one could undoubtedly refine further. On this ecumenical anthropological basis, it is possible to construe human flourishing as taking a multitude of

42. Therefore, the Greek word *hypokeimenon*, which Marx used, is problematic. Introduced by Aristotle in the *Metaphysics*, *hypokeimenon* designates "the ultimate substratum, which is not predicated of anything further" (Dea et al. 2017) or alternatively, "that which remains unchanged as it underlies the process of all change" (Gadamer 2000; see also De Libera 2008). The idea that the self could be 'standing under' the accidents added onto it obviously does not fit with my attempt to outline an account of its relational reality. If the latter is taken seriously, one cannot designate the self as 'the bearer of alienation' (a formulation that still mirrors the subject/predicate model), but rather described as being 'perturbed by a distortion of some of its constitutive relations', which is a formulation that better reflects the porosity of the self–world boundary (see Taylor 2007:35).

forms across a variety of historical and cultural contexts, which all take different paths towards ensuring the convertibility of these potentialities into effective human functionings.

The anthropological model I outline is therefore meant to be as sparse as possible and to offer a formal picture of how the self gets constituted through its dialectical encounter with not only the technical and social, but also the natural world. As such, this picture provides a background ethical framework in which to emphasize the "preconditions of human self-realization, and not the goals served by these conditions" (Honneth 2007: 36). It is against such a framework that one can normatively evaluate empirical situations as falling under the category of 'alienation', or conversely of 'dwelling' (see chapter 8) – a diagnosis, of course, that requires much prudence.

In the next subsections, I lay out the contours of a formal anthropology and, in this endeavour, mobilize several philosophers and social scientists. Among them, I pay special attention to Ricoeur, for his works provide a relevant baseline for our enquiry.

5.1. Coupling phenomenology and hermeneutics

The first building block of the formal anthropology I outline here comes from Ricoeur's philosophical anthropology and its attempt to articulate "what could be called the graft of the *hermeneutic problem* onto the *phenomenological method*" (Ricoeur 1974: 3). As some have suggested (Gschwandtner 2017; Pierron 2013), this coupling is particularly relevant when it comes to drawing the contours of the primordial condition of the self. While the 'short path' of phenomenology enables one to explore the 'ontological density' of our belonging to the world, the 'long path' of hermeneutics insists that this density can only be grasped through the mediation of reflection, which establishes intelligible links "between the understanding of signs and self-understanding" (Ricoeur 1974: 16). This graft of the 'hermeneutic slip' onto the 'young plant' of phenomenology (Ricoeur 1974: 6) works particularly well when it comes to describing the ethical experience of individuals who are involved in social structures that are increasingly

integrated into globalized production chains. As I shall discuss later, their access to nature, far from being direct, is rather strongly mediated, and can only be made explicit through an intense work of interpretation.

Before elaborating on the crucial de-centering that hermeneutics operates, I briefly outline the salience of phenomenology. Here, it is important to recall that the emergence of this school of thought in the wake of Husserl in the early twentieth century gradually allowed thinkers to recast the problem of the fundamental embeddedness of human experience and to undermine the pretentions of objectivist/positivist thinking. In their many attempts to supersede the flaws inherent in the Cartesian/Kantian transcendental reductions, phenomenologists have developed various accounts of our unsurpassable anchoring in a corporeal condition, recognized and "experienced as the existential mediation between the self and the world" (Ricoeur 1991:150). Dreyfus and Taylor (2015), drawing notably on Heidegger, Merleau-Ponty and Wittgenstein, have recently developed an in-depth argument along these lines. According to them, the self has an 'original contact' with the world that "provides the sense-making context for all [its] knowledge constructions, which, however much they are based on mediating depictions [that is depictions that build on representational cognition], rely for their meaning on this primordial and indissoluble involvement in the surrounding reality" (2015: 18). This formulation suggests how 'thick' is the phenomenology that Dreyfus and Taylor aim to develop. Indeed, it seeks to highlight that the deployment of our reflexive self is predicated on the constant mobilization of an infinite diversity of pre-reflexive functionings, through which our body 'fuses' with the world. From this perspective, it becomes clear that the 'surrounding reality' that sustains us 'reaches' a deeper level than any description of significance attribution we might make of it. This amounts to saying that our being-in-the-world ultimately exceeds the grasp we have on it. By suggesting that our primordial anchoring in a corporeal condition constitutes a transcendental one, Dreyfus and Taylor argue that they supersede the aporia that

ruined their predecessors' philosophical projects. As such, their attempt to escape solipsism[43] and to retrieve realism has yielded an account of the self that offers a sound enough basis for us to give reason to the 'thickness' of the lived experience of individuals[44].

However, if the 'short path' of phenomenology uncovers the existential density of our belonging to the world, the perspective it opens bears the risk of remaining largely insensitive to the specific cultural contexts in which this disclosure of the self concretely materializes. As Ricoeur puts it, the truth of the Cartesian *cogito* is indeed "a vain truth; it is like a first step which cannot be followed by any other, so long as the *ego* of the *ego cogito* has not been recaptured in the mirror of its objects, of its works, and finally, of its acts" (Ricoeur 1974: 17). It is therefore *only through a detour*, opened by the 'long path' of hermeneutics, that the self can come to affirm its transient consistency. In this determination, the deployment of interpretation – this "work of thought which consists in deciphering the hidden meaning in the apparent meaning, in unfolding the levels of meaning implied in the literal meaning" (Ricoeur 1974: 13) – is crucial. In much the same way as the interpretation of an ancient philosophical text reveals the "profound intention of overcoming distance and cultural differences and of matching the reader to a text which has become foreign" (Ricoeur 1974: 4), the work through which the self interprets its being-in-the-world betrays its desire to decipher the multilayered relations of which its corporeal condition is made up and to integrate these into the actual comprehension

43. Since Descartes, solipsism has always been the main threat to the idealist tradition. Ricoeur (1961: 9) recalls how Husserl, who famously argued that phenomena are the correlates of intentional life, finally found it extremely difficult to escape the figure of an "idealist subject locked in its system of meanings" and to go beyond the diaphanous image of the world as "the horizon of all [the subject's] intentions". Like most of his predecessors in the idealist tradition, Husserl had a hard time proving that there was an effective world 'out there'. Since then, the debates on this question have been considerably refined, as Taylor and Dreyfus's critique of Rorty suggests.

44. As such, Taylor and Dreyfus's position appears highly congruent with the substance monism/property dualism I outlined in chapter 3. Eagleton's recent assessment of Marx's materialism suggests convergences between the views of the German philosopher and the developments of Taylor and Dreyfus. "Marx, too, is a somatic materialist whose starting point is active, sensuous, practical human life. He is not concerned with ontological materialism, in the sense of asking what the world is made of, and would doubtless have dismissed the issue as idly metaphysical. [...] His own starting point, by contrast, is not simply the material nature of humanity, but men and women as material *agents*. Deploying a surfeit of adjectives, he speaks of human individuals as 'corporeal, living, real, sensuous, objective' beings. They are active bodies rather than thinking things, creatures who know the world only as it manifests itself within the context of their practical activities" (Eagleton 2017: 61–5).

that it is able to have of itself. Ricoeur (1991) himself argued at length that it was possible to transpose this paradigm of textuality beyond the experience of reading, and to consider it as a deep structural feature of our being-in-the-world. From this viewpoint, the activity of interpretation is no longer a prerogative of the reader, since it is also harnessed by the agent, who orients it towards the world (rather than towards the text) in order to give reason to the spatio-temporal inscription of her action, in a constant effort to unfold further her understanding of its possible meaning[45].

The description I have outlined above thus articulates phenomenology and hermeneutics to delineate the archetypal condition of the concrete self as it is plunged into the material world. Analysing the means of its 'mode of belonging' to this world amounts, I argue, to shedding light on the relations that the self organizes on the course of its deployment. In the following subsection (5.2.), I identify two concrete realms into which these relations unfold – the technical and the socio-political. Of course, the distinction introduced between these two domains remains analytical and does not pretend to isolate two perfectly distinguishable segments in empirical reality. This does not mean that this distinction is arbitrary: however entangled the technical and socio-political realms might be, they retain a measure of irreducibility to one another[46].

45. Gschwandtner (2017) points out that Ricoeur's attention to the temporal dimension was to the detriment of space. Yet, she suggests that this relative neglect was incidental: as a late article on architecture (Ricoeur 2016) suggests, one can fruitfully expand Ricoeur's hermeneutics to the spatial dimension, since place/space is always interpreted: it emerges from a hermeneutic tension between 'metaphorical' and 'physical' place/space. Her argument corroborates Foessel's (2016) claim that Ricoeur's hermeneutics avoids the risk of 'linguistic idealism' – that is, it does not reduce experience to its structure in language.
46. One should not dramatize the difference between the dichotomy outlined in this chapter ('the social' v. 'the technical') and the one developed in chapter 3 ('the social' v. 'the natural'). I focus on these two realms here because I want to reconstruct the self's 'mode of belonging' to the natural world from a subject-centred perspective. Delineating more precisely the category of the 'technical', which had until now remained obfuscated, is crucial. The socio-economic dynamics that re-model nature–society interfaces have indeed a technical 'mode of existence' that one should not neglect; and, as such, the latter ultimately becomes instantiated in the concrete experience of individuals.

5.2. Qualifying mediations

In what follows, I suggest that analysing the self's 'mode of belonging' to the material world (and hence, to 'nature') is best attained by casting light on the technical and socio-political mediations in which it is involved. This approach goes against the temptation to construe the biophysical environment as a specific 'compartment' juxtaposed with human collectives, rather than as the overarching material frame in which they are embedded. As such, this approach is justified by the fact that in contemporary capitalist societies, the relational inscription of human beings into the natural world is much more determined by their daily technical and socio-political practices (and by the mediations that these generate) than by the periodicity of their excursions in the wilderness, or by the nature of their beliefs about the intrinsic value of non-human sentient beings. I now analyse successively these two realms.

When interpreting how, in practical terms, we project our self onto the world, the importance of technical mediations comes to the fore. Although these have always counted as a distinctive feature of human action (Leroi-Gourhan 1993), the proliferation of technical objects[47] since the Industrial Revolution has increasingly embedded their inescapability into the environments that capitalism continually recreates. From this perspective, any attempt to delineate the concrete modalities of our belonging to nature has to mobilize a critique of reason that takes this omnipresence of technique seriously, by refusing to consider the 'technical' nature of the relations deployed by the self as simply 'trivial' (Stiegler 2017) or 'determined' (Feenberg 1999: 1–18). To be deployed effectively, such a critique has to distance itself from Weber's dystopian (and somewhat totalizing) conception of modernity as an 'iron cage' of rationalization – a process Weber considered irremediably linked to the simultaneous development of bureaucracy and technology (Feenberg 1999:75–6, 2010: 7, 2015). Largely influenced by a deterministic understanding of technical progress that became dominant with the rise of the Industrial Revolution (and that orthodox Marxism took for granted), the

47. Stiegler (1998b: 17) astutely designates them as "inorganic organized beings".

Weberian interpretation foreshadowed a renewal of essentialist critiques. Initially activated in the nineteenth century by Romantics, these were revived by Heidegger's meditation and popularized by the degrowth theorists (Feenberg 2010: 186–90). Drawing on Marcuse, Feenberg criticizes these reductionist accounts. By hypostatizing technique, they overlook that "the way social groups interpret and use technical objects are not merely extrinsic but make a difference to the nature of the objects themselves" (Feenberg 1999: 80). Feenberg (2017) equally criticizes the social constructivists (namely the ANT and STS scholars) who represent the extreme opposite. Although they recognize this deep socio-technical hybridization, they take it too radically, to the point that their claim that no such thing as a specific 'technical rationality' exists (precisely because they hold that the 'great divide' between pre-modern and modern society never really happened) turns out to be a vector of depoliticization. To supersede the flaws of these different schools of thought, Feenberg calls for a reconstruction of a rational critique of reason. He suggests that the normativity associated with technical artefacts is never integrally given, but rather that it emerges from a confrontation between the conflicting interpretations held by social agents. From Feenberg's viewpoint, reaching higher stages of technical integration implies that subjects "recognize the nature of [their] subordinate position in the technical systems that enrol [them], and that [they] begin to intervene in the design process in the defense of the conditions of a meaningful life and a livable environment" (Feenberg 1999: xiv). This formulation, I argue, adequately captures the fact that the deployment of the concrete self is necessarily mediated through a continuous reconfiguration of technical relations. From this perspective, an elementary condition of human self-realization is the development of what could be called a 'technical hermeneutics', through which individuals sharpen their ability to decipher the technical mediations that organize their belonging to the world and to evaluate them from a normative standpoint (for example, regarding their contribution to amplifying, or mitigating environmental destruction).

However, beyond this 'technical realm' (to the extent that one can effectively delimit it), it is crucial to emphasize that socio-political mediations also deeply shape the self's 'mode of belonging' to the world in which it is inserted. The basic idea that ethical subjects derive their identity from a complex canvas of human interactions that make it possible to experience intersubjective recognition has, Honneth (1996: 71–91) argues, received decisive confirmation in Mead's work in social psychology. Although Mead's naturalistic pragmatism enables him to retrace the concrete material conditions under which the self emerges, the American philosopher failed to outline a systematic account of how the specific arrangements that result from the structuration of socio-political interactions mediately organize collective relationships to the natural environment. This shortcoming does not mean that Mead's intellectual framework cannot provide the resources with which to reconstruct such an integrated approach. As Brewster and Pudephatt (2016) argue, Mead was "a philosopher of mutuality", highly sensitive to the biophysical background that social life presupposes, who could indeed write that "all living organisms are bound up in a general social environment or situation, in a complex of social interrelations and interactions upon which their continued existence depends" (Brewster and Pudephatt 2015: 228).

Keeping in mind this fundamental embeddedness of socio-political interactions in the natural environment, I return to Ricoeur, but more precisely to his proposal to define the fundamental ethical intention as "aiming at the 'good life' with and for others in just institutions" (Ricoeur 1995: 171). Although this formulation remains elusive on the ecological background, its socio-political orientation appears very clearly. In this respect, Ricoeur seems fully aligned with the long tradition of social philosophy, in which the ethical subject is constituted through the interplay of institutional mediations (rather than posited as existing, *a priori*, as in the contractualist tradition). The importance of his contribution, however, lies in his attempt to save the Hegelian *Sittlichkeit* by desubstanzializing it and by bending it towards

Aristotle's *phronesis*[48]. By abandoning Hegel's idea of the nation-state's essential role in the realization of a higher morality, Ricoeur activates a shift that makes it possible to re-appreciate the salience and distinctiveness of each type of socio-political institution in ethical life, so that each retains a form of autonomy. This implies that the subjects exert their *phronesis* in the different spheres through which their socio-political lives are articulated – family, community associations, workplace, trade union, national citizenship, and so forth[49]. From this perspective, as in the previous case, an elementary prerequisite for human self-realization is the development of what one could call a 'social hermeneutics', through which individuals refine their ability to interpret the social mediations that organize their belonging to the world, and to evaluate them from a normative standpoint – for example, in terms of their contribution

48. For Hegel, the fulfilment of morality is realized through superseding the sphere of abstract right (which ascertains freedom by protecting it from external interferences), and the sphere of morality (which mirrors Kant's conception of ethical obligation, but which Hegel judged too abstract and formal) into the third sphere of the right, namely *Sittlichkeit*. By introducing this concept, Hegel aimed to move beyond Kant, whose ethic of the individual could not but posit "the right as forever opposed to the real" and place "morality and nature [...] at loggerheads" (Taylor 2015: 81). Yet, Hegel considered that *Sittlichkeit* could only be realized through the state, which he held as "a superior agency endowed with self-knowledge", ultimate vector of the objective mind [*Geist*] (Ricoeur 1995: 256). Ricoeur claims that this thesis is inadmissible after the tragedies of the twentieth century and observes that, once "separated from the ontology of *Geist*, the phenomenology of *Sittlichkeit* ceases to legitimatize an agency of judgment superior to moral consciousness in its triadic structure: autonomy, respect for persons, rule of justice" (Ricoeur 1995: 255). Stripped from its substantialist envelope, the notion of *Sittlichkeit* can, however, be retained to designate, in contemporary society, this "dimension of our ethical obligations which are to a larger life which we have to sustain and continue. The *sittlich* dimension is important in men's ethical life where they have a profound identification with their society and its institutions" (Taylor 2015: 122). At the end of the day, the existence of a plurality of conceptions on what defines this '*sittlich* dimension' and on how a 'good' government should realize it appears as a distinctive feature of contemporary society. This irreducible disagreement justifies the disaggregation of a unified *Sittlichkeit*, but not a complete abandonment of the concept. Ricoeur indeed suggests that *Sittlichkeit* somehow survives its dismantling, on the side of Aristotle's *phronesis*, "elevated here to the level of the search for the 'good' constitution, just when the accidents of history create a constitutional void" (Ricoeur 1995: 256). The practice of *phronesis* thus remains incumbent on individual actors, who are left with no support other than "their sense of justice – the virtue of institutions – in the moment of 'historical' choice" (Ricoeur 1995: 260), and who thus do their best to exert their practical reasons in the different socio-political spheres in which they evolve. The intuition that this practice of *phronesis* now has to take into account its fundamental embeddedness in a biophysical environment is corroborated by the observation raised in footnote 4.

49. If the overarching structure of Hegel's typology of institutions (family, civil society and nation-state) is still valid, the advent of supranational political institutions (such as the EU and UN) and the rise of transnational civil society actors (like business firms and NGOs) have substantially weakened the all-powerful might of the nation-state and thus complicated the manner in which power is distributed and exerted.

towards amplifying or mitigating environmental destruction. This, of course, requires citizens to interpret their participation, *qua* citizens, vis-à-vis the public sphere. As Polanyi (2001) demonstrated, states have long been proxies for environmental destruction, notably through protecting private property, authorizing the legal construction of business firms through limited liability companies, or by facilitating the initiation of cycles of primitive accumulation (through such actions as introducing land reforms or designing mining codes). However, it also implies that individuals need to examine the nature of their participation in other spheres – such as production, consumption or community organizing – which can be equally significant in terms of effective impact. It goes without saying that in this dissertation, I shall seek to demonstrate the salience of the social interactions deployed in the sphere of production (or at least in some sectors of it) to the organization of collective relationships to nature.

6. Conclusion

Although the three first sections of this chapter had deepened our understanding of the concept of alienation, by reframing it as an alteration of the mediations existing between the self and the world, the account remained somehow incomplete: in some sense, the *how?* of alienation had been successfully delineated, but the *what?* still remained elusive. In the fourth section, I have tried to characterize the implicit picture of the self that the previous developments presupposed by delineating the contours of a sparse, formal anthropology. In this endeavour, I have emphasized that the self gets dialectically constituted through its encounter with the world, and that it affirms its 'transient consistency' by conducting a work of interpretation on the relations that its own deployment ceaselessly projects. This elementary picture, I suggest, captures the preconditions of human self-realization (without specifying the goals that these conditions serve). As such, I shall mobilize it as a reference point for assessing

empirical situations normatively, notably in chapter 8 when I introduce the concept of 'dwelling' as an alternative to alienation.

CHAPTER *5*

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The construction and sustainment of Total's corporate legitimacy in a carbon-constrained world

1. Introduction

This chapter and the three following ones constitute the core of this doctoral work. As suggested in the introduction, each one of them (particularly chapters *5*, 6, 7) opens a specific perspective on concrete empirical reality, and suggests that the different facets of its structuration in the corporate context can be clarified with the concept of alienation – provided that the latter is taken in a pluralistic sense, where its internal variations mutually dovetail rather than rule out each other. In this first empirical chapter, I articulate an analysis that retraces the ways through which Total instituted and sustained climate change as a matter of concern for the organization; by doing so, I seek to emphasize the cultural/cognitive dimension of alienation. For this endeavour, I analyse the circumstances under which a specific collective imaginary gradually took shape in the firm and then spread both within and outside it: for that matter, I mobilize the Foucauldian concept of *apparatus*, which allows me to give an account of the complex dynamics that underlie the process through which a corporate 'climate imaginary'

gradually took shape in the organization. Yet, a thorough examination of the firm's business-as-usual activities suggests that the elaboration of this corporate discourse has contributed towards framing their substantive outcome in a distorted, but vivid way: smart, selective communication bolsters corporate legitimacy while obscuring the massive material flows that extractive operations effectively generate. In making sense of this gap, I reveal some significant theoretical shortcomings in the Foucauldian framework, the relevancy and scope of which I assess critically: while it helps to diagnose key features of the process through which corporate discourse takes shape, the framing it induces stands in the way of working out other facets sufficiently.

At this point, I wish to clarify the position of this chapter in the general architecture of my dissertation. In the pages that follow, I aim to depict the elaboration of a corporate discourse on climate change as a correlate of a wider social phenomenon, namely the unshackling of 'constituted social powers' that get the upper hand over human beings in the making of history. I shall isolate some of the core features of this specific phenomenon in the next chapter, when I delve deeper into the analysis of Total's case and bring out findings that will retrospectively further elucidate those of this chapter. One of my core hypotheses is that the enduring construction of corporate legitimacy secures (and limits) the deployment of such an 'objective alienation', of which one must consider it a 'cultural' correlate[50].

Before proceeding it is worth taking a step back to notice that, to the best of my knowledge, only few publications have focused specifically on the oil and gas industry's responses to climate change (Banerjee et al. 2015 ; Kolk and Levy 2001, 2002; Lovell 2009; Sæverud and Skjærseth 2007; Skjærseth and Skodvin 2001), and none has openly explored them from the perspective with which I engage. The recent emergence of a consensus on carbon budgets

50. The elaboration of an imaginary that reinforces corporate legitimacy requires the production of symbols that are sufficiently meaningful to arouse the enthusiasm and loyalty of employees and stakeholders. In other words, constituted social powers actively shape the cultural forms that enable their perpetuation by making them attractive.

(Allen et al. 2009; Meinshausen et al. 2009) aroused a renewed interest from external observers in the challenge the industry faces; activists (McKibben 2012), think-tank researchers (Caldecott et al. 2013; Leaton and Grant 2014), and academics (Castelo Branco et al. 2012; Griffin et al. 2015) have each contributed towards mapping out the delicate position of multinational firms in the 'unburnable carbon' controversy. However, as Caldecott and Rook (2015) acknowledge, "testing [for] the presence [of] biases, errors, and fallacies in [corporate] decision processes [is] difficult, if not impossible"; most diagnoses have thus remained external. Some other contributions focusing on the strategies that multinational oil and gas firms develop to address renewable energies and carbon-capture storage (CCS) (Chang and Yong 2007; Oberling et al. 2012; Penha 2011; Pinkse and Buuse 2012; Tjernshaugen 2012) provide an indirect insight into the topic by highlighting how firms tend to project themselves in segments that could be transformative. In addition, although the role of meta-organizations in the construction of corporate social responsibility (CSR) standards in the fossil fuel industry has been identified as crucial (Berkowitz et al. 2016), no analysis has been conducted on the specific case of climate change.

To reconstruct and analyse climate change as a matter of concern at Total, I mobilize the concept of the 'sustainability apparatus', as defined it in an explicitly Foucauldian manner by Aggeri (2014). I build on Aggeri's suggestion that when the implementation of corporate apparatuses comes under scrutiny, one can identify five invariants. These are (1) the reflexive understanding of an emerging issue by the management, which leads to (2) the formulation of a strategic project and to the schematization of an early-stage apparatus (3) progressively constituted through the interconnection and articulation of diverse 'theatres of operation' linked to the issue; the intertwined challenges of (4) giving the 'strategic apparatus' a proper 'scenography', and (5) coherent 'script-writing' are the two last prerequisites for developing a clear communication strategy. Building on material from the field and on theoretical insights from the literature, I demonstrate that Total's attempt to build and sustain corporate legitimacy on climate change has followed this trajectory; yet, I contend that the corporate narrative on

climate change has limited transformative potential, insofar as the 'depth' of its inscription in the organizational matrix remains insufficient.

I organize the chapter as follows. In the second section, I introduce the concept of 'apparatus' and defend its analytical relevance to the present case study. To do so, I offer a brief genealogy of the concept, from its initial formulation by Foucault (1980) to its re-elaboration by some critical management studies scholars, with a special focus on Aggeri's (2014) contribution. On this basis, the third section consists of a chronological reconstruction of the deployment of the sustainability apparatus at Total, with the focus on its response to climate change: while scrutinizing these dynamics, I also examine broader patterns of response to CSR issues in the oil and gas industry and beyond. In the fourth section, I contextualize the deployment of the sustainability apparatus, and demonstrate that it primarily occurs on an ideational level, in the sense that the imaginary it conveys seems significantly uncorrelated with the effective material entanglement of Total's activities in the biophysical realm: this opens the way for a critical discussion of the Foucauldian theoretical framework.

2. Definition of the 'sustainability apparatus'

In this section, I argue that capturing the complex process through which multinational firms (like Total) respond to external constraints (such as the 'unburnable carbon controversy') can benefit from importing Foucault's concept of an 'apparatus' into the field of organizational studies.

However, it is important first to stress that Foucault's legacy in this field goes way beyond the concept of 'apparatus' with which we are concerned here. Although he only articulated it in his more recent *Histoire de la sexualité*, Foucault had already introduced critical theorists to important new perspectives through some of his earlier works (such as *Surveiller et punir* and *Naissance de la biopolitique*). In fact, by the end of the 1980s, organizational studies had

already successfully imported many Foucauldian building blocks into its framework and, since then, it has put them to work to detect and decipher the unprecedented structural changes that the transition to a post-Fordist regime of accumulation caused. Pezet (2004) suggests that two nodal concepts – 'surveillance' and 'governmentality' – have structured the development of this vast scholarship. While contributions based on the former have emphasized the modalities of disciplinary (self-)control and their associated forms of subjectivation (Fox 1989; Miller and O'Leary 1987; Nicoli and Paltrinieri 2016), those based on the latter have aimed to conceptualize corporate power on the basis of Foucault's study of government techniques inherited from the dissolution of sovereignty (McKinlay et al. 2012; Miller and Rose 1990). By elaborating an interpretation of empirical data through the composite concept of 'apparatus', the demonstration that follows navigates between these two poles: however, it is worth emphasizing that it mobilizes the Foucauldian framework to retrace the constitution of an objectivity (that is the corporate discourse) rather than to analyse the effects of the latter on subjectivities. These are, of course, two sides of the same coin and, while in this chapter I evoke some stylized aspects of this modelling of subjectivities, it is later (in chapter 7) that I flesh out their description. That said, I now turn to the definition of the concept.

In an interview given in 1977, Foucault (1980: 195, emphasis added) described the term apparatus as a

> "thoroughly *heterogeneous ensemble* consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions – in short, the said as much as the unsaid. Such are the elements of the apparatus. The apparatus itself is the *system of relations* that can be established between these elements."

He is therefore proposing a 'non-stabilized' definition of the apparatus as a web where 'relations' (and their configuration) construe the 'terms' they connect. Completing his own definition, he then goes on to insist that the apparatus is "essentially of a *strategic* nature, which

means assuming that it is a matter of a certain manipulation of relations of forces, either developing them in a particular direction, blocking them, stabilizing them, [or] utilizing them" (ibid.). This precision is crucial, for it completes our understanding of the dynamic nature of the apparatus by unmasking the fact that it is inescapably purposive – even if, of course, the underlying forces that sustain it are potentially non-reflexive. This claim resonates with Taylor's (1984) remark that Foucault's historiography mainly consists of describing "strategies without project". I shall demonstrate that this double (relational cum strategic) dimension of the apparatus operates in the case study. Beyond this synchronic definition, Foucault suggests that an apparatus is characterized by a certain kind of genesis, marked by two important moments. He describes the first as a "process of *functional overdetermination*", where "each effect – positive or negative, intentional or unintentional – enters into resonance or contradiction with the others and thereby calls for a readjustment or a reworking of the heterogeneous elements that surface at various points" (Foucault 1980: 195), and the second as a "perpetual process of *strategic elaboration*", which consists of an "immediate reutilization of [an] unintended, negative effect within a new strategy which came in some sense to occupy this empty space, or transform the negative into a positive" (ibid.). As I shall show, it is possible to detect these intertwined and overlapping processes in the case study[51]. Dumez and Jeunemaître (2010), and more recently Aggeri (2014), have explored the hypothesis that Foucault's concept might be appropriate for marking out the contours of the dynamics that accompany the implementation of CSR programmes in the corporate realm. According to Aggeri, one can encapsulate the tension inherent in corporate strategic planning, which is simultaneously top–down (in that it bears an irreducible projective dimension) and bottom–up (in that concrete, unintended micro-

51. Foucault's distinction between the two concepts of 'functional overdetermination' and 'strategic elaboration' is unclear because he elaborates them spontaneously in an interview. I suggest that we understand 'functional overdetermination' as the path-dependency that the constant evolution of the apparatus spontaneously generates. In this *embedding* process, the progressive sedimentation of past decisions comes to stabilize an imaginary that will frame and channel further interactions. Correspondingly, I suggest that we understand 'strategic elaboration' as an *embedded* process, in which agents articulate specific responses, against background conditions that they generally take for granted.

interactions produce it), in the notion of apparatus, which offers a valuable point of balance. Building on Foucault's sense that apparatuses constitute a response to an "urgent need" (Foucault 1980: 195), Aggeri argues that "sustainability apparatuses" have naturally flourished in a context of growing distrust towards corporate activities, and that, by giving rise to a specific rationality, these apparatuses have served purposes that are eminently strategic, for they point towards a single vanishing point – the construction of corporate legitimacy. In the second section of this chapter, I harness Aggeri's analytical framework to engage with the case of Total. In the third section, I suggest that the Foucauldian approach has specific shortcomings, which call for complementary theoretical approaches on our topic.

3. Elaboration and implementation of the sustainability apparatus at Total

In this second section, I give a critical account of the process through which Total articulated a sustainability apparatus in response to the threat of climate change, which has become even more substantial with its recent reformulation in terms of carbon budgets.

3.1. Emergence of the issue

Following Aggeri's sequencing, I engage with the first phase he describes in which, as a collective, the firm formulates a reflexive understanding of climate change as a challenge it needs to address. To offer an accurate analysis of the genesis of the sustainability apparatus, I build on the concept of an imaginary, which Jessop (2010: 344) understood as

> "a semiotic system that frames individual subjects' lived experiences of an inordinately complex world and/or informs collective calculations about that world; [...] [it comprises] a specific configuration of genres, discourses and styles and thereby constitutes the semiotic moment of a network of social practices in a given social field, institutional order, or wider social formation."

I suggest that providing an accurate description of the emergence of a proper "climate imaginary" (Levy and Spicer 2013) requires one to take a step back from the French context to analyse how the oil and gas giants from both sides of the Atlantic Ocean have understood this challenge in recent decades. I emphasize that the hypothesis of an anthropogenic origin for planetary climate change has always been a source of tension for the oil and gas majors. The ongoing consolidation of observations that climate scientists have been delivering since the 1970s (IPCC 2014) has constantly been accompanied by a commensurate sharpening of awareness that the criticality of climate change is threatening the legitimacy of these corporations. As a result, multinational oil and gas firms have been bound to articulate their own corporate 'regimes of truth' in an attempt to prove their credentials. In what follows, I demonstrate that these firms have not been neutral bystanders in the shaping of climate imaginaries in Western countries – in the sense that they have exerted strong 'lateral pressures' on shared imaginaries. This could seem obvious for the case of Exxon, which I shall discuss first, but this interdependency also applies to Total.

Recent revelations have highlighted important details about the disastrous sequence of events through which Exxon, after having been a pioneer in peer-reviewed climate science in the 1970s and 1980s, finally shifted towards climate denial after the second oil shock (Banerjee et al. 2015). The authors report that at the end of the 1970s, some key managers were enthusiastic about the prospect of their company's research unit becoming a prominent, leading actor in climate science; in 1979, the firm even fitted a super tanker with custom-made instruments with which to sample CO_2 in the air and ocean along a route from the Gulf of Mexico to the Persian Gulf (ibid.). In 1982, the then head of Exxon's research unit even publicly declared that "few people doubt that the world [has] entered an energy transition away from dependence upon fossil fuels and toward some mix of renewable resources that [would] not pose problems of CO_2 accumulation" (David 1982). Yet, during the 1980s, corporate executives started to realize that the conclusions drawn from climate science were (rightly) becoming more and more incompatible with their business-as-usual imperatives; there was

growing concern that regulations restricting the use of fossil fuels would damage their profitability. The collapse of prices in 1986 brought staff cuts and hit climate research particularly badly (Banerjee et al. 2015). Then, in 1988, the establishment of the IPCC and the Congressional testimony of NASA scientist James Hansen propelled climate change onto the political landscape. Exxon suddenly switched its discourse and began to doubt the robustness of climate science; a year later, it played a significant role in launching the Global Climate Coalition (GCC), a US-based international lobbyist group of businesses opposing regulation to reduce greenhouse gas emissions; this organization played an active role in obstructing UN-led climate negotiations, before finally closing in 2001 in the face of public criticism. That Exxon's decisions played such a large part in shaping the circumstances that allowed climate change to emerge as a matter of concern in the United States resonates with Latour's claim that "the powerful [had perfectly discerned] the prescriptive charge of brute facts" (2015) when, alongside other actors in the US oil and gas industry, they decided to become "merchants of doubt" (Oreskes and Conway 2011). An excerpt from an internal company memorandum that an Exxon research manager wrote in March 1978 hints that the world-making potential inherent in the corporate 'regime of truth' that one of America's biggest firms had developed could then have been oriented in the opposite direction; indeed, it claimed that climate science research "may be the kind of opportunity that we are looking for to have Exxon technology, management and leadership resources put into the context of a project aimed at benefiting mankind" (Banerjee et al. 2015). All this suggests that the corporate 'regimes of truth' that firms of pivotal importance in their national economy elaborate do in fact influence the socially-embedded processes through which shared imaginaries are shaped.

That said, one needs to look beyond the case of Exxon to understand Total's position on climate change. BP's shift towards a proactive strategy in 1996/7 was a crucial step towards making climate change an issue for the industry in Europe. In May 1997, shortly before Kyoto and a few months after deciding that BP would leave the GCC, its then CEO, Lord John Browne, gave a speech at Stanford University in which he acknowledged the necessity for BP to

"take precautionary action", which would imply embarking on a new "journey" (Browne 1997). This speech accelerated the widening of an "Atlantic divide in Big Oil" (Kolk and Levy 2002; Lovell 2009). In the history of climate politics, opening this breach coincided with the transition from the phase of "carbon wars" (1990–1998) to that of "carbon compromise" (1998–2008) (Levy and Spicer 2013). The latter phase witnessed a rapid diffusion of the ecological modernization discourse (Mol and Spaargaren 2000) and its "techno-market imaginary" counterpart (Levy and Spicer 2013); the concomitant move by European oil and gas firms was undoubtedly endogenous to this broader dynamic. Among them, BP was a pioneer, for early on its management had set very ambitious targets. In fact, in 1998, the firm committed itself to reducing its emissions by 10 per cent by 2010, while expecting its total output to grow by 50 per cent. Following its acquisition of Amoco, BP had planned its revenues from solar energy to climb to $1 billion within ten years (Kolk and Levy 2002). By taking this bullish position, BP probably wanted to outpace its rivals, betting that the threat of climate change would turn into a business opportunity; in much the same way as Exxon's action helped to nurture a distorted climate imaginary, BP's shift opened the possibility of a new framing of the issue. TotalFinaElf's position also helped to stabilize this framing, even if the French firm showed more prudence than BP: although none of its 'parent companies' had ever joined the GCC, the merged entity developed a wait-and-see strategy. Global warming was first raised at a meeting of the executive committee of Elf-Aquitaine in 1985 (Hove et al., 2002). A few days before negotiations took place in Kyoto (1996), Philippe Jaffré, the then CEO, explained that his group was willing to aim at "a reduction of 15 per cent of its CO_2 emissions by 2010" (Hove et al. 2002); but this target was abandoned after the merger with TotalFina, which had not made any quantitative commitment (Hove et al. 2002). The new entity's position on climate science remained in line with the conviction, which the former three companies shared and Jaffré expressed, that "when we are confronted with an issue that raises fears [...] our attitude is scientific: it is that of the 'Cartesian doubt'. We then turn to the scientific community in which we have confidence" (cited in Hove et al. 2002). In the 2000s, the announcement of non-

quantified plans of action accompanied this official endorsement of climate science: it is along these prudent lines that Total officially forged its initial position on climate change.

Over the last two decades, the gradual reinforcement of the scientific consensus about the anthropogenic origin of global climate change (Oreskes 2004) has sanctified the IPCC's obligation to 'tell the truth' in this domain; European multinational oil and gas companies, reacting to "convergent institutional pressures" (Kolk and Levy 2002), have therefore embedded their discursive responses to climate change in the IPCC's encompassing framework. However, as I argue in the next subsections, the adoption of this well-reasoned (and since then reiterated) position towards science has been far from neutral. Given that climate change has gradually become the clearest threat to the industry's activities, I contend that it continues to configure significant power relations, which the firm must then negotiate and channel.

3.2. Formulation of a strategic project as elaboration of an early-stage apparatus

In the preceding subsection, I have reviewed how the emergence of climate change as a public issue was not entirely divorced from the doings of the oil and gas industry. I shall now outline how these first statements were then stabilized into an identifiable strategic project, which, from the very beginning, took the form of an 'embryonic' apparatus. More precisely, my claim is that, in attempting to retrace its early formulation, it is necessary to focus on how climate change was discursively elaborated in the corporate realm. It is indeed through its articulation in a specific language that climate change first came to 'make sense' in the company; and by recognizing and naming the issue, Total was already construing incipient responses to it.

This awareness of interconnectedness between the process of linguistic elaboration and the emergence of an apparatus resonates with what Taylor coined the "expressive" dimension of language (that is when it is used in a performative, world-making fashion) – in contrast to its

"designative" dimension (namely when used instrumentally to describe external relations between objects standing in the world) (Taylor 1985). In the early 2000s, the first statements formalizing the group's stance on climate change were meant to be formulated in a designative, disengaged tone. As the comment from Jaffré cited above suggests, the main aim of those statements was to offer a neutral description of the nature of the relationship between two objective entities ('Total' on one side, 'climate change' on the other). Yet, far from being purely designative, I suggest that the discursive elaboration that has prevailed since then has built on a continuous and meticulous effort to channel and orient its expressive dimension; moreover, I consider that the impulsion of this effort has mainly been a structural phenomenon. Put differently, I contend that Total (or more precisely the top managers in charge of defining the group's position) has constantly shown a diffuse, non-reflexive awareness of the need to properly regulate and articulate the expressive power inherent in language, for a given strategic purpose. In an interview, Total's scientific director openly witnessed this efficiency of discourse during a general presentation he gave on climate change to a large of audience of managing directors:

> "The question I was asked [after my presentation] was: 'so, will what you've told us become the position of the group [on climate change]?' – and in fact it was, because the CEO had given me the mandate to talk about climate change as Total's scientific director – and the simple fact that I was explaining all this at the 'Management Convention' implied that what I was expressing was becoming the position of the group."

This could seem quite innocuous; after all, if the firm officially 'accepts science', then how could the expressive power of its corporate voice be a threat to public debate? In this respect, the climate-denial apparatus that US oil and gas companies sponsor seems to have been a far more dangerous kind of world-making experiment (Latour 2015). Yet, I argue that the emergence of Total's 'reasonable position', far from being purely declarative, has also been the

result of a still ongoing strategic bargain. The following excerpt from a senior manager recalling an event from the mid-2000s illustrates this idea:

> "I happened to teach a class on climate change at [the] 'Institut Français du Pétrole'[52] with a colleague, more precisely on regulatory frameworks such as Kyoto, the EU–ETS, and so on. And when a member of the executive committee learned about it, he took out the red flag, and told us 'stop!'; he thought it would be contrary to the interests of the group, etc. So, well, we don't teach anything on these issues anymore – in a word, the baseline is that it's not our job; we just accept science."

This reconstructed account reflects a contradiction that mirrors the ambiguity of Total's position. On the one hand, 'accepting science' has the ring of a disengaged diagnosis, one that prevents the firm from intervening in a field it de facto declares as out of its scope of expertise. The firm recognizes the authority of the scientific community by declaring that it 'abstains from intervening' in its works, and thereby secures its moral integrity; conversely, this compartmentalization indirectly enables the firm to temper the "prescriptive charge" (Latour 2015) of the conclusions drawn from IPCC reports. On the other hand, despite its somewhat confused formulation, the executive committee member's reaction betrays a deep (potentially non-reflexive) understanding of this prescriptive, world-making potential that is inherent in any language, even when the content it spreads seems purely disengaged (for example, the architecture of the Kyoto protocol). I suggest that this reaction encapsulates the ambiguity of Total's position; since the 'accepting science' motto inescapably refers to a specific way of 'occupying the ground', one cannot consider it neutral per se; its concrete embodiment inevitably expresses a certain configuration of power relations. The firm's priority therefore consists of avoiding being outflanked by prescriptive demands that the 'accepting science' premise might invoke; it is thus bound to delineate a 'scope of efficiency' for the discourse it

52. The French Institute of Petroleum is a public research organization founded in 1944. Now renamed IFP-Energies Nouvelles, the institute runs a postgraduate training centre and an extensive industrial training programme.

deploys, and to ensure that no thresholds are passed. I suggest that this episode highlights that the discursive elaboration of climate change and the emergence of a sustainability apparatus have been two faces of the same coin.

I now turn my attention to an element that has conditioned the emergence of this phenomenon, namely the persuasiveness of this newly-created discourse on climate change. Although this point might seem obvious, I insist on its crucial importance. To build and sustain legitimacy, the top management had to mobilize arguments that would fit in with the worldview of Total's managers and thereby turn them into enactors of the sustainability apparatus (Bansal and Kistruck 2006; Pérezts et al. 2011). In the late 1990s, climate change had already largely caught the attention of the French political class; since most managing directors at Total had both a strong scientific background and a social status to uphold, building a corporate discourse that discredited climate science would probably have been untenable. The frequent reiteration of a commitment to 'accept science' and a certain propensity to corporate self-congratulation helped to reassure the employees and managers of their firm's 'realist pragmatism' (BP's case is very much similar in this respect: see Hove et al. 2002; Matejek and Gössling 2013). Yet, to resonate fully with the broader corporate imaginary, it became necessary to expand further the 'we accept science' statement; for, if 'rationality' and 'conformity with science' are core values of this canvas, mobilizing them would have been insufficient to ensure a spontaneous appropriation of the corporate discourse on climate change. An informed respondent noticed the

> "weak understanding of epistemological issues [in] the group (i.e. among its managers) [...]; for them – the engineers I mean, it's hard to understand that in science, you can never say that an hypothesis is 'true'. [...] Getting this epistemological detail clear is not evident for persons who have an 'engineer' culture, which is mainly oriented towards operational things."

Building up the admissibility of corporate discourses on climate change has involved appealing to other 'orders of worth', a concept coined by Boltanski and Thévenot (cited in Wright and Nyberg 2013) to reflect the values of operational managers. In this endeavour, 'technology' was invoked early on as a core value, for it was gifted with the capacity to elaborate a substantive compromise between apparently irreconcilable 'orders of worth' (Wright and Nyberg 2013); the prospect of converting climate change into a business opportunity quickly became the backbone of Total's position. As this reconstructed account from a top manager exemplifies, this was clearly something that respondents evoked during their interviews:

> "I will say it in a quite blunt and provocative way: climate change has to become a business opportunity – we must make money from it."

The operational 'translations' that are implicitly referred to here have been clearly delineated at the corporate level. The main avenues for reconciling business and climate change are investing more in natural gas, developing renewable energies, reinforcing energy efficiency in industrial processes, and accessing energy in the developing world (Pouyanné 2015). This framing of climate change as a problem to fix betrays a form of "corporate omnipotence" (Wright and Nyberg 2014) that relies on the view that "corporate capitalism [offers] an inevitable and superior form of economic organization based upon rational and effective managerial tools and practices" (Wright and Nyberg 2014) by making a connection between market failures and appropriate technologies (Levy and Spicer 2013). I suggest that Total's constant attempt to mesh its discourse on climate change with a pre-existing corporate optimism about the transformative potential of technology (Chang and Yong 2007) has largely contributed to making it audible to managers.

From all this, I argue that Total's discursive elaboration of climate change has been persuasive because it has consisted of a process through which the core values of the corporate imaginary ('conformity with science', 'rationality', 'efficiency' and 'technology') have been mobilized and reassembled in a specific fashion, which resonates with what Levy and Spicer

(2013) call a "techno-market climate imaginary"; this has ensured the production of a discourse that Total's employees and managers would readily internalize and enact.

Beyond this attention to the *content* of the discourse, the diverse modalities of its *incarnations* have also played a key role in its widespread reception by non-specialist managers. In what follows, I give an example of the concrete substantiation of the 'conformity with science' value beyond a mere reference to the content of public statements. Strategic nominations and reorganizations are mainly responsible for the incarnation of this value: in 2006, the appointment of a scientific director who had previously held the highest scientific post at the French 'Centre National de la Recherche Scientifique' (CNRS) (*L'Usine Nouvelle*, 2006), and who had gained the esteem of his peers for his important work as an oceanographer, marked a turning point; the mere presence of someone in the company with such a high profile effectively assured the managers and employees of the coherence of Total's position on climate change. Then, in 2016, the firm poached a new scientific director from his position as chief research officer at the CNRS to replace the former incumbent, who was now reaching retirement. While these appointments clearly occurred quite late in the process of stabilizing a 'climate science-compatible' discourse, I contend that they nonetheless reinforce all the previous efforts of the top management to flesh out the 'we accept science' statement, by incarnating it through spokespersons benefiting from an undisputable reputation.

In this subsection, I have highlighted the primitive importance of discursive elaboration in the groping, multi-faceted process that has led to the emergence of what I have called the sustainability apparatus. By insisting on the importance of its early formulations by Total's top managers, one could argue that my point conflicts with Foucault's central thesis that "power in the substantive sense, *'le' pouvoir*, does not exist" (1980: 200); if he considers misguided the "the idea that there is either located at – or emanating from – a given point something that is a 'power'", the philosopher later clarifies his position by declaring that "insofar as power relations are an unequal and relatively stable relation of forces [a condition, I contend, is verified in

Total's case], it is clear that this implies an above and a below, a difference of potentials. [...] [However,] for there to be a movement from above to below, there has to be a capillarity from below to above at the same time" (Foucault 1980: 200–1). I suggest that the mobilization of shared corporate values in the discursive elaboration of climate change is an illustration of this attempt to create the conditions for an effective "capillarity" that turns managers and employees into proper vectors of the apparatus.

Having analysed extensively the formal dimension of the apparatus, I now shift my focus to the heterogeneous practices that it enables and interconnects.

3.3. Interconnection and articulation of corporate efforts

3.3.1. Salience of the 'Strategy and Climate Division'

In this subsection, I examine the maturation phase of the sustainability apparatus. I suggest that this temporal sequence both systematically structures the various initiatives present in the group and impels new ones. In this endeavour, the newly-constituted language (see previous subsection) operates as a binder to create commensurability between practices that had until then remained unrelated but now come under a single banner that symbolically articulates a specific objective, namely to reduce Total's carbon footprint. The 'Strategy and Climate Division' (SCD), a small department belonging to the corporate holding created in 2009, is mainly in charge of structuring the corporate response to climate change.

Before looking over the various initiatives that the SCD has assembled and sustained, I wish to draw attention to this department's specific role as a catalyst in deploying the sustainability apparatus throughout the organization. Describing the circumstances under which he assumed his position as head of the SCD after a lengthy career in the upstream branch, the founder of the department recounts that

"There was a latent, but poorly-formulated demand in the group for such a department. My proposal [which was to initiate the creation of such a position] probably catalysed the

opening of my position. Well, the issue was attracting more, but the need to create a position was not formulated as such."

This account suggests that the creation of the SCD occurred when claims on climate change from external stakeholders were putting mounting pressure on the organization: consequently, the SCD's small ad hoc team acted as a 'precipitate' of these underlying tensions, which would now find an appropriate 'channel' for their expression and management. As its director explains,

"The aim of the SCD is to make sure that the group makes all the adequate decisions in order to orientate the business positively, in a fast-evolving context; we have to understand what has happened in the past, what is going on now, and to have a vision of the future. We act as back-ups for the business segments, assisting them when they explore questions linked to climate issues; when you are at the corporate holding, there are never many troops [the SCD had only four employees] – you are above all involved in a work of coordination; you have to make sure that branches set up the most important actions."

Rather than functioning as a centralized centre of command issuing top–down directives throughout the group, the SCD operates as the 'focal point' of an organizational feedback loop in which operational concerns related to climate change converge for the purposes of assessment, clarification and reworking before becoming reabsorbed into the organization (for example in the form of programmes to implement) or communicated to external stakeholders. This positions the SCD as a key link in the constant reactivation of the two intertwined processes that Foucault mentioned in his description of the apparatus. I associate the first – "functional overdetermination" – with an ongoing effort to standardize heterogeneous initiatives to make them fit the corporate official line. I define the second – "strategic elaboration" – as the never-ending endeavour to readjust the mutations that steadily reshape the 'theatre of

operations'; Latour (2015) recently defended this appeal to Schmittian concepts to describe environmental conflicts. If these elements highlight the remarkable importance of the SCD in sustaining the apparatus, one should not, however, overestimate its real influence. In fact, as its director himself explained,

> "'Strategy and Climate Division', well, the name itself is both correct and misleading at the same time. The climate-energy policy is indeed shaped by the entire firm itself; it is also shaped by the president, and the executive committee."

This last excerpt suggests that, far from being self-subsistent, the SCD is rather a privileged locus for exhibiting the deeper power relations that structure the firm; and, as Foucault notes, at the end of the day, "power must be analysed as something which circulates", something which is "employed and exercised through a net-like organization" (Foucault 1980: 98). For this reason, it would be a mistake to consider the SCD as the point from which power unilaterally emanates; one should rather see it as the entity that continuously readapts and enhances the symbolic efficiency of the climate imaginary while it circulates in the corporate realm.

3.3.2. Key projects articulated by the SCD

Building on this analysis of the SCD's prominent position in the organization, I now shift the focus to some of the key projects it articulates. These are (i) the "Zero Routine Flaring" initiative, which frames climate change as a challenge best handled through optimizing the production process; (ii) testing CCS technologies, which, alongside the firm's other investments (like gas power and solar energy), suggests addressing climate change through investing more in disruptive business lines; and (iii) structuring a dedicated worldwide meta-organization in order to protect the legitimacy of the industry in the struggle against climate change. In this analysis, I do not strive for exhaustiveness; the sustainability apparatus has other constituents that I could have subjected to investigation – the internal fixation of a carbon shadow price in investment projects being a case in point. Yet, if the introduction since 2008 of this new criterion to the

risk assessment forms that pave the investment decision-making process might have widened the horizon of committees, it certainly did not become a critical limiting factor. For other reasons, which I explain later, in my investigation on (ii), instead of exploring solar energy and gas power, I will concentrate on CCS solutions, even if Total has not clearly identified them as a priority (Pouyanné 2015). All these considerations will take us back to the question of whether the apparatus effectively enables substantive change, which I will explore further in the fourth section of this chapter. Yet, my study of the articulation of the main building blocks of the apparatus will hint at its mainly 'defensive' purpose, thereby reinforcing a previously raised intuition.

(i) "Zero Routine Flaring"

One of Total's early priorities for curbing emissions was its attempt to reduce flaring. I suggest here that this particular initiative is an usual corporate response to external pressures in extractive industries; in the face of a threat to their social/environmental licence to operate (Parsons et al. 2014), firms need to demonstrate their commitment towards alleviating the footprint of their industrial processes. In this respect, flared gas is a genuine issue for the oil and gas industry. As a by-product of extractive processes, its impact on climate change is significant, for it generates approximately 350 million tons of CO_2 in annual emissions (World Bank 2016), which in 2014 amounted to ±1.0 per cent of worldwide emissions (IEA 2015). Total (through the SCD) recently reaffirmed its commitment to act proactively on this issue. During my fieldwork, several respondents identified the alleviation of environmental impacts as the logical continuation of a dynamic initially adopted to promote industrial safety in the 1990s, but then extended to stakeholder management in the 2000s. However, like these earlier initiatives, reducing flaring implies making a "systemic effort" (Bourg 2015) to bring about deep, substantial organizational change. As the reconstructed account of a respondent engaged in coordinating the action on flaring shows:

> "We have committed [ourselves] to reducing routine flaring, with the objective of suppressing it totally by 2030. And on this, we discussed a lot with the upstream division; we had to convince them, it was a real advocacy, an enormous amount of work [...] we had to make sure we could live up [to] such a commitment, and we had to defend this project with the executive committee. [...] And well, it is quite clear that pushing all these climate change issues in the organization requires a lot of energy."

The upstream branch's latent reluctance to take further 'constraints' into account is illustrated by this somewhat nostalgic reaction from an older respondent:

> "The number of stakeholders [around operational sites] is now considerable, compared with the 1980s and 1990s; at that time, when we had an offshore licence, we had 100 per cent of the shares, and we could operate it peacefully, well, I mean, we could do our stuff; the state would tell us to do this or that, but it would not come and stick its nose in our business – but now, it's all different; we are most often four or five companies on a single licence, and as soon as you want to do anything, you have to talk with the ministry of health, of the environment, of fisheries, to meet lawyers, to discuss [it] with NGOs, politicians."

This last excerpt expresses the irritation that many operational managers (especially older ones) feel over the multiplication of expectations surrounding the industrial process they are helping to monitor. Being compliant thus implies first making what I call a systemic effort, in that it requires gradually changing the managers' and employees' mentalities, so as to ingrain an attitude that will constitute one of the building blocks of the broader corporate discourse on climate change. Once this effort is under way, or partially undertaken, most managers find it difficult to accept that their company could be subject to criticisms from stakeholders. A respondent highlights the widespread conception that

> "the firm [...] delivers an incredible, extremely complex service to society – it's just hard to figure out what it does mean to spend months on a platform in the North Sea [...] when you haven't gone through it! – and for this reason it's not possible to criticize all these efforts!"

In the light of this, I want to insist that the "Zero Routine Flaring" initiative helped to construct climate change as an externality that could be reinternalized through the further expansion of a process of continuous improvement. A widespread perception among respondents is that expanding this dynamic (which had previously shown an ability to mitigate other externalities such as workplace accidents or environmental hazards) to include GHG emissions would be enough to secure a reinforced social licence to operate. This programme is, I have said, a significant building block of the sustainability apparatus; its salience lies in the fact that it is intimately linked with business-as-usual activities. Many operational managers get indeed their first tangible experience of the corporate response to climate change through the implementation of concrete measures designed to reduce flaring. This is not a neutral issue, for the programme implicitly frames climate change as an issue that Total can address through greater efficiency by optimizing the production process. This view remains widely held among respondents, who furthermore demonstrate a very limited knowledge of the ongoing debates about carbon budgets – which de facto suggest a deep transformation of business-as-usual activities (Allen 2015) rather than the deployment of efficiency strategies.

(ii) Transformative projects?

Another important building block that the apparatus articulates relates precisely to being able to transform the business model through developing new industrial projects. Here, I suggest that, while these projects are very appealing to managers and employees (most respondents evoke Total's key position in the solar industry as a crucial component of the corporate response to climate change) and are largely praised for their technological

disruptiveness (solar energy again is often mentioned in glowing terms), the idea that their development could entail a transformation of the organization itself is recurrently underplayed. As a top manager put it,

> "there will be no swing, but a migration: you have to understand that achieving the transition from one business model to another takes time; we are trying to conduct it in a prudent and responsible manner."

Rather than targeting a quick transformation of core business activities, which would imply an unprecedented reallocation of productive assets, Total portrays its interest and investment in innovative projects as a wise, pragmatic commitment towards optimizing the question of corporate exposure to carbon risk in the coming decades. This formulation aims to give credence to shareholders while continuing to perpetuate a corporate climate imaginary based on the instrumental criterion of efficiency.

The case of CCS is an interesting example of Total's wait-and-see position on business lines that could prove disruptive. While not exactly at the forefront of Total's climate strategy, CCS has been identified as the only technology (Allen 2016; Haszeldine 2009) able to direct oil and gas firms into new businesses by securing their ability to redeploy their existing expertise in earth sciences and geology (Allen 2016; Haszeldine 2009; Lovell 2009). The episode that led the firm to experiment with CCS is an illustration of Total's ambivalent stance towards that technology. A respondent relates that

> "Around 2005/6, a minister told Desmarets [then CEO]: 'you, Total, earn too much money, I'll put a supertax on oil revenues.' Desmarets answered: 'no, my business is to invest, to invest in projects.' And he gave pledges to the government that he would explore this new technology [CCS] by developing a project in Lacq [a drained gas field in southern France]; quite a mischievous outcome, isn't it? [...] but in the end, it cost more than the expected 50M€ (rather the double, actually!)"

This reconstructed account reflects the group's defensive position and contrasts sharply with the emphatic tone of the dedicated corporate report (Total 2007). Another highly positioned respondent was sceptical about the transformative potential of CCS:

> "[There is] no doubt that launching CCS would be absolutely transformative; in a few years, a whole new industry would have to be set up, and its infrastructure would be as massive as those that are used in the oil industry – all these pipes, factories, and so on. These are hundreds of billions of dollars' worth of investment. [...] I think that the availability of storage is a serious issue. There are surely some figures available here and there, some given by academics, but – and I would like to pick up a moderate word here – we can consider that all these evaluations are probably... fanciful. [...] The debate on CCS is an important one, even if I think it remains quite immature and childish."

Apart from revealing a certain disdain on the respondent's part, the final words in this verbatim account indirectly show how the firm exerts its influence. Conducting pilot research projects on CCS obviously enhanced the legitimacy of the firm to take part to the public debate on the topic. As the experiments reached their term, the SCD monitored their provisional conclusions and in turn integrated them as building blocks into an enriched corporate climate imaginary. The latter then reinforced the persuasiveness of Total's 'balanced' position on climate change among managers, employees, and external stakeholders. CCS pilot projects have so far, however, had limited operational implications: it is therefore reasonable to assume that their primary purpose has been to prop up the legitimacy of Total's management to assert a purely conservative position[53].

The cases of gas power and solar energy would, I argue, require a different analysis. The collapse of the barrel price in 2014 has undoubtedly accelerated a reconfiguration of the firm's

53. On this topic, Couppey-Soubeyran's (2015) analysis of the discourse that French banks deployed to avoid stringent regulation in the wake of the financial crisis is particularly insightful. In her study, she transposes Hirschman's (1991) classical framework of the "rhetoric of reaction" to the corporate realm to analyse the banking industry's defence of its vested interests.

investment strategy in which gas power has gained greater importance (Stevens 2016) – a highly-positioned respondent explicitly said that

> "we [at Total] are not anymore [no longer] reasoning in terms of the marginal cost of the last barrel produced, but rather with the idea that we have to set a merit order between different deposits."

In this case, the exogenous shock triggered an unexpected, but rapid extension of the apparatus into new areas. Combined with a new momentum in climate negotiations, the low price of the barrel facilitated an alignment of the corporate climate imaginary and its investment strategy by degrading the financial returns of traditional projects. The SCD itself did not therefore directly orchestrate the narrative that places gas as the inescapable bridge to any low-carbon future. This illustrates that, far from being a *fiat*, the apparatus is composed of non-linear dynamics sprinkled with unpredictable thresholds.

(iii) Oil and Gas Climate Initiative (OGCI)

Another significant SCD initiative consisted of setting up an international meta-organization with other multinational and national oil and gas firms to foster coordination and exchanges with peers over the complex, emergent issue of climate change. Before explaining how the OGCI operated as a catalyst for the sustainability apparatus at Total, I give some details about the salience of meta-organizations to constructing corporate legitimacy in the oil and gas industry. This sector, with its global scope, political influence, environmental imprint and technical complexity, has largely resorted to meta-organizations to comprehend claims from its external stakeholders and to build appropriate responses. According to the classification by Berkowitz et al. (2016), meta-organizations take different forms in the oil and gas industry. Some are *infra-sectoral* and work with organizations that specialize in specific parts of the value chain (such as the International Oil and Gas Producers, which exclusively brings together firms that are active in upstream operations). Others are *sectoral* and bring together firms of the oil

and gas industry (such as the "Zero Routine Flaring" initiative, the OGCI). Yet others are *supra-sectoral* and assemble the organizations of related industries, such as oil, gas and mining (with one example here being the Extractive Industry Transparency Initiative); and yet others still are *cross-sectoral* in that they bring together the organizations of multiple, unrelated industries (for example, the United Nations Global Compact). Over the last few decades, the emergence of a wide variety of complex controversies has challenged the ability of oil and gas firms to secure social licences to operate. In this context, meta-organizations gradually have appeared as appropriate platforms from which collectively to elaborate and diffuse guiding principles, define modes of reporting, and enhance the capacities of firms through exchanges and best practices sharing (Berkowitz et al. 2016). The authors even suggest that meta-organizations could act as "tools for influential actors to 'impose' on others common principles and rules that serve their own purposes", without testing it further. I suggest that an analysis of the OGCI's recent history supports this argument. In fact, one can indeed interpret the impulsion of this initiative by Total's CEO at Davos in 2014 as an attempt by the firm to stabilize its nascent sustainability apparatus by projecting it beyond the corporate perimeter to the wider oil and gas industry. The crystallization of an international platform, which would itself facilitate connections with international institutions (like the UN and World Bank) would indeed secure robust external anchoring points to Total's strategy. A respondent from the SCD clarified Total's crucial role in the initiation of the OGCI:

> "De Margerie [the then CEO] launched the OGCI in Davos alongside Aramco and Eni. But clearly, we had not all the same resources and expertise to engage with the issue of climate change; Aramco lacked maturity, and they did not want to communicate on anything, and Eni had basically no resources to allocate on it. So, when I arrived, I spent quite a lot of time trying to define decision-making processes, governance frameworks, and so on. [...] Total was clearly doing the job, with the others lagging behind. [...] BG,

Pemex, and Sinopec had indeed joined the initiative in the meantime, and the group was quite unbalanced."

As this account suggests, the SCD, in close dialogue with the CEO, was the instigator of this initiative. The SCD had embarked on an unremitting effort to foster the emergence of a shared vision, to smooth out divergences and disagreements, and to set a common operational agenda that would enhance the visibility of the industry's integrated commitment to take up the challenge of climate change. It also set up specific working groups towards achieving this objective:

"we have already set up working groups: one on natural gas, another one on energy efficiency, and a last one on renewable energies. It's going on pretty well, but this acceleration has somewhat disheartened Aramco; they are a bit more hands-off now."

The aim of the SCD's effort to coordinate a set of collective industry-level climate standards was to ensure that the meta-organization became a sounding board for legitimating Total's climate imaginary. This coherence-building strategy reached the pinnacle of its barely achieved success when ten CEOs of major oil and gas firms signed a joint commitment a few days before the Paris summit (OGCI 2015a) and when Figueres (2015), the executive secretary of the UN Framework Convention on Climate Change, thanked six members of the OGCI "for their leadership" (Figueres 2015) in writing an open letter calling for the fixation of a "much stronger carbon price" (OGCI 2015b).

The earlier developments clearly suggest that Total's articulation of a discourse on climate change was concomitant with projecting this discourse beyond the corporate perimeter by creating a dedicated meta-organization composed of key actors in the industry. By assuming the leadership role in this coalition, Total has helped to shape the wider institutional environment in which its own corporate discourse would be embedded; up to now, the OGCI has therefore

"serve[d] both as [a] legitimating [and I would add context-setting] institution, as well as [a] means of reducing uncertainties" (Berkowitz et al. 2016).

(iv) Provisional conclusions

In the previous paragraphs, I have analysed the heterogeneous dynamics inherent in the different building blocks that constitute the apparatus. The empirical description of their intertwined evolution is a concrete illustration of Foucault's observations on the complementary dynamics of "functional overdetermination" and "strategic elaboration" that characterize the apparatus. In a complex, fast-changing context, different effects, whether "positive or negative, intentional or unintentional" continuously alter the modalities of expression of the highly flexible rationality that drives the apparatus, with a constant process of readjustment therefore maintaining its coherence.

I have also insisted that these initiatives are not passively articulated under the auspices of a pre-existing apparatus, which would emanate from a clearly identifiable point; rather, I have suggested that it was precisely the respective deployment of these initiatives and the constant leveling of their potential interferences that actually achieved the continuous articulation of the apparatus. This does not mean that no 'nodal points' can be identified in this diffuse space where "power circulates" (Foucault 1980: 98). In the next chapter, I demonstrate that the corporate realm is far from being homogeneous, for the inequalities of status along the hierarchical chain of command necessarily induce a "difference of potentials" (Foucault 1980: 200) that precludes any fluid circulation of power.

3.4. 'Scenography' and 'script-making'

In the previous subsection, I stressed that the constitution of the sustainability apparatus consisted of a process through which seemingly heterogeneous projects were continuously interconnected, thereby articulating a coherent internal rationality. I shall now explain how

Total makes its sustainability apparatus intelligible to external stakeholders – a dynamic that Aggeri analyses through the intertwined concepts of 'scenography' and 'script-making'. I suggest that analysing Total's *mise-en-scène* of its own commitment to tackle climate change hints at an implicit, deeply-seated orientation of the corporate sustainability apparatus, which consists of formulating the challenge of curbing anthropogenic emissions as if it had to be met exclusively on the demand-side.

As Aggeri (2014) puts it, scenography is the concrete art of "arranging a theatrical stage, by displaying instruments and material space in a specific way, so as to produce intended effects"; the activity of script-making comes beforehand by providing the conceptual thread that will then channel the expressive possibilities of corporate communication. However, as suggested above, the dynamics underlying the deployment of the Foucauldian apparatus are not fully premeditated. In Total's case, I argue that the corporate script-making and scenography benefited from their consonance with emerging hegemonic discourses that structurally favoured a demand-side approach. Marshall (2014) notices that the early developments of climate science led the scientific community to focus largely (if not solely) on the GHG emitted from the exhaust pipes (of consumers' motorcars), rather than on the fossil fuels gushing from the wellheads (of producers), while constituting climate change as a global, non-contextualized issue. Notwithstanding Exxon's influence, Marshall suggests that the specific orientation of this initial framing was contingent (namely inherited from the early formulations of climate science), and therefore taken for granted by multinational oil and gas companies a few decades later when they were urged to take a position. Damian (2014) similarly explains how, in the 1980s, American neoclassical economists helped to reinforce this contingent construction of climate change as an issue generated by GHG emissions rather than by fossil fuel extraction; their fierce criticism of the normative approach defended by the *Clean Air Act* (1970) appeared alongside an appeal to resort to market-based solutions to offset environmental 'externalities'. As Felli (2015) and Pellizzoni (2011) (among others) have argued, one can only understand this shift by placing it in its historical context of the emergence of a neoliberal groundswell. Heavily

pushed by US diplomacy (and later by its European counterparts), market-based instruments became a significant pillar of the Kyoto Protocol, thereby holding economic actors from the demand-side (such as the energy-intensive industries and consumers) responsible for making efficient, enlightened decisions, with the support of incentivizing public policies (in the form of a carbon price signal).

From all this, it seems clear that the sustainability apparatus emerged in a context that already favoured particular 'scenographic' arrangements for the 'climate drama'. I contend that its deployment gradually shaped the firm's position in the 'plot' by publicly portraying it as an economic actor that would articulate its industrial project on the sole basis of signals emanating from the demand side. Empirical data gathered from the media and in the field reveal a *mise en scène* that remains remarkably homogeneous on different scales. At a macro institutional level, Total's active endorsement of a global carbon price (OGCI 2015b) culminated in a press conference with CEOs from the industry a few days before the COP21. This event – meticulously orchestrated in the months preceding its launch in the media – undoubtedly served as an important milestone in the construction of a corporate climate imaginary. As I explained above, by keeping the focus on the demand side, this public commitment operated as a collective re-enactment of the existing status quo, which implicitly regards energy suppliers as 'demand takers'. At the individual, micro level, it is possible to observe a complementary trend: during interviews, most (if not all) the respondents spontaneously expressed the view that, in the face of climate change, consumers and politicians were the primary duty bearers. The following reconstructed account is one example among many:

> "We have to change consumption habits – for example, the habit of taking your car to go and buy some bread in the morning; but who has the capacity to induce such a change? Industrial actors can't do very much on this [...] the state could do something, but who is the politician who would go for this these days? I am not sure there are many of them."

A remarkable continuity thus exists between macro and micro levels – both the institution and its members are prone to identify citizens/consumers as those who should drive the transition towards less carbon-intensive models. This concordance illustrates another of Foucault's observations: the coherence of the apparatus (and thus its credibility for external stakeholders) is ensured when the process of 'objectivation' simultaneously configures a process of 'subjectivation' in which individuals actively cooperate in allowing the institution to model their own worldviews (Foucault 1980).

3.5. Provisional conclusions

In this subsection, I drew on Foucault's theoretical insights to describe the multi-faceted process through which Total developed a sustainability apparatus. I highlighted the variegated dimensions that constitute this "heterogeneous ensemble" (Foucault 1980), while insisting on their "co-constitution and co-evolution in wider ensembles of social relations" (Jessop 2010). In the remainder of this chapter, I draw attention to some shortcomings inherent in the Foucauldian theoretical framework and introduce some new perspectives to enrich the discussion.

4. Discussing the Foucauldian framework

In this section, I contextualize the deployment of the sustainability apparatus to demonstrate that it primarily occurs at an ideational level, in the sense that the corporate climate imaginary it shapes (a proper cultural form) remains significantly disconnected from the massive material flows effectively channelled through the firm's extractive operations. As Bridge and Billon (2012) recall, at the end of the day, oil and gas firms are "global carbon conveyors", and their activities are of a sufficient scale to interfere with core biophysical planetary processes. On this basis, I argue that while the Foucauldian framework has proved insightful in retracing the

construction of corporate legitimacy, it falls short when it comes to putting this symbolic/substantive rift into perspective. This, I contend, is because some architectonic premises of Foucault's work are deep-seated in the ontology that characterizes modernity, which posits a clear-cut disjunction between the symbolic and material realm (Descola 2013). By mobilizing complementary scholarship, I identify and discuss these 'specifically modern' theoretical blind spots and demonstrate that doing so gives emphasis to our understanding of the corporate climate imaginary as the 'cultural' marker of the unfolding of a deeper 'objective alienation', which constitutes a key background feature of contemporary capitalism.

4.1. The sustainability apparatus and the 'schism of reality'

In this subsection, I give an account of the firm's material, substantive inscription in the global carbon cycle (Bridge and Billon 2012) – notwithstanding the successful deployment of a persuasive climate imaginary. To do so, I analyse Total's position through the lens of a concept forged by Aykut and Dahan who, in offering a diagnosis of the substantive outcomes of the UNFCCC process, suggested that the latter was subject to a "schism of reality". By this expression, Aykut and Dahan (2015: 99) mean to describe

> "a growing gap between, on the one hand, a certain reality of the world – marked by a globalization of markets, an unrestrained exploitation of fossil fuel resources, a fierce economic competition between states clinging more than ever to their national sovereignty, and, on the other hand, a sphere of negotiations and of global governance that spreads the imaginary that there is an 'enlightened central regulator', in charge of designing emission rights and defining the modalities of their distribution – thereby becoming out of touch with this external reality."[54]

54. It is worth underlining that the final document of the Paris Conference formalizes the 2°C target without even mentioning the term "fossil fuels". Marshall's account of a conversation he had with John Houghton, the founding chair of the IPCC, shows that this absence was no coincidence. Marshall reports that Houghton indeed "sees no difference between the fossil fuels that are

I suggest that one can transfer this concept to the corporate context, particularly to the case of Total. Building on empirical data and drawing on the premise that any account of this schism is bound to remain fragmentary, I outline some perspectives that might give us a glimpse into the 'depth' of the penetration of the sustainability apparatus into Total's broader organizational matrix.

Boltanski and Chiapello (1999) famously defended the argument that, to manage stakeholder perceptions favourably and thus to re-legitimize their social influence, multinational firms have, in recent decades, demonstrated a growing ability to incorporate the critical, expressive discourses of the early 1970s. Among these, Chiapello recently identified ecological criticism as the type that "lies at the heart of the new cycle of appropriation we have now entered" (Gay and Morgan 2013). As a result, stakeholders have been receiving CSR policies with ever increasing scepticism (Banerjee 2008; Renouard 2011) and controversies over 'greenwashing' have multiplied (MacKay and Munro 2012; Matejek and Gössling 2013; Plec and Pettenger 2012). As Rodrigue et al. (2012) have showed, this trend naturally has made corporate "environmental governance mechanisms [...] part of a symbolic approach to manage stakeholder perceptions on environmental management", but one that has had "little substantial impact on organizations". Yet, systematic attempts to look 'through' organizational practices to evaluate the gap between environmental commitments and their substantive outcomes have been limited in number (Cho et al. 2015; Rodrigue et al. 2012). This does not preclude the fact that there is, among stakeholders, a diffuse, widely shared view that such a gap effectively exists.

I now raise several points, which, I contend, support the hypothesis that Total's response to climate change is subject to such a 'schism of reality'.

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produced and the GHG they later become. 'Of course,' he says, 'they are all part of the same thing.' The problem, he told me, is that 'talking about the source of fossil fuels would have moved us from the science arena into the policy arena'" (Marshall 2014: 168–75). For a recent discussion of this blind spot, see Aykut and Castro (2017).

4.1.1. Oil domination: the uncertain prospect of hybridization

A significant factor for consideration in assessing the 'schism of reality' hypothesis is the persistence of an entrenched 'fossil' corporate imaginary throughout Total's hierarchical chain of command.

To elucidate Total's official position on this critical issue, I have argued above that the emergence of the debate on carbon budgets had called for close collaboration between the newly-formed SCD and the executive committee: the greater expectations placed on the CEO and senior staff to embody Total's consideration of the issue was a logical correlate of this reconfiguration. Within a few months, these top executives had become familiar with the corporate climate imaginary (of which they would be de facto front-line ambassadors), and had assimilated the main lines of the official corporate position on climate, which have since then been continuously reasserted (Total 2016b). Yet, there is little evidence that the acquisition of these new elements of language altered their daily practice at the workplace. In 2016, the portion relating to CSR performance – a measure based partly on the achievement of carbon emissions targets – in the calculation of the CEO's variable compensation was set at 10 per cent of his basic salary (Total 2016c): if this reflects the higher management's 'organic' interest in boosting the diffusion of the apparatus, it remains residual compared with other 'standard' performance criteria.

Lower down in the hierarchy, it is worth noting that climate remains an abstract (even potentially subversive) issue in the eyes of most operational managers and employees. An SCD manager described this distortion well:

> "I am quite positive about the executive committee; I think they are getting it [climate change]. But when you go down in the hierarchy, for example with executive directors, it is much less clear. I would say that it depends on career track records, personal backgrounds; but it is true that there is a significant amount of advocacy that has to be done internally – it is a genuine challenge. For example, the director of a subsidiary who

is incentivized by his ability to extract X thousands of barrels per day is not very pleased when you come with a new constraint – for he is often already dealing with constraints on safety, environmental standards, etc. Talking about climate on the top of all this just superimposes new directives 'from the headquarters' that are badly perceived. [...] [It is] not easy to talk about climate in such conditions. And if you go down again in the hierarchy, people are way too far from these issues."

This reconstructed account suggests that, wherever extractive activities take place materially, there is a non-negligible decoupling between declarations on climate change emanating from top managers (and directed primarily to external stakeholders) and the spontaneous reproduction of a 'fossil' imaginary. A respondent ingenuously interprets the salience of oil in the formation of Total's corporate culture:

"There is something like an ancestral trauma in the firm's story. When Total was still called CFP [*Compagnie Française des Pétroles*], it had been nicknamed (in the 1960s and 1970s) 'Cannot Find Petroleum' – just because, at that time, Elf's exploration had ramped up while Total was lagging behind in its turf (i.e. in the Gulf States and Indonesia)."

The hypothesis that such structuring forces are still shaping Total's corporate culture resonates with Castoriadis's claim that "psychoanalysis sheds light on some aspects both of politics and of the difficulty eventually encountered in working and struggling for [a] collective project" (Castoriadis 2010: 230). This deep fossil imprint on the corporate imaginary has been (and undoubtedly continues to be) reinforced by the fascination that oil exerts over individuals because of its very lucrative nature. French semantic resources enabled a respondent to express this idea powerfully:

"when you drill and find oil, it's very simple: you have to realize that it's nothing but liquid money ['*argent liquide*' means 'cash' in French] gushing out of a pipe."

A sense of the sheer profitability of oil (which employees and managers directly involved in the cycle of production cannot help but experience) is likely to distort the thinking about alternative sources of energy. Regardless of its underlying truth, the following consideration (extremely common in interviews) hints at this negative bias.

> "It is necessary to rely on the fossil fuels base in order to prepare [for] future developments. [...] Renewables won't pay the dividends [that] shareholders are expecting."

An observation from another respondent further delineates this 'crowding out' effect by suggesting that the historical priority placed on developing oil resources profoundly shaped Total's organizational structure, de facto turning extraction into what I earlier called an exclusive legitimizing myth:

> "I know a guy who had worked in the solar branch before joining the upstream one; but he has really struggled to get his position and, despite what is usually said, it's not so easy to move from one branch to another. Once in the upstream branch, he told me that it was incredible for him to realize how easy it was to mobilize resources, to develop new projects, etc. Everything was more fluid than when he was in the solar branch, where he had to justify everything and to struggle to get money, etc."

This account epitomizes the deep encrustation of the 'fossil' imaginary in corporate structures and illustrates how it replicates itself through very concrete situations. It apparently shocked the person in the case reported above to notice, notwithstanding corporate commitments to boost renewable energies, how much smoother his working environment had suddenly become once he had joined the upstream branch. Beyond this example (which is on a micro level), there is a more fundamental issue at stake over the possibility of a durable success with the 'solar transplant'. In 2011 Total acquired a 57.5 per cent stake in SunPower for $1.37 billion, and thereby became a leader in solar technology (*Wall Street Journal* 2011). Yet, as a highly-

positioned respondent noted four years later, it is unclear whether this takeover could contribute towards hybridizing corporate culture:

> "Well, in my opinion there are relatively few synergies, for Total arrived above all as an investor. [...] It is a business that remains different from the historical core business of the company, and it will have to be confirmed as constitutive of corporate identity [...] in between Total can always resell its stake tomorrow. We can't say there is something like a genuine, operational industrial complementarity. The fact that we [Total] are investors is denied by the management; they say and repeat that now we are an industrial actor in the PV sector, and not a simple investor, etc. But it remains open to discussion."

This literal account reflects a view expressed in many interviews. When asked about Total's effective position towards renewable energies, employees often say that they are expressing 'their opinion' on the issue, which precisely suggests that the issue is nowhere but on the edges of the corporate imaginary. Another highly-positioned interviewee implicitly confirmed the pervasive authority of oil over other activities, and even broadened the extent of the interference, by suggesting that the oil culture itself is *also* a latent obstacle to the development of natural gas. Commenting on Total's most recent strategic announcements (in the spring of 2016), he said:

> "You have to realize that from a cultural point of view, even the transition to natural gas will be a challenge. [...] Here, the noble is oil. And it's truly ingrained! While shifting to gas, Pouyanné will have to face states of tension [...] but he knows this, and he knows it won't be easy."

It is important to emphasize here that while it is already a cultural challenge for Total to shift from oil to natural gas, the legitimacy of this fuel in scenarios of energy transition is itself largely contested. There are indeed well-founded presumptions that, at the national level, the development of gas-fired power stations is corrosive to the development of renewable energies.

Recent research by Aklin and Urpelainen (2013) suggests indeed that, because of the political clout of incumbent producers, governments are less prone to support renewable energies when fossil fuels dominate the electricity sector (see *The Guardian* 2015a for an affair involving Total).

All these various elements back the hypothesis that Total's corporate imaginary still "identif[ies], privilege[s], and seek[s] to stabilize" the extraction of fossil fuels as the activity that structures the group's identity. My findings on the pervasiveness of an oil culture at Total tend to corroborate Jessop's (2010) argument that dominant economic imaginaries (and, by extension, dominant corporate imaginaries) tend to be unintentionally exclusive.

4.1.2. Distorted orders of magnitude

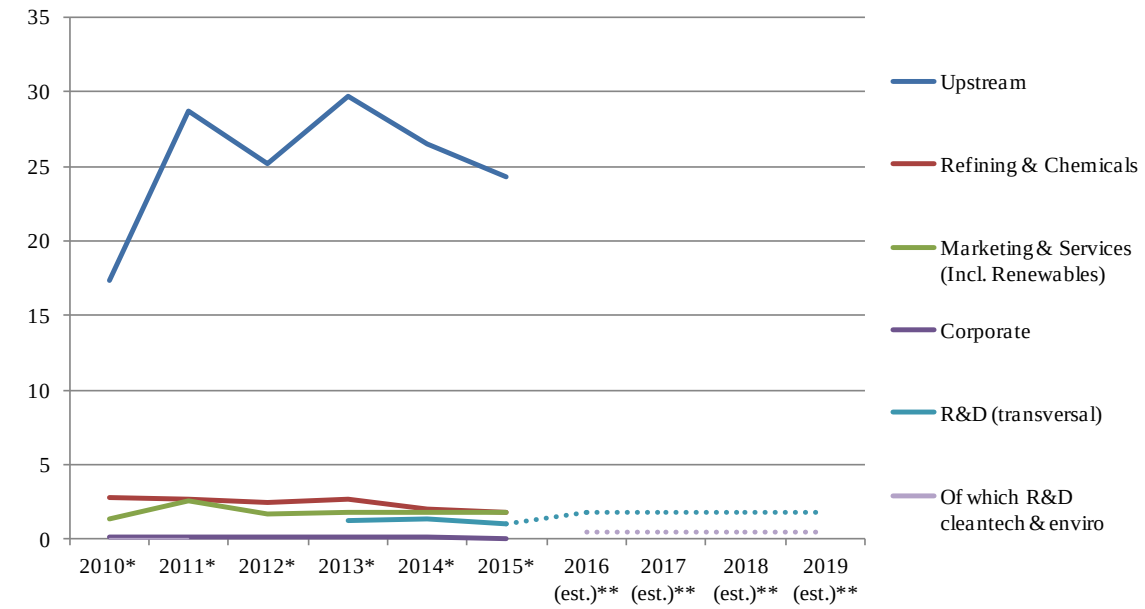
Through their examination of the words, decisions and deeds of two highly visible US-based multinational oil and gas firms during a period of national debate on oil exploration in the Alaskan National Wildlife Refuge, Cho et al. (2015) demonstrate that "contradictory societal and institutional pressures, in essence, require organizations to engage in hypocrisy and develop façades, thereby severely limiting the prospects that sustainability reports will ever evolve into substantive disclosures". In this subsection, I build on the available quantitative data (see Figure 5.1) to demonstrate the selective nature of Total's façade: by highlighting some figures while ignoring others, the firm can produce a distorted image of its position in the socio-material world.

Through institutional means or via the media, Total (or its CEO) frequently resorts to impressive lengths to highlight its corporate commitment on climate change. A declaration by the CEO that Total would invest *$500 million* annually in renewable energy (Bloomberg 2015) is a case in point – an announcement of "R&D spending of *$7.4 billion* between 2015 and 2019" is another example (Total 2016b). Large, grandiose figures are often attached to remote time horizons: in 1998, BP expected its revenues from solar photovoltaics to climb to *$1 billion*

within ten years, and it made a commitment to reduce internal GHG emissions by 10 per cent by 2010, while predicting a 50 per cent growth in output (Kolk and Levy 2002). Similarly, Total has adopted "*20 per cent* [of renewable energy in the corporate energy mix] in 20 years" as its new target, thereby proving the "extreme importance" of these energies to the company (Total 2016c: 8). I suggest that the prolific use of large figures is an attempt to neutralize potential criticism from employees and external stakeholders (Bansal and Kistruck 2006). This phenomenon illustrates Renault's (2008) point that any contemporary critique of ideology must take into account that social justifications are less and less founded on legitimation (which involves a rock solid reference to grounded principles) but rather on description: entertaining narratives (storytelling), dazzling images, or mind-blowing figures are mobilized to impress stakeholders and to surpass the need for argument. Corporate influence now relies more than ever on the ability of firms to encrust their own 'appropriate' descriptions in social imaginaries, thus ensuring that these become the baseline for public debate.

In the remainder of this subsection, I put the figures into perspective with an analysis of Total's capital expenditure.

Figure 5.1
Total's Gross investments / R&D spending



* Total, Factbook 2015 - p.22 (Gross investments) ; Total Reference Document 2015 - p.43 (R&D spending)
** Total, 2016c - p.36: overall R&D spending for 2015-2019 has been smoothed along the four years
N.B.: *There might be overlaps between R&D spending and gross investments*

In Figure 5.1, I have reconstituted Total's gross investments and R&D spending. The graph shows that between 2010 and 2014, the upstream segment, undoubtedly Total's most capital-intensive one, attracted a steadily increasing portion of the corporate investments, starting from 80.2 per cent in 2010, rising to 86.9 per cent in 2014 before declining slightly to 86.6 per cent in 2015. This specific display enables one to contextualize two orders of magnitude, each with a different number of zeros but a similar ability to look 'astronomical' when considered separately – hundreds of millions invested in renewable energies is a lot in absolute terms, unless one explicitly confronts it with the tens of billions attracted each year by the upstream branch. In its corporate communication, Total maximizes the ideational impact of these 'climate-friendly' figures by abstracting them from their context and abstaining from relating them to the 'fossil' figures. This compartmentalized communication largely serves to spread a distorted image of the firm's actual reality. On a larger scale, Total's CEO estimated that the whole oil and gas industry required ±750 billion dollars each year "in order to develop new resources located in deposits that are increasingly complex to operate" (Pouyanné 2015).

By constituting a privileged image of how Total projects itself into the future (a projection characterized here by capital expenditure), the graph displayed in Figure 5.1 presents compelling evidence of an already existing 'schism of reality' in the firm's response to climate change. It suggests that the climate imaginary is primarily ideational in nature: the influence it exerts in the corporate realm is disproportionate to Total's effective investments in its core historical business.

4.1.3. The performance of seriousness

I shall now deepen the interpretation of the 'schism of reality' I have just identified by importing Blühdorn's (2007) concept of "simulative politics" into the corporate realm.

Yet, before doing so, it is important to emphasize that my diagnosis of the mainly ideational nature of Total's climate imaginary resonates with the findings of three recent empirical studies on corporate responses to climate change. Building on ten case studies conducted with large Canadian emitters, Talbot and Boiral (2014) have identified "self-proclaimed excellence" as one of the most effective neutralization techniques that multinational firms use to rationalize and legitimize their GHG emissions. By resorting to such techniques, large emitters do not mean to deny the impact of their activities, but rather to "project an idealized image of the organization with a primary emphasis on awards received and efforts made in the past to reduce the GHG emissions". Talbot and Boiral report that firms often combine this neutralization technique with others, such as blaming competitors or promoting a systemic view, to lessen the pressures that external stakeholders exert on their social licence to operate. More recently, two studies on the discourses on climate change by the CEOs of European multinational oil and gas firms – Ferns et al. (2017) on BP, Shell and Total; and Gendron et al. (2017) on BP – have pointed to a recurrent disconnection between the sustained discursive commitments of executives on the one hand, and the lack of substantive engagement by their firms on the other. Faced with the injunction of serving two masters, namely civil society and

shareholders, CEOs are at the head of "paradoxant systems" (Pérezts et al. 2011) that they have to present as coherent. In such a context, the "organizational mythmaking" that Wright and Nyberg (2014) described earlier therefore appears as a highly efficient strategy for displacing sustainability tensions and limiting cognitive dissonance.

On this basis, I argue that a deeper interpretation of Total's climate imaginary can be further elaborated by building on Blühdorn's (2007, 2013) interpretation of the "post-ecologist politics" that now prevails in the Western world. Since the late 1980s, he argues, "both the [authentic] ecologist critique of modernity and the ecologist belief in a comprehensively different society have become largely exhausted" (Blühdorn 2013) – an exhaustion notably precipitated by the normalization of discourses relative to the environmental crisis and their reframing in the market-compatible paradigm of ecological modernization. Yet, he stresses that "the urgency of a radical culture change and structural transformation of modern capitalist consumer society [...] has never been as widely accepted" (Blühdorn 2013). As a result, there is now a large consensus among political and corporate elites that "it is time to stop talking about things and take decisive action" (Blühdorn 2007). A top manager at Total clearly expressed this stance by claiming that:

> "With the arrival of the new CEO (Pouyanné), the main evolution of the last year, has been the fact that he has said: 'I believe climate change is a serious topic, we are part of the solution, we take clear commitments'... in a way, he places himself in the wake of the ex-CEO (de Margerie) who had said 'I believe in it' but he adds very clearly, that 'we are going to bring solutions'."

These words clearly reflect a clear castigation of *merely symbolic* politics. However, according to Blühdorn, this kind of positioning has become mainstream in the last decade. Such a paradoxical situation therefore calls for a meta-critique. Following Blühdorn, I suggest that one can interpret Total as the vector of a "simulative politics" in which "the 'symbolic performance of politics' [expressed by condemning *merely symbolic* politics and calling for

action] serves the *performative regeneration* of legitimacy" (Blühdorn 2007). As he puts it, simulative politics is a response "to the exhaustion of authentic politics and the symbolic emptiness of symbolic politics [by offering a] vital tool for sustaining the unsustainable" (Blühdorn 2007). In a context in which the environmentalist critique is brutally blunted, most stakeholders no longer expect oil and gas companies to engage in a transformative, substantial shift – and while they more or less grasp that these firms "have neither the will nor the ability to get serious" (Blühdorn 2007), they (potentially and unconsciously) revise their expectations downwards by demanding that the firms perform (at least) symbolically, and demonstrate that 'they are serious about climate change': demands for a "performance of seriousness" (Blühdorn 2007) thus supplant disillusioned hopes for substantive achievements.

On this basis, it is possible to interpret the fundamental ambiguity of Total's corporate discourse as the symptom of a wider cultural contradiction, itself inherent in the "post-ecological politics" of Western societies.

4.2. Beyond Foucault?

In this subsection, I propose to explain why the Foucauldian theoretical framework I have mobilized in the two first sections is not appropriate for identifying and contextualizing the 'schism of reality' I have just described: the main take of the argument is that the semiotics underlying Foucault's concept of apparatus owe a great deal to the modern tradition of rationalism. Consequently, it has blind spots that need elucidation.

As a prominent figure in French structuralism, it is important to note that Saussure's rationalist concept of the sign had a major influence on Foucault's work. According to Saussure, "the sign enters the real world as a unity of sound and sense, from which nothing can be removed: [...] [it is] theoretically if not practically, inaccessible to elements of the context" (Jappy 2013: 70). He thus conceived of language as "an underlying, 'subtle' system of units, each associating an acoustic image with a concept" (Jappy 2013: 59), in much the same way as

Descartes theorized the mind as a system of classification enabling us to understand the extra-mental world (in which ideas pre-exist). In complete contrast to the rationalism implied by the Saussurean view (and which owes a great deal to Cartesian rationalism/idealism), Peirce's semiotics offers an alternative background theory of the sign marked by both pragmatism and empiricism. Far from narrowly seeing the need to understand language as "the 'visible' face of thought" (Jappy 2013: 72), Peirce considers that "the meaning originates outside the sign, both in the mind of the speaker *and* in the dynamic object structuring the sign" (Jappy 2013: 71). By declaring this, Peirce clearly suggests that language, more than a self-enclosed, locked-out system, is rather a ragged aggregate constantly reshaped by composite sources that, to interact, need an existential medium. Deepening some of the core intuitions laid bare by Von Uexküll (2010), French geographer Berque (2000, 2012) recently developed a theory of the sign that shows affinities with the Peircean approach. According to him (Berque 2000: 189–90), it is indeed impossible

> "to abstract [...] symbolic systems [...] from the nature of things. They spread this nature in one direction or another, but this sense is not instituted by the arbitrariness of sign alone, which is abstract: it is born of the concreteness within which the nature of things, the signs that represent them, and the lives of people for whom signs and things exist."

Berque (2012), however, argues that Western modern ontology has frozen *things* into *objects* by obscuring the dynamic "trajection" that constitutes the structural moment of their ontogenesis. This has opened a rift between language and the world – with the two becoming more and more external to one another. In this respect, one can interpret Blühdorn's diagnosis of post-ecological politics as confirmation of this exhaustion of language in late modernity: the case study of Total suggests that the organization indeed developed its climate imaginary as a cultural form that is unable to relate to the underlying socio-material reality of the corporation.

Bringing to light this background feature of the Foucauldian framework – its affinity with a structuralist rather than pragmatist semiotics– makes it easier to explain some of the criticisms

made about the unclear implications of its ontological premises. Carolan (2005), for example, explains that

> "the Foucauldian framework presents a picture of social life where discourse is analytically prior to, and a causal force upon, everything else, including the biophysical realm [...]; the body for Foucault is only accessible through an investigation of how the discourse of 'the body' emerges out of the (medical) sciences, thereby reducing it to effects of discourse and its corollary components of power/knowledge."

In the same vein, Turner (cited in Carolan 2005) argues that Foucault's analysis of the human body frames the latter as "a contingent effect of power rather than a fact of nature". Both remarks corroborate the hypothesis that the Foucauldian theoretical framework has in some way inherited the archetypal traits of modern idealism: the social ontology it implicitly mobilizes renews Cartesian intuitions by positing a relative antecedence of the ideal over the material realm, since one cannot give "an independent a priori causal force to the emergent regimes of power/knowledge" (Carolan 2005). This remark indirectly supports the conclusion of our previous findings. In the first two sections of this chapter, I have used the Foucauldian concept of apparatus to elucidate Total's response to climate change. Although this theoretical framework proved relevant for retracing the constitution of a corporate climate imaginary in the organization, it was ill-equipped to put its mainly ideational nature into perspective. This is because it remained blind to the material entanglements that underlay the very concrete context of its elaboration, which the flows of capital expenditure towards the upstream branch revealed (cf. Figure 5.1).

In this respect, the effort by Jessop (2004, 2010) and Jessop and Sum (2014) to lay the foundations of a "cultural political economy" (CPE) as a "distinctive post-disciplinary approach to capital social formations" (Jessop 2004) can constructively complement the Foucauldian approach, and fill the gap identified in the preceding subsections. Probably closer to the Peircean paradigm described above, Jessop's theoretical framework draws more explicitly on

the premise that economic imaginaries are ragged aggregates. Anchoring cultural political economy in the Marxian tradition, Jessop argues that his framework is "not only concerned with how texts produce meaning and thereby help to generate social structure, but also how such production is constrained by emergent, non-semiotic features of social structure as well as by inherently semiotic factors" (Jessop 2004). This clearly suggests that we should interpret the reproduction of economic imaginaries as ontologically rooted in a "dialectic of discursivity and materiality" (Jessop 2004). In effect, Jessop's insight into our reflection comes precisely from the enhanced status he accords to materiality, which we understand here as "the sensuous and phenomenal qualities of things and their implication in human social and cultural life" (Rogers 2012). Expanding a Gramscian intuition, he argues that economic (and by extension corporate) imaginaries are "organic", namely that they emerge from a socio-material substratum, rather than being purely "arbitrary, rationalistic, and willed" (Jessop 2004, 2010). By offering specific affordances (Gibson 2014) to those who interact with them, "technologies [indeed] have a key role in the selection and retention of specific imaginaries" (Jessop 2010). Similarly, the crystallization of past labour in the built environment (for example in the form of an extractive infrastructure) creates "structurally-inscribed selectivities" (2010), the effectuation of which reinforces path dependency. This insistence on the material contingency of collective imaginaries echoes Mitchell's (2013) demonstration, which highlights the spectacular articulation we have seen throughout the twentieth century between the progressive structuration of the fossil fuel industry and the advance (or regression) of democratic ideals. In a similar way, and drawing on Jessop, I suggest that the infrastructures (such as platforms or refineries) that constitute the milieu in which most Total employees work make no contribution towards framing imaginaries of energy transition: far from being contingent, the "fossil landscapes" (Carton 2016) that Total creates and maintains through its business-as-usual operations (backed by subcontractors) make a deep and long-lasting imprint on the ever ongoing formation of its corporate imaginary. The fact that cycles of investment/production have a very large span in the oil industry reinforces this effect: when climate change emerged as

a public concern, the company was indeed already involved in such industrial cycles, and this 'material antecedence' was already framing and constraining the emerging contours of the 'web of interlocution' through which climate would be discursively constituted as a matter of concern.

In other words, the analytical scope that Jessop's cultural political economy offers allows one to emphasize the mainly ideational nature of the climate imaginary, as well as its disconnection from the material flows that corporate activities effectively generate. Williams' (2015) observation that "language encodes and enacts power relations" is worth considering here. Indeed, Jessop's approach appears particularly acute when it comes to unveiling the plurality of power relations that gradually become encoded in Total's language; these can either be ideational, or encrusted in social conventions and economic structures, or even crystallized in human-altered biophysical landscapes. As a result, any attempt to forge a corporate imaginary from scratch without considering the antecedence of these messy socio-material realities is bound to fail. Conversely, the use I have made of the Foucauldian framework has been more to highlight the latter's potential to describe the diverse ways through which language enacts and reconfigures certain power relations than to decipher the power relations already encoded in it, for which Jessop's framework offers better theoretical resources. In the next chapter, I further explore this issue of power relations (to which Foucault explicitly refers when he talks about the "purposiveness", or "strategic nature" of the apparatus) by suggesting that the formation of the corporate climate imaginary is mainly fuelled by the wider socio-economic process of capital accumulation, on which it exerts a positive feedback by securing corporate legitimacy.

5. Conclusion

In the first sections of this chapter, I have reconstituted the multi-faceted process through which Total gradually elaborated its corporate climate imaginary. In this endeavour, I have

resorted to the Foucauldian concept of apparatus, which seemed conceptually appropriate for capturing the complexity of this fragmented process. In the last section, I have offered evidence of a significant substantive/symbolic rift in Total's response to climate change and emphasized that the Foucauldian theoretical framework was poorly equipped to give a reflexive account of this phenomenon. I also suggested that it would be useful to mobilize complementary scholarship so that one might take a much-needed step back to contextualize further the status that the corporate climate imaginary holds in a firm still driven by its extractive activities.

The core aim of this chapter has been to describe the emergence of a corporate climate imaginary, which, as we have seen, gradually became vital in sustaining Total's legitimacy. In the next chapter, I place this shared imaginary in a wider context by describing more accurately the socio-economic phenomenon of 'objective alienation' of which it is both a cultural correlate and a prerequisite.

CHAPTER 6

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Total embedded:

Towards a more inclusive account of the firm's institutional trajectory

1. Introduction

In this chapter, I develop a contextualized analysis of the evolution, over the last few decades, of the process of capital accumulation that has structured Total's growth; by retracing the successive stages of its deployment, I aim to reconstruct the firm's institutional trajectory. This intellectual project is crucial. As I shall demonstrate, the dynamics of the process of accumulation have considerable explanatory power over both the emergence of the corporate climate imaginary *and* the large-scale degradation of the natural environments that extractive activities involve. An important hypothesis that I defend here is that one can largely reconstruct these two interlinked phenomena as deriving – not exclusively but at least significantly[55] – from

55. It would be particularly inappropriate to frame the corporate climate imaginary as a mere by-product of the process of accumulation. If the paradigm of shareholder primacy marks out the boundaries of the space into which Total's culture develops, it is an insufficient condition for its emergence. In the previous chapter, I showed that the climate imaginary was notably 'activated' because individuals particularly valued some of its features, such as conformity with science and reasonableness. The enactment of the climate imaginary thus rested on the creative appropriation of these values in the corporate realm and beyond. And, as such, the logics of capital accumulation cannot fully explain this factor. As the developments of this chapter will suggest, it is reasonable to hypothesize that the relationship between capital accumulation and environmental degradation is more straightforward.

the firm's ceaseless organization of capital accumulation (or, alternatively, 'business-as-usual'). As we shall see, the deployment of this spatially-structured process, which constantly reshapes the complex hydrocarbon value chain that constitutes Total's socio-material backbone, is indeed a strong (and probably the most decisive) route to the constitution of the firm as an unshackled social power, apparently stripped of human agency – a phenomenon I refer to as 'objective alienation'.

It is worth noting here that when Marx, in *Capital*, highlights the growing depersonalization of the powers of domination in modern capitalist society, he makes constant references to how this process concretely materializes in the social world. The constraints put on individuals, the oppressive situations from which they suffer, and the conflicts in which they engage are all empirically and ethnographically documented, and each singular reality mediates this impersonal domination of 'capital' in the social world. Marx's insistence on showing the contingent manifestations of 'capital' ensures that if the latter betrays an evident penchant for 'autotelism', he never interprets it as being the subject of history *as such*[56]. For its reproduction and expansion, capital ultimately relies on the activities of agents who daily enact multiple social mediations, which simultaneously articulate specific arrangements with the non-human world. In this chapter, I aim to analyse Total's case through a similar lens. By apprehending the historical development of the process of capital accumulation through 'stylized facts' (namely macro-social descriptions) and by analysing how its deployment correlatively articulates specific arrangements with the natural world, I first depict Total as a social power that seems nearly self-animated – or, in other words, that has become increasingly disembedded from its historical servitudes (at the expense of most of its stakeholders). However, I contend that this apparent growing 'alterity' of the firm is not a self-sufficient phenomenon. Rather, one can contextualize and interpret its emergence as the outcome of a combination of social contingences that have

56. This claim resonates with Hornborg's (2017) important argument that social artefacts (like 'capital') have "consequences, not agency".

structured the internal dynamics of the organization. As I shall demonstrate, some of them have seen their impacts particularly exacerbated by the groundswell of financialization.

Still in this introduction, it is worth taking a step back to notice that, despite the discourse on 'objective alienation' being implicitly mobilized in most contemporary critical studies of capitalism, its conceptual restatement has only recently been undertaken (Haber 2007). Therefore, in the wake of this intellectual re-elaboration, there have been few attempts to put the concept to work – for example, to flesh out specific case studies on multinational firms – nor, to the best of my knowledge, has anybody tried to explore the nature of the relationship that binds 'objective alienation' to the degradation of natural environments.

Regarding the first point, a core aim of this chapter is to develop an institutional analysis of the firm's growth trajectory over the past few decades and to interpret it through the lens of the concept of 'objective alienation'. For this endeavour, I mobilize socio-historical references to the French national context (Baudru et al. 2001; Clift 2007, 2012; Goyer 2006; Johal and Leaver 2007; Maclean et al. 2014; Morin and Rigamonti 2002; Schmidt 2003), as well as broader discussions on the dynamics of contemporary globalized capitalism (Alvarez 2015; Clark et Wójcik 2007; Duménil and Lévy 2015a, 2015b; Landais 2007; Lazonick 2012; Piketty 2014; Serfati 2013), paying special attention to the particular status that corporate agents have gained in recent decades (Ciepley 2013; Pettit 2015; Robé et al. 2016; Robins 2002). These complementary studies enable me to reconstruct the successive stages of Total's development, which one can interpret as so many steps towards a further crystallization of 'objective alienation'.

The effective contribution of this chapter, however, is that it aims to transcend this socio-centred interpretation of the process of accumulation by highlighting how the social relationships configured by the latter have, throughout time, dynamically articulated the firm's material presence in the natural environment. This intellectual project resonates with Polanyi's (2001) important claim that the possibility for the capitalist economic system to organize a

subsumption of nature is predicated on the dissemination of representations of nature as detached and abstracted from society. In this chapter, I also aim to consider the specific role of fossil fuels in 'propelling' the articulation of new 'ecological regimes'. In their ground-breaking accounts, Altvater (2009), Huber (2009a, 2009b; 2013), Foster et al. (2011) and Mitchell (2013) successively developed various interpretations of the coincidental nature of the transition from 'pre-modern' renewable energies to fossil fuels, with its accompanying socio-political shift towards the normalization of industrial capitalism in modern society. More recently, Bonneuil and Fressoz (2016) pinpointed a long-entrenched antagonism between capital accumulation and the preservation of ecosystems, and argued that the Anthropocene should be renamed the 'Capitalocene' (see also Malm and Hornborg 2014). In a path-breaking environmental history of the British industrial revolution, Malm (2016) demonstrated how the quick adoption of fossil fuel resources as an energy 'prime mover' had largely shaped the authoritarian configuration of the employment relationship in early capitalism, and simultaneously suggested that this close interrelationship between capital accumulation and fossil fuel consumption had never ceased to be a structuring feature of our mode of production. Although all these diverse contributions have highlighted particular facets of "fossil capital" (Malm 2016), none has specifically tried to reconstitute the historical trajectory of a major fossil fuel producer. In this chapter, I aim to fill that gap by suggesting that a more inclusive history of oil and gas majors can adequately complement and enhance the intellectual framework of 'objective alienation'.

I thus organize this chapter as follows: in the second section, I outline its theoretical background and distinguish it clearly from that of chapter 5. Since the analysis explicitly addresses the process of accumulation and adopts 'objective alienation' as its main concept, it is essential to set it within a Marxian intellectual framework: this would enable me to emphasize issues that I could not properly scrutinize through the Foucauldian prism. In the third section, I retrace the successive steps of Total's historical development, and argue that the deployment of the process of accumulation inevitably occurs in conjunction with the articulation of specific

socio-ecological regimes. In the fourth section, I open the corporation's 'black box' to identify some intra-firm dynamics that play a decisive role in orienting the firm's trajectory. I close the chapter by casting light on some of the key lessons I have learned about the concept of 'objective alienation'.

2. Accounting for a depersonalized power of domination

My analysis of the sustainability apparatus in chapter 5 largely emphasized its non-reflexive, 'exploded' nature. Arguably, a key strength of the Foucauldian theoretical framework is that it accommodates an appropriate description of the diffuse circulation of power, but the philosopher identified another facet of the apparatus that I have not previously considered, namely its intrinsic purposiveness. One of my main aims in this chapter is to contextualize the findings of the previous chapter further by shedding light on the broader setting in which the sustainability apparatus has always been deeply embedded. This is the process of capital accumulation, and critical theorists inspired by Marx have long been exploring its workings and wondered at its constant transformation: harnessing this Marxian intellectual framework and putting it to work is the core concern of this chapter.

That said, it is worth mentioning how challenging the Foucaldian conceptualization of power has been to the traditional Marxian scholarship. Foucault basically argues that, to be effective in modern times, any power has to circulate homogeneously: this means that it has to be exerted from the top downwards and so subjects people to its control, while simultaneously these same people intimately but actively 'confirm' it through the enactment of internalized forms of discipline (Foucault 1980). According to this view, social practices are the outcome of this dynamic and reciprocal relationship. Foucault's insistence on the fluidity of power implicitly suggests that its 'granularity' decreases insofar as it disseminates in increasingly complex and intertwined social structures. His description of the growing depersonalization of the exercise of

power in human institutions, such as hospitals and prisons, therefore provides an adequate intellectual framework in which to interpret the further diminution in the granularity of the power of 'capital' in globalization (Haber 2016). While Marx could still denunciate capitalists in the flesh (for example factory owners), a simultaneous rise in the discretionary power of corporate managers and the rapid fragmentation of the ownership of publicly listed corporations has indeed accompanied the separation of ownership and control. This dynamic has profoundly changed the power of 'capital', making it impossible to seize and increasingly difficult to isolate (Gomez and Korine 2008: 142); and since the 1980s, it has been reinforced by a facilitated access of householders and employees to the stock market, which made it gradually commonplace "to look at the world through the eyes of an investor" (Graeber 2015: 20). Power would therefore no longer emanate solely from corporate chains of command, but also from a myriad of civil society actors. In this respect, the Foucauldian framework offers valuable concepts with which to describe the 'fragmented' trajectory of contemporary capitalism. Nonetheless, does this picture of an increasingly depersonalized power of capital justify the conclusion that its circulation is purely fluid and that no 'point of condensation' can be isolated? Probably not. On various occasions, Foucault himself tended to mitigate the homogeneity that his conception of power seemed to imply by acknowledging its inevitable polarization: "insofar as power relations are an unequal and relatively stable relation of forces", one can characterize them with "an above and a below, a difference of potentials" (Foucault 1980: 200–1). The existence of such a "difference of potentials" in the corporate realm evidently suggests that power *is* granular, and that it condenses in certain points of the organization. From a Marxian point of view, the localization of these points largely rests on their respective position in the process of accumulation; I discuss this hypothesis later in relation to Total. It is worth noticing that, on a macro scale, the relatively recent contributions of Vitali et al. (2011) and Duménil and Lévy (2016) have made it easier to map more precisely the complex circuits of capital concentration in contemporary capitalism; their results show that a relatively small number of 'core' institutions and people have significant control over the rest

of the world economy. Such findings corroborate the existence of a "difference of potentials" that is so significant that the expression deserves a 'maximalist' interpretation, which is more in line with Marx than with Foucault.

Although Foucault clearly hints that the encrustation of social relations in specific patterns can result in domination, he fails to develop assertive arguments about the antagonisms or struggles that underlie and structure the dynamic evolution of these patterns; in any case, he firmly rejects any Hegelian conceptions of an overarching social subject. Marx's project is different: he scrutinizes the trends that characterize the capitalist structure, and tries to outline its evolution (Bidet 2016). Marsden (2014: 135) argues that "if Marx's *explicandum* is a cluster of conclusions in search of a premise, then Foucault's *explicans* is a cluster of premises in search of a conclusion": in other words, the Foucauldian theoretical framework is helpful in conceiving the structure, but remains somewhat agnostic on its orientation. In the same vein, Sum and Jessop contend that "the analyses of objectivation, problematizations, sites of intervention and modes of governance [put forward by a Foucauldian approach] cannot be disentangled from the processes and practices involved in the rebuilding of social relations in response to [...] the contradictions and crisis tendencies of capital accumulation" (Sum and Jessop 2014: 212). This theoretical junction between Marx and Foucault had already been explored by Jessop (2010), who attempted to frame the 'knowledge-based economy' as a hegemonic economic narrative developed to sustain accumulation strategies in the post-Fordist macro-economic order. If his approach takes Foucauldian insights into account, it remains explicitly situated in a Marxian background, and this enables him to criticize not only the 'how' but also the 'why', that is the orientation of the dynamic itself and its propelling force (capital accumulation).

Building on these remarks, in the remainder of this chapter I attempt to shed light on the socio-economic dynamics that have structured Total in recent decades in order to identify and circumscribe the points of 'power condensation' in the organization that have been key to the

continual reactivation of the process of accumulation. The 'ecological negatives' of these dynamics of social power (namely the specific socio-material arrangements they articulate) are outlined, with a view to reconstructing a more inclusive historical trajectory of the firm: a consideration of Total's material entanglements therefore takes us beyond traditional Marxian/Foucauldian frameworks.

3. Towards a more inclusive history of the firm

In this section, I suggest that, to interpret the arrangements through which the process of accumulation continues to unfold today, we need to rely on an inclusive historical analysis of Total's growth trajectory over the last few decades. The analysis is inclusive in the sense that it builds on the premise that any specific political economy articulates a corresponding political ecology (Blaikie and Brookfield 1987); as a result, it aims to elucidate the practicalities of such a complex articulation. In this endeavour, I outline a diachronic reconstruction of Total's growth trajectory, and highlight how specific institutional arrangements have, throughout time, mediated the modes of the firm's inscription in its wider environment. To do this, I retrace the key steps by distinguishing two periods in the last few decades of Total's history. The first spans the years between the creation in 1924 of the 'Compagnie française des pétroles' (CFP), when oil consumption was still marginal in Western countries, and the start of the dismantling in the early 1980s of the "national industrial compact" (Hughes 2016), which had been negotiated during the post-war period and had for three decades secured stable supplies of cheap oil to a growing economy. The second period – from the early 1980s to the present – covers the successive phases of the liberalization and internationalization of the oil markets, which corresponded to a progressive emancipation of the two French majors from their national context, before their merger into a single entity. Yet, the interest of this chapter does not lie so much in the historical account itself, but rather in my effort to re-embed the diachronic portrait

of the institution in its wider socio-material context. I pay special attention to the modes through which corporate activities have shaped fossil landscapes of extraction/production, transport and consumption through time and space. Shedding light on the many ways in which Total contributed, and still contributes, to producing and enshrining specific relationship patterns in the wider material world is a prerequisite to elaborating a political ecology of the process of accumulation.

3.1. The emergence of a French national industrial compact (1924–1980s)

In this subsection, I aim to analyse the multiple ramifications of the French "industrial compact" (Hughes 2016) that emerged and was stabilized during the period under consideration. To do so, I first offer a chronological overview of the main steps that punctuated the institutional development of both CFP and Elf-Aquitaine; in a second part, I contextualize further this description by coupling it with an analysis of how corporate activities helped to model specific "fossil landscapes" of production/transport in oil-rich countries and shape lifestyles centred on the consumption of fossil energy in France.

3.1.1. Institutional approach

Anyone attempting to identify the tipping point when the issue of France's energy security became a question of the supply of oil rather than of wood or coal would regard as decisive something that happened towards the end of the First World War, on 15 December 1917. On that day, Georges Clemenceau (France's then prime minister) notified Woodrow Wilson of the urgent need of an immediate delivery of 100,000 tons of oil: French strategic stocks were running dry and threatening a general paralysis of allied forces (Auzanneau 2015). Within a year, all the former belligerents were considering the stability of their oil supplies as key to their national security. It was in this context that, in 1924, the French government founded the Compagnie française des pétroles (CFP) with equity distributed to Standard Oil and Royal

Dutch Shell (which were too dominant in the oil market to circumvent), as well as to French banks and domestic independent refiners such as Desmarais frères. Despite the presence in the capital of Anglo-Saxon majors, CFP practised a form of "economic Jacobinism" (Nayberg 2006), which consisted of closely intertwining private and public interests: its first chairman, Ernest Mercier, received his letter of engagement directly from the then prime minister, Raymond Poincaré (Saul 2006). The CFP's first major asset was a 23.75 per cent share of the capital of the Turkish Petroleum Company (founded before the war to exploit Iraqi resources), which German investors held until the San Remo conference in 1920. The CFP faced its first challenge in the late 1920s when it negotiated an agreement with other international majors to develop a pipeline from the oilfields of Kirkuk to the Mediterranean Sea (Auzanneau 2015). In 1928, the French National Assembly passed a decisive law that laid the basis for a stable legal framework: by linking the strict licensing of imports to prices fixed by the government, the emergence of a coordinated national oil market was secured (Sassi 2004). In 1929, the CFP expanded its operations down the oil value chain by using 55 per cent of the initial capital to found the Compagnie française de raffinage (CFR) – an investment followed in 1931 by a 99 per cent endowment to create the Compagnie navale des pétroles (CNV) (maritime transport): the same year, the state raised its stake in the CFP by 35 per cent, thereby securing for itself 45 per cent of the voting rights (Sassi 2004; Saul 2006).

Before the Second World War, only 20 per cent of Western Europe's oil imports came from the Middle East (Painter 2009). However, a core aim of the Marshall Plan in 1945 was to shift this equilibrium to reduce the drain that European consumption exerted on US reserves and to open new markets to US oil companies that had concessions in the Middle East. Across Europe, a significant fraction of US aid was therefore dedicated to building refinery capacities – 15.5 per cent in the case of France, or approximately $380.9 million (Painter 2009). These significant investments increased the share of oil in the energy mix of Western European countries from 10 per cent in 1947 to 32 per cent in 1960 (Painter 2009), a shift that logically paved the way for a structural growth in oil firms, of which there were still relatively few in 1945

(L'Huillier 2010). Throughout the post-war period, the sector engaged in a lengthy process of consolidation under the supervision of the state. Apart from the development of the CFP, this saw the establishment of the Entreprise de recherches et d'activités pétrolières (ERAP) in 1965, which then went on to take over several companies, but most importantly the Union générale des pétroles (UGP), created in 1960, and the Bureau de recherche du pétrole (BRP), created in 1945. In 1976, ERAP merged with the Société nationale des pétroles d'Aquitaine, created in 1941, to establish the Société Nationale Elf-Aquitaine. Elf-Aquitaine and CFP remained the two national champions until their merger in the early 2000s.

Concomitant with this consolidation, the upstream operations across the industry were becoming more geographically diverse. As the geopolitical situation grew more complex, with many producing countries threatening to take control of their national resources, CFP left its cradle in the Middle East to develop capacities in Venezuela (1948), Algeria (1949), Canada (1951), the Arabic Gulf (1954), Libya (1954), the North Sea (1963) and Indonesia (1968) (L'Huillier 2010). At the same time, BRP and UGP initiated projects in sub-Saharan Africa, with the first drillings conducted in Gabon (1945), Madagascar (1950), Cameroon (1951) and Senegal (1956) (Brunet 1958).

Despite these reorganizations and projections, the stabilization of a specific form of market governance, which Hughes (2016) calls the French "industrial compact", characterized these post-war decades. He describes this compact as "the outcome of [a] process of bargaining between government and business interests, [which facilitated] the emergence of new firms that enjoyed [a] substantial market share in refining and sales, and [that] were also integrated into the upstream" (Hughes 2016: 78). The conduct of corporate affairs required close cooperation with the Ministry of Finance, which monitored the allocation of medium/long-term credits, and with the Ministry of Industry, which in turn incorporated the interests of industrial sectors by elaborating five-year plans[57]. It also meant cooperating with the Ministry of Foreign Affairs and,

57. The first plan (1946–1950) resulted in the allocation of 56 billion 'old francs' to oil exploration (Roche 2003), which is approximately two billion euros today.

especially, its 'Africa cabinet', which before its official dissolution maintained off-the-record relationships with key personalities in African colonies and former colonies (Verschave 2002; Yates 2010). The development of home-grown "geoscientific intelligence" (Cantoni 2017) soon became a necessity; in the struggle for the control of oil, acquiring a fine-grained knowledge of new sciences (for example geophysics[58]) and of their technical applications became vital for securing reliable information about potential deposits.

Until the early 1980s, the converging interests of the state and firms permitted the close cooperation that brought about the "industrial compact". In the next subsection, I shed light on some of the socio-material dynamics that accompanied the emergence of this institutional setting and argue that any inclusive historical study of the process of accumulation should take them into account.

3.1.2. Shaping fossil landscapes

I now resort to the concept of landscape to highlight how the continuous negotiation of an "industrial compact" led to the institutionalization of specific socio-material arrangements, which themselves reshaped relations with the natural environment in places of both production and consumption. Here, to highlight the ways through which the process of accumulation has come to be captured in space (Harvey 2007), I mobilize Mitchell's (2005) thesis that "the landscape (as form, meaning, representation) actively incorporates the *social relations* that go into its making, [and that it] is both an outcome and the medium of social relations", thereby placing specific constraints on posterior experiences of dwelling. Mitchell (2005) notices that in anthropized spaces of production and consumption where landscape is particularly *"grounded in* and *deriving from* work", this provenance tends to be obfuscated; this naturalization justifies the consideration that "in the contemporary world, [landscape] functions as a source of

58. Cantoni (2017: 4) remarks that the physical principles underlying oil-exploration seismology were the same as those employed in monitoring nuclear explosions: in both industries (oil and uranium), national energy security concerns soon bolstered "surveillance activities" in the forms of both geophysical exploitation and intelligence gathering in the classical sense.

alienation." In the remainder of this subsection, I aim to explore two landscapes shaped by the corporate activities operating through the industrial compact and highlight their interconnection.

The first landscape is in France. After the Second World War, the impulse given to the oil industry (and indeed to the motorcar industry) rapidly materialized in the "built environment [...] constructed around energy matrices of affordable and abundant petroleum, which [could] in turn steer and regulate energy-related behavior" (Haarstad and Wanvik 2016). Analysing this shift further, Huber (2013) has suggested that one could interpret the car-centred landscapes planned in the post-war period as the 'spatial translation' of the Fordist compromise, which Western countries were then recognizing as the most effective way of regulating capitalism. Although Huber's analysis focuses on the USA, where a steady supply of cheap oil powered an "extensive spatiality of mass consumption", the Marshall Plan quickly placed France and other Western European countries on a similar societal trajectory: as the wage relationship became more generalized, workers acquired better visibility on their incomes; as a consequence, owning a home and motorcar quickly became the two pillars of a "new social consumption norm" to which oil was the indispensable, yet barely visible "life blood" (Huber 2009b). While oil markets had been extremely versatile in the 1930s, the negotiation of the "industrial compact" made it possible to maintain stable oil prices throughout the 1950s and 1960s. By making oil unproblematic to most households and social actors, this stability also naturalized and concealed it[59]. The hypothesis of an always-expanding demand for petroleum, though tacitly endorsed as a premise of economic development, went largely unquestioned; Malm (2016) describes how a similar phenomenon had occurred with coal a century before. This

59. The stabilization of an "industrial compact" allowed automobile manufacturers to make industrial bets that would soon accelerate the crafting of lifestyles based on the sustained consumption of fossil energy: Mitchell (2013: 41) demonstrated this for the US case. In the French context, it is worth noting that the question of the long-term availability of cheap oil barely surfaced in the internal debates that took place at Renault at the end of the Second World War, when its senior managers were considering the opportunity to start producing affordable cars for the mass market (instead of luxury vehicles) – a decision they eventually made (Sardais 2009). For an overview of the development of the French car industry, see Loubet (2011).

silent revolution led to the gradual "ingrain [of] oil within the wage relation" (Huber 2013) to an extent that would only be brought to full light with the first oil shock. Since then, the identification of oil consumption as a limiting factor to capital accumulation and social reproduction has improved, and social scientists have been exploring the countless ramifications of this phenomenon. Newman and Kenworthy (1999) have thus emphasized the challenges raised by "automobile dependence", while Giraud and Kahraman (2014) have demonstrated a strong positive correlation between economic growth and primary energy consumption. Considered retrospectively, all these studies indirectly enable one to highlight the role that the "industrial compact" initially played in shaping fossil landscapes of consumption[60]: in recent years, the path-dependency and inertia that the latter tend to generate have been delineated further – significant accounts other than those already mentioned include Mitchell (2013) and Urry (2014).

The second landscape is in the Algerian Sahara. I suggest that, far from being disconnected from the creation of fossil landscapes of consumption in France, the rapid construction of fossil landscapes of production in this remote area was a precondition for their emergence. For a start, it is important to bear in mind that before the French colonized the area in the 1830s, complex networks had structured the human occupation of the Saharan space for centuries. Since the main concern of rival social groups had been to control the trade routes and strategic points in the desert, the flexible organization of this vast space therefore excluded any concept of 'fixed borders' (Kouzmine et al. 2010). The beginning of oil exploration in the Algerian Sahara in 1947, however, rapidly led to the enshrining of a 'geometric', disembedded representation of the land, as opposed to the 'reticular' one that had until then prevailed. In 1949, the government of Algeria accepted a proposal from CFP and SN-REPAL (a competing French state-owned agency) to divide a 265,600 km² zone into 166 squares of 1,600 km² apiece to facilitate prospecting (Saul 2006). Taken as such, the very act of this partition replicated the

60. One should not forget that France also had its fossil landscapes *of production* and that, during the post-war period, major refineries were being built in industrial harbours.

first stage of primitive accumulation described by Marx (1992 [1867]), and to which Bridge (2008) explicitly referred in his study of hydrocarbon value chains. The enclosure in the Sahara of yet-to-be-discovered, non-produced goods preceded their effective capture from the environment (through extraction), which would itself coincide with their commodification. It is crucial to stress that this nascent dynamic of primitive accumulation was made possible not only through the mobilization of new technologies of geophysical prospecting (Cantoni 2017), but also thanks to the decision to build a network of roads from scratch. Since it was impossible to ensure the delivery of all heavy construction materials to the sites of operation on tracks, the state embarked on extensive works and, between 1956 and 1961, invested 346 million 'new francs'[61] in building 2,000 kilometres of asphalted roads and renovating 7,000 kilometres of tracks (Kouzmine et al. 2010). Building these infrastructures established the permanent spatial reorganization of the Saharan region around 'fixed' points. One of these poles of attraction was undoubtedly the giant oil deposit of Hassi Messaoud, discovered in 1956. Despite its deep location (3,300 metres under the soil), its proportions were gigantic: covering an area of 1,600 km^2 with a thickness approaching 100 metres, its exploitation could theoretically cover the equivalent of 60 per cent of the French annual demand for petroleum (Saul 2006). When SN-REPAL and CFPA (CFP's Algerian subsidiary) joined forces to start the extraction, their capital skyrocketed from 22.5 billion francs in 1958 to 45 billion in 1959 for the former, and from 9 billion francs in 1956 to 21 billion in 1958 for the latter, thanks to the availability of newly-created investment funds in France (Saul 2006). The mobilization of this fresh source of money enabled these companies to start Hassi Messaoud and to initiate the spiral of primitive accumulation.

At this point, it is worth mentioning that, at Hassi Messaoud, the process of capital accumulation arose from the sustained convergence of a bundle of contingent socio-material

61. This sum is the equivalent of 555 million euros.

dynamics[62], the weights of which largely depend on their initial appearances in the milieu. The material features of the crude oil, which geological factors largely determine, specify its latent affordances (Gibson 2014), which in turn favour the realization of the accumulation process through particular socio-technical procedures. Light and fluid, this crude oil was indeed of excellent quality, which exempted it from being 'cracked' in refineries: its extraction and processing would therefore require limited inputs of energy and chemicals – a phenomenon directly reflected in its relatively low price of about $1.10 a barrel (Salut 2006). Barely extracted, the oil would therefore literally flow along a pipeline towards the coast for export to France. By taking into account the material specificities of the geographical context, such an 'embedded' interpretation of capital accumulation largely echoes Bridge's (2008) observation that the question of oil materiality arises from the mix-up between natural production[63] and social production, which is particularly pronounced at the extreme upstream end of the hydrocarbon production chain.

From all this, it seems clear that, in the course of twenty years, the development of extractive projects profoundly reshaped the Sahara by bringing it into the circuits of capital circulation and accumulation – an inclusion that progressively interconnected the Saharan landscape with other distant landscapes (Mitchell 2005), such as the French one described above. Likewise, it is necessary to highlight how the material features of the crude oil extracted in Algeria articulated specific socio-material arrangements, which in turn fashioned a particular 'ecological regime'. As Bridge (2008) put it, "a full material flow analysis of hydrocarbon production would reveal a network of exchanges that massively exceed those of the linear production chain", so

62, I wish to emphasize that the implicit meaning I give to the expression 'the process of accumulation' is context-dependent. When analysing a specific case (for example the Algerian context), I use this expression to offer a stylized interpretation of a messy reality that comes first, but where a number of phenomena nonetheless seem to coalesce dynamically in a specific direction: from this viewpoint, the 'process of accumulation' therefore emerges *ex post* as a synthetic concept. When the context is more general, I tend to employ the expression inversely, that is as if the process of accumulation had an *ex ante* autonomous ontological substance, and that it would 'break through' in the phenomenological world by embodying itself in a context-dependent manner. While I endorse the ontological view of the first conception, I freely resort to the second one in my descriptions, for it indeed offers a valuable linguistic resource with which to describe the social world.

63. For an exhaustive description of the natural production of hydrocarbons, see Dukes (2003).

would therefore take into consideration carbon dioxide and other by-products of the production process. Emphasizing the means through which the environment absorbs these undesirable outputs is thus a prerequisite to providing an inclusive, embedded account of the process of accumulation. Although poorly documented, it is highly probable that the local pollution occurring at Hassi Messaoud has affected the dynamics of the local ecosystems, thus modifying the relationships that neighbouring populations had developed with their environment. On a global scale, the excavation of important amounts of fuel with a specific carbon footprint – which is presumably low given the material features of the crude – have nonetheless contributed towards producing the new global 'climatic regime'. A detailed analysis of how the environment absorbs the various material flows that production generates would entail investigating the intermediary scales, but this goes beyond the scope of this study.

In addition to all this, it is also worth mentioning (albeit briefly) that, far from being consensual, this ecological reconfiguration that the process of capitalist accumulation powers is often mediated through violent social interactions, which have led to intense policing (involving repression or worse) of local populations in Algeria[64] and beyond. Auzanneau (2015) hints at how oil companies paid former French officers to repress popular protests in Gabon in the early 1960s, and Deltombe et al. (2016) describe how similar phenomena happened in Cameroon. Disciplining populations has thus been an integral part of constructing fossil landscapes of production in most areas of extraction.

3.2. The internationalization of oil markets (1980s–...)

In this subsection, I analyse the period from the early 1980s to the present day and follow the same thread as in the previous part. First, I describe how two majors gradually emancipated themselves from the national context before merging into a single entity; in doing so, I outline the main developments in the institutional setting that enshrine capital accumulation. On this

64. Salut (2006) stresses that securing its national oil supplies was one of France's strategic interests in engaging in the war in Algeria. Cantoni (2017: 119–169) offers an extensive historical account of this tension.

basis, I put the analysis in perspective by emphasizing the socio-material implications of Total's greater presence in international oil and gas markets: I suggest that the spatial extension of fossil landscapes of consumption, while growing significantly in the developing world, has stabilized in developed countries. Yet, this relative permanence should not obscure the fact that, over the last few decades, the fossil landscapes of production that the process of accumulation has articulated have changed profoundly: faced with the increasing scarcity of conventional oil deposits, Total has developed resources characterized by specific materialities.

3.2.1. Institutional approach

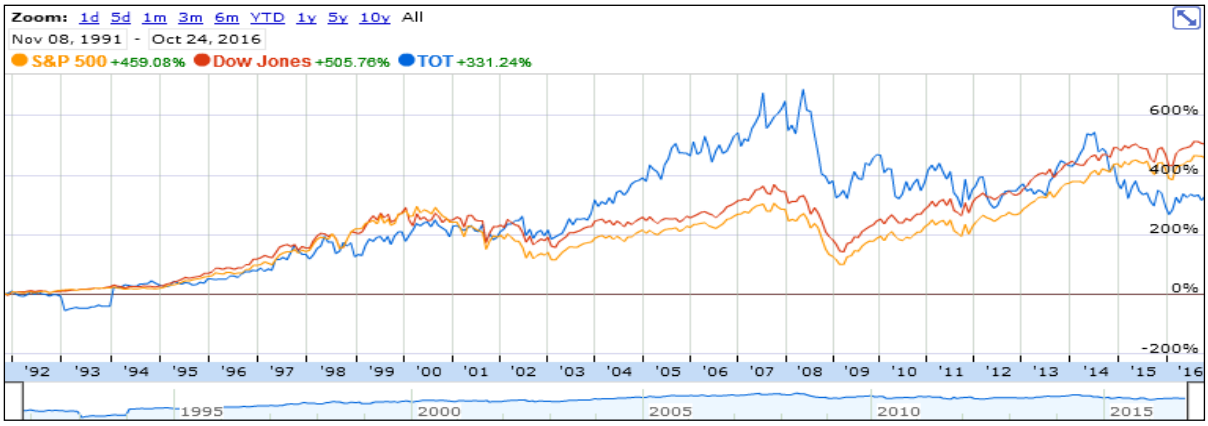
While the "industrial compact" had for decades provided a nest for competitive French oil and gas firms (by facilitating sectoral consolidation, securing access to market share, and simplifying the negotiation of exploration licences with producing countries), on the eve of the 1980s it was looking increasingly obsolete. The 1928 law, which was still in use, had been designed for a time when oil markets were organized on a national scale, with US and British majors exerting a firm grip on global production. Yet, the two successive oil shocks suddenly revealed an entirely different context; highly integrated and interdependent oil markets had emerged alongside a core of key players (public or private), but there was no longer an all-powerful actor (Hughes 2016: 103). In the wake of the oil shocks, demand started to dwindle in France: both Elf-Aquitaine and CFP/Total responded by accelerating the diversification of their production and actively seeking a market share outside France. Between 1983 and 1990, Total's sales of crude oil rose by only 9 per cent in France, but jumped by 24 per cent in the rest of the world (Hughes 2016: 87). The EU's progressive economic integration also led to an upsurge in cross-border investments, with EU countries starting to attract more capital expenditure than France for Total in the late 1980s (Hughes 2016: 104). A progressive dismantling of the 1928 law logically accompanied this rapid opening up of the national champions: first came the abandonment of the system of fixed prices and then, a few years

later, the state lost its authority to redistribute market share through import and export licences (Hughes 2016: 99). The lifting of these constraints at the end of the 1980s made it easier for firms to rationalize their activities more thoroughly, and to reconfigure and extend their productive networks into seeking additional resources and markets in a fast-changing environment. As production chains became more fragmented and dispersed, multinational oil and gas firms increasingly assumed the role of "core system integrators" (Beyazay 2015) and they outsourced a growing share of upstream and R&D activities to oil services companies (providing seismic exploration, offshore drilling, and support services for wells), which accelerated the supermajors' shift from vertically-integrated to more flexible organizational architectures.

Yet, it is important to emphasize that access to capital was inhibiting the French oil and gas firms' entry to the international market. The scaling up of production, transport and refining that such a move would require needed financing, and reaching a critical size was becoming an imperative to avoid hostile takeovers by competitors. It is therefore crucial to understand how the French majors dealt with this key issue. Many authors have already offered comprehensive analyses of the dynamics through which the financial sector has reshaped political-economic geographies across the globe during the last half century (Clark and Wójcik 2007; Dixon 2010). This process, initiated in the United States in the 1970s, did not reach continental Europe until the 1990s. At that time, equity finance in France was marginal: state regulation of the banking sector facilitated access to long-term capital, mainly through bank loans and cross-shareholdings (Goyer 2006). After decades of tight state control over its 'national champions', successive waves of privatizations progressively dismantled this institutional setting. Some 66 firms were selected for transfer to private ownership in 1986, with subsequent waves in 1993 and 1997 (Maclean 2008), which seemed fully cogent with the European Commission's liberal agenda. Throughout the 1990s, rules for non-EU foreign investors were gradually relaxed and road maps fixed to liberalize the energy markets. It is in this context that the state's share in Total's capital suddenly dropped: in a single year (1992), it fell from 31.7 per cent to 5.4 per cent,

while Elf-Aquitaine's went from 66 per cent in 1975 to 51.6 per cent in 1992, 13 per cent in 1994, and 0 per cent in 1996 (Hughes 2016: 84). The managers of both groups viewed the idea of privatization positively, mainly because they interpreted government shareholdings as the main cause of an undervaluation of the firms' shares (relative to those of their competitors). Moreover, the state's growing level of indebtedness meant that it could no longer play the role of a provider of capital, while equity was increasingly available on the international markets (Hughes 2016: 93; Roche 2003). The penetration of the French market by foreign capital thus increased sharply from 17.4 per cent in 1999 to 36.1 per cent in 2000, while these figures remained stable elsewhere in Europe; in Germany it only increased from 22.7 per cent to 23.6 per cent (Goyer 2006). Goyer argues that this remarkable ability of large French firms to attract capital from non-EU investors was mainly due to their organizational design, which (up to now) tends to allow assertive CEOs and top managers to reorganize the workplace in a unilateral fashion. The non-European mutual and hedge funds particularly appreciated this characteristic because the top-down decision-making processes of French multinational firms was a good match with their time horizon (Baudru et al. 2001). While accelerating the disappearance of cross-shareholding and the adoption of the paradigm of shareholder value (Morin and Rigamonti 2002), this influx of foreign capital into France enabled private-listed companies to finance their external growth. Total's successive acquisitions of the Belgian company PetroFina in 1999 and of Elf-Aquitaine in 2000 propelled the firm into being a 'supermajor' on the global markets, thereby inaugurating a decade of remarkable performance on the stock markets (see Figure 6.1). In 2015, Total's sales amounted to $165 billion, its employees numbered 100,000, and its market capitalization was the fourth biggest in the oil and gas industry (Total 2016).

Figure 6.1: Performance of TOTAL ADR (American Depositary Receipt) on US stock markets since 1992



Source: NYSE.

A noticeable outcome of this opening to global markets has been the fast fragmentation of corporate ownership. In 2015, the aggregated share of institutional shareholders each holding less than 1 per cent of the capital reached approximately 85.9 per cent, with the remainder composed either of Total's employees through FCPEs (collective employee shareholding plans) (5.1 per cent) (Total 2014) or other institutional shareholders such as Qatar Holding (approximately 5 per cent) and Groupe Bruxelles-Lambert (about 4 per cent) (*Le Monde* 2012). It is worth saying that this fragmentation has been simultaneously combined with a non-negligible geographic dispersion of capital ownership: in 2015, only 28.2 per cent of the total capital was still localized in France, against 30.7 per cent in the EU, and 41.1 per cent in the rest of the world, but mainly in North America (Total 2016a).

From all this, it seems clear that the structures of the institutional framework channelling capital accumulation have been subject to continual change over the last three decades. Caught up in the winds of change, Total gradually moved away from its national base to become an international player in the global oil and gas industry, mainly thanks to the growing stock of capital available through stock markets[65]. In addition, this appeal to foreign equity has occurred

65. It is essential to note that the French model of capitalism, which the public-listed companies of the CAC40 epitomize, has not 'emancipated' itself to the point of becoming fully aligned with the more standardized Anglo-American form of shareholder capitalism. Scholars have suggested that the

alongside the rapid dissemination of corporate ownership. Later in this chapter, I argue that this deep reconfiguration of the structure of corporate financing has prompted an equally deep transformation of the industrial apparatus, with its growing gigantism increasingly linked to an unprecedented diffraction of its socio-material entanglements.

3.2.2. Shaping (new) fossil landscapes

In what follows, I aim to offer a stylized description of how the socio-material means through which the accumulation process materializes have evolved throughout the period under consideration – from the early 1980s to the present day. As I have explained above, these last decades have coincided with Total's institutional 'emancipation' from the French context and its growth on international markets. In this subsection, I again mobilize the concept of landscape to elaborate a more inclusive account of this recent growth trajectory, an account that sheds light on the 'ecological transcript' of corporate activities.

While my earlier considerations of fossil landscapes included an analysis of landscapes of consumption, here I do not investigate the significant qualitative transformations that these have undergone in recent decades[66]. Rather, I emphasize the mutations that have occurred within fossil landscapes of production: even if these mutations have been deep, they have remained largely imperceptible to fossil fuel consumers – since landscapes of production tend to get fetishized in the standard products that are refined downstream the hydrocarbon chain. This implicitly suggests that, despite an apparent continuity in the identity of the corporate body that

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privatizations in France did not constitute a "great break from the past" (Maclean 2008), but rather marked the transition from a "state-led" to a "state-enhanced" model of capitalism (Schmidt 2003), or from a "*dirigiste*" to a "post-*dirigiste*" paradigm (Clift 2012). As I shall show later (in section 4.2), to appreciate the social dynamics that structure the firm it is necessary to take account of "the [country-related] ideational building blocks" (Clift 2012) that constitute the background framework of Total's corporate culture.

66. Studying these transformations would probably involve an investigation into the rapid extension of road networks in developing countries (for the Chinese case, see for example Yan and Crookes 2010), but also into the development of air transport – air traffic in the EU leapt from 370 million passengers in 1999 to 930 million in 2017 (Eurostat 2001, 2017). Although atmospheric flight routes are barely visible to the naked eye, their multiplication traces the contours of new landscapes of consumption.

hosts the process of accumulation – for example, the persistence of the name 'Total' or the permanence of long career tracks – the latter has, in recent years, come to mediate itself through socio-material realities that are *nearly completely alien* to those through which it usually came through when 'conventional oil' made up the bulk of production (Blancou and Lapoix 2014). I expound this argument below by highlighting some distinctive features of the process of capital accumulation as it currently unfolds.

To put this in perspective, it is necessary first to stress that the oil and gas majors' quest to reach a critical size (see above) occurred mainly because the materialities of the available fossil fuel resources had changed, which meant that their extraction had rapidly become an extremely capital-intensive procedure. In the first decade of this century, which succeeded ten years of major mergers in the industry, annual capital spending for the whole oil and gas industry tripled, reaching $550 billion in 2011 (*Financial Times* 2013). As Mitchell (2013) observes, the success of the industry during this period relied less on its ability to develop new "technology [for] extracting energy [...] [than on] the means it developed for extracting funds from investors" – funds that, in turn, enabled the development of new resources. By realizing itself through the extraction of *extreme* and *unconventional* deposits[67], the process of accumulation progressively crystallized in a myriad of socio-material configurations – each mirroring the constraints set by a specific crude materiality, thus making the conflictive intertwining that inevitably mixes nature and politics more or less visible (Mitchell 2013b: 253). On this precise point, it is worth underlining that the increasing scarcity of 'conventional oil' available to international majors has actively involved Total in shaping a growing variety of fossil landscapes of production. In what follows, I aim to highlight particularly how the extraction of

67. Mitchell (2013b), defines *extreme* fuels as conventional resources discovered in hostile areas (such as deep offshore, or in the Arctic); their extraction requires developing complex industrial processes in risky environments. He defines *unconventional* fuels (mostly shale gas, shale oil and bitumen), by contrast, as "organic materials that have not undergone the full geological process [of transformation]" (Mitchell 2013b: 249); to 'finalize' that process therefore requires the mobilization of human technology.

extreme fuels has reshuffled the configurations of Total's material stamp on the natural environment[68]. To do so, I scrutinize the case of a project currently developed in Russia.

The fossil landscape of production on which I focus has its nodal point in Yamal, Siberia, 600 kilometres above the Arctic Circle. It is an exceptionally remote place and subject to extreme climatic conditions, but, under its permafrost, lies one of the largest deposits of natural gas in the world. Its operation should routinely deliver about 27 billion cubic metres of natural gas and approximately 16.5 million tons of liquefied natural gas (LNG) each year, the equivalent of 66 per cent of French annual consumption[69] (*Les Echos* 2016; see also Akimova 2017). In what follows, I point out that the gigantic size of this project (its global budget is estimated at $27 billion) should not detract from the continuing fragmentation of the global production chains that characterize the contemporary oil and gas industry (Beyazay 2015). I also reflect on the type of 'ecological regime' that this political economy configures. In this endeavour, I give an overview of the multiple socio-material mediations required to complete the cycle of production. Even if its 'anchoring' in an extremely remote Arctic environment ultimately characterizes the socio-material inscription of this landscape of production in the natural world, one cannot correctly apprehend this inscription without considering the intermediary phases of the process of production. This means that, to give a comprehensive account of the 'ecological transcript' of the process of accumulation (that is of the modes of its embedding in the natural environment), it is crucial to scrutinize the political ecology of the *whole* production network.

First, it is important to stress how the organization of a scattered productive chain has entirely relied on the ability of its developers to accrue dispersed financial resources and to

68. Whereas the location of landscapes of production assembled to operate deposits of unconventional fuels near populated areas tends to expose the inevitable entangling of nature and politics, thus generating much hostility (Terral 2014), the landscapes created by the operation of deposits of extreme fuels often tend to become invisible enclaves, removed from local entanglements and social settings. Ferguson (2005) and Appel (2012) implicitly describe this pattern in relation to offshore platforms in the Gulf of Guinea. Recent popular mobilizations suggest that this 'discretion' is becoming increasingly difficult to secure (*Guardian* 2015).

69. A similar proportion to the one evoked earlier for the case of Hassi Messaoud.

aggregate them beyond national borders. The Yamal project, one of the largest ever undertaken in the history of the oil and gas industry, thus required about $10 billion in equity from Novatek[70] (50.1 per cent), Total (20 per cent), CNPC (20 per cent) and the Chinese fund Silk Road (9.9 per cent), as well as credit lines from the Russian public banks Sberbank and Gazprombank (for $4 billion), from the public Russian Welfare Fund ($2.4 billion), and from the Chinese public banks Export–Import Bank of China and China Development Bank ($12 billion)[71]. Through the legal structures of each of its stakeholders, this financing scheme facilitated the mobilization of money from a multitude of geographically-dispersed institutions and individuals. When operations started at Yamal in December 2017, the company had already sold 100 per cent of the gas contained in the deposit, principally to Asian buyers through future contracts (*Les Echos* 2016). This set-up served as an ideal 'sales pitch' for gaining the confidence of investors and lenders, which Total needed to finalize the project. This case perfectly illustrates Arboleda's (2015) remark that "finance capital provides the momentum required for investment-intensive projects aimed at energy production, manufacturing, resource extraction or logistical arrangements at gargantuan scales", and that "fictitious capitals (i.e. credit and paper money) must necessarily be created ahead of real accumulation", a phenomenon that Harvey (2007) and Labban (2010) have analysed extensively. In the Yamal project, the realization of the cycle of production thus only constitutes a *transitory moment* in the process of accumulation, which amounts to the same thing as saying that Total operates "as [a] financial centre with industrial activities, or as 'an organizational modality of finance capital'" (Serfati 2008).

Once having gathered these considerable financial resources, the consortium could then begin, under extremely hostile conditions, to embark on construction works, which first entailed building an airport along with the basic infrastructure needed to host the workers[72]. As it was not possible to build the main operating plant on site, a French–Japanese consortium

70. In early 2016, Total held an 18.9 per cent share of Novatek's capital.
71. The US sanctions on Russia blocked the involvement of French banks (*Les Echos* 2016).
72. Saxinger (2015) provides a fascinating account of working conditions in the Siberian far north.

(Technip–JGC–Chidoya) assembled it from 150 modules previously engineered and produced in Chinese, Filipino and Indonesian yards employing approximately 30,000 workers. Once produced, nuclear-powered icebreakers shipped the modules (weighing approximately 450,000 metric tons) to the peninsula and unloaded them onto multi-wheeled transporters, which then positioned them for the final assembly of the plant (Total 2016b). To ensure its stability on the permafrost, the company built the plant on tens of thousands of thermo-stabilizing piles driven some 20 metres into the permafrost. To store the LNG, it constructed four tanks measuring 80 metres in diameter and 45 metres in height; and to ensure the delivery of LNG to high-demand markets in Japan and Korea, it specially assembled 15 nuclear icebreaker tankers. All these qualitative elements corroborate the hypothesis that 'disembedding' extreme fuels from their natural environment to turn them into commodities implies setting massive material flows in motion (for a discussion of this concept see Smil 2013). However, the totality of these flows remains beyond one's phenomenological grasp: as such, they are indeed the result of a multitude of socio-material transactions realized by a myriad of subcontractors and suppliers, each localized in one or other of the various extremities of a highly-fragmented production network. At the end of the day, it is the canvas that these countless transactions form that defines the impact of the Yamal project on the natural environment. Given the increasing complexity of industrial megaprojects, it is hardly surprising that attempts to provide an integrated account of their diffracted ecological effects have been rare[73]. Yet, it is important to mention the significant result that Gagnon et al. (2009) obtained in the case of publicly-traded oil and gas firms; they estimated that the average EROI (energy return on investment) at the wellhead had dropped significantly between 1992 and 2006: while producing one barrel of oil mobilized on average about 0.038 of a barrel during the process of production, fourteen years later this figure had climbed to approximately 0.055 (the EROI had thus decreased from about 26:1 to about 18:1). In their meta-analysis, Hall et al. (2014) confirm this observation, and

73. Stephenson and Agnew (2016) offer a valuable analysis of how a global production network approach can contextualize extractive activities in Arctic Russia, but their account fails to consider the latter's effect on natural environments.

stress that the decline in EROI among major fossil fuel producers suggests that an increasing proportion of energy output is being diverted to attain the energy needed to operate new resources: a correlate of this phenomenon is therefore that fossil fuels have a growing carbon footprint.

This result suggests that it is easier to understand the 'embedding' of the Yamal project in the natural environment if one distinguishes between two scales of analysis. The first involves an evaluation of the new socio-material arrangements that the implantation of massive industrial infrastructures are generating in the remote peninsula, for the emergence of a fossil landscape of production that provides a stable framework for corporate activities interferes with the lifestyle of nomadic tribes and, more broadly, with the functioning of local ecosystems[74]. In this regard, it is clearly possible to describe the embedding of corporate activities at the local level. But beyond that, one can contextualize the Yamal project's effect on the natural environment on a larger (say, planetary) scale – i.e., a scale that reflects the complexity of its political economy. Interpreted through this lens, the site of Yamal itself is only the tip of the iceberg; in other words, it is the nodal point that recapitulates a multitude of socio-material transactions realized across a production network scattered around the globe. As such, this production network (topped by Total as a "core system integrator") articulates a planetary-scale politics of nature, which presupposes that entire compartments of the Earth system absorb the collateral

74. It is important to emphasize that the firm also 'counts' on the stability of this proximate natural environment to deploy its activities. R&D teams at Total have collaborated with Russian scientists in the Yamal Peninsula to study certain species of benthic organisms (such as oysters and mussels) that have a high ability to bioaccumulate oil compounds, and to establish whether they could be taken as markers of water pollution (Trubitsina 2017). Similarly, Bashkin et al. (2017) suggest using two species of lichens and dwarf birch leaves found in tundra ecosystems as markers to trace atmospheric pollution. This enrolment of non-human entities to biomonitor the process of production perfectly epitomizes how its deployment arranges new politics of nature. It is also important to emphasize that infrastructure expansion has a significant effect on local Nenets communities (Degteva and Nellemann 2013). Beyond these local effects, a more systematic account of the impact of corporate activities on the natural world must consider the 'remote' effects of extraction. Indeed, many climate-change induced 'feedback loops' are already observable in Yamal: permafrost thawing is a mounting concern (Noerling et al. 2016), as is the increase in landslides and soil erosion (Walker et al. 2009); the multiplication of 'rain-on-snow events' triggers the formation of ice crusts on pastures, which increases reindeer mortality and threatens traditional lifestyles (Forbes et al. 2016).

material flows generated by industrial activity. Among these compartments, the atmosphere, with its capacity to absorb CO_2, is undoubtedly one of those that fossil fuel producers have most exploited in recent years. The decline of the average EROI described by Gagnon et al. (2009) suggests that oil and gas firms have implicitly (but increasingly) counted on it to absorb the growing CO_2 emissions generated not only by their processes of production but also by the combustion of their final products.

3.2.3. Concluding remarks

In this subsection, I have reconstructed the institutional trajectory of Total in an attempt to highlight how corporate activities systematically configure specific sets of relations with the wider natural environment: or, more precisely, I have delineated how, throughout Total's development, the legal structure of the firm provided the hub of a malleable and polymorphous process of accumulation, for which Hassi Messaoud and Yamal have successively constituted ideal-typic *loci* – the development of each project then leading to shape fossil landscapes of production with their own negative 'ecological transcript'. By doing all this, I have therefore suggested that any inclusive account of the political economy of the firm has to highlight how the process of capital accumulation that propels it articulates a political ecology – and this, at different points in time.

4. Intra-firm dynamics and environmental degradation

In the discussion above, I have implicitly considered the firm as a unified corporate agent. Now, however, I aim to offer a more nuanced view of corporate agency by contesting its homogeneity; to do this, I need to analyse more precisely the power relations that frame and channel the process of accumulation in the corporate realm. In this endeavour, I highlight the intra-firm social dynamics that contribute towards structuring the organization and suggest that

the patterns and compromises arising from their mutual containment strongly configure the way Total (this time taken as a whole) inserts itself in the wider socio-material world. So far, I have considered the firm a self-standing entity. The main interest of this section therefore consists of unpacking it, with a view to demonstrating how, by enabling the deployment of the accumulation process, the heterogeneous and antagonistic tensions that structure Total are simultaneously vectors of global environmental change. To do this, I briefly explain why it is important not to overlook the institutional status of the firm in the analysis of the accumulation process; then, I identify some enduring traits of Total's senior managers, and suggest that the exercise of corporate power remains highly codified by French culture; in the last subsection, I highlight the social dynamics that shape Total's growth trajectory from within, and suggest that these mediate specific relationships with the natural environment.

4.1. The firm, a key hub of the accumulation process

While corporate agents have acquired an unprecedented status in contemporary Western societies (Pettit 2015), the theorization of the firm as a key agent in structuring capitalist relationships has long remained the poor relation of critical theory. As Haber (2016) suggests, this is probably because, when analysing capitalism, Marx failed to forge a concept of 'organization' that could equate it with his ambitious theoretical elaboration of the 'market'. In *Capital*, Marx interpreted modern society as a *market* society, thereby overlooking all the Hegelian intuitions about the mediating role of institutions in the constitution of citizenship. This neglect is undoubtedly because Marx scarcely witnessed the emergence of the first large-size firms[75], for it was not until the first quarter of the twentieth century that scholars, notably in the USA – here Veblen (2012) is a significant example – systematically started to criticize them as such. In the 1930s, Berle and Means (1991) observed that a massive disjunction between ownership and control had accompanied the emergence of managerial capitalism. Chandler

75. As Haber (2016) puts it, Marx remained "a thinker of the workshop and of the factory", but did not see the firm as a social organization.

(1977) later referred to this reinforced discretionary power of managers by contrasting their "visible hand" with the supposed "invisible hand" of the markets. Firms[76] can indeed be distinguished from markets in that they represent an "*explicit* institutionalization of formal hierarchies and authority relations" (Néron 2015). In recent decades, their internal chains of command have crossed over national borders, to the point that intra-firm relations now account for a substantial share of world trade (Lanz and Miroudot 2011). It is therefore crucial to emphasize that in contemporary capitalism, the critical size reached by multinational firms has reinforced the prominence of intra-firm cooperation (versus inter-firm competition) in shaping social life. In the case of Total, this cooperation has materialized in the form of a pyramidal organization composed of distinct business units each with its own hierarchical structure and operating beneath a centralized holding (Serfati 2008). Bridge's (2008) analysis of hydrocarbon production chains clearly suggests that being able to coordinate a large number of actors (both inside and outside the firm) has become a prerequisite for oil and gas majors willing to develop complex resources (see also Beyazay 2015). Multinational firms can thus be interpreted as 'hubs' of the accumulation process, since the social interactions they host, whether oriented within or outside the corporate realm, are tendentially channelled towards the realization of this end. In the next subsections, I aim to demonstrate that the deployment of this cooperation is mainly commanded, and thus heavily constrained, by top–down injunctions; far from being a homogeneous organization, the firm appears rather as a set of rival social groups, the diverging interests of which potentially have distinctly 'negative' ecological effects.

76. I build here on Robé's (2011) effort to distinguish between the two notions of 'firm' and 'corporation'. While the corporation is a *legal entity* "entitled to operate in the legal system and in particular to own assets, to enter into contracts and to incur liabilities", the firm refers to a *social institution* channelling the economic activity developed as a consequence of the cluster of contracts that connect corporate assets to the various holders of resources that are required to operate them. Firms are therefore structured by using corporations, which allow them to operate in the legal system.

4.2. Corporate power in the French context

In this subsection, I argue that any attempt at an inclusive account of how corporate power is exerted at Total needs to acknowledge the influence of the firm's French heritage. This suggests that Total's progressive integration into international markets, predicated on its ability to attract foreign capital and to amend its governance to fit the Anglo-American paradigm of shareholder value, fell short of a complete dissolution of its cultural identity. My claim therefore resonates with Clark and Wójcik's (2007) analysis of the German model of capitalism. If Total's recent growth trajectory shows clear signs of a *convergence* with the Anglo-American model (see next subsection), some decisive elements betray the pervasive *continuity* of a specifically French form of capitalism. Among these, the singular status of the corporate elite is a case in point: the way top managers exert their power in the firm (in order to ensure the continuation of business-as-usual activities) remains largely tributary to the national context. As of 2015, 92.7 per cent of Total's executive officers (12 people), and 72.1 per cent of its senior managers (about 290 people) were indeed French, though the figure was much lower for managers and the workforce as a whole, at 30.1 per cent (about 27,600 people) and 31.2 per cent respectively (Total 2016a).

French business elites are a relatively unified group with access to dense, cohesive networks that create substantial social endogamy. Until the 2000s, a degree from one of the highly-ranked *grandes écoles* would automatically pave the way to a successful career (Maclean et al. 2014). By creating powerful extra-corporate networks across the private and public sectors, the persistence of *grands corps*, functioning like extended families for their members (selected by rank on graduation from certain *grandes écoles*) recreates an internal hierarchy of elites (Dudouet and Joly 2010). Four of the seven CEOs managing Total over the last 60 years graduated from 'Polytechnique – Corps des mines' (Noé 2011). The interviewees I encountered during my fieldwork often spoke of the highly codified distribution of power in the firm. One of them explains that

> "there is something crazy here; it's the fact that no matter [what] the age of people, you know from which grande école they have graduated [...] Polytechnique, Centrale. [...] It is really crazy that for someone who is 55, people are still referring to his graduate education."

Some respondents interpreted this entrenched social stratification as a legacy from the past when Total and Elf-Aquitaine were both public companies. One mentioned how

> "every position is ranked according to a very precise grading scale [the Hay Job Evaluation], which clarifies the internal structure of the hierarchy. In the end, it creates what many call the 'social security of oil'."

By resorting to the expression 'social security', this respondent says a lot about the rigidity he perceived in the corporate structure. In interviews, others also frequently mentioned this distinctive organizational trait, as well as the so-called 'isomorphism' with the French public administration. In his seminal work on the cultural values underpinning French corporate codes, d'Iribarne has demonstrated that French 'cadres' exhibit a "defensive concern" for rank and distinction, as well as a taste for privileges directly inherited from the *ancien régime*. The persistence of aristocratic values beneath a meritocratic gloss explains why it becomes possible to classify French employees into different castes inside the same firm. A "logic of honor" binds every group to specific duties and privileges, which are partly ingrained in salary scales and career paths (d'Iribarne 1992, 1994). In this context, one mainly acquires social recognition (or the promise of climbing the corporate ladder) by getting the esteem of the hierarchy. One interviewee occupying a senior position described the optimal career strategy in the upstream division in the following terms:

> "All that you should manage to get is a 'go' for a big investment project, at the end of long selection processes which enable you to objectivize the choice (with precise criteria), to

make it rational; the Grail is to get recognition from the chairman, who will [get to] know about your contribution to the deal once it is closed."

This description resonates with Goyer's (2006) suggestion that, compared with what can be observed in Germany, "the promotion system of French firms [reflects] a change of status unilaterally decided by the top management rather than the acquisition of technical expertise." Of course, the "change of status" invoked in his account is not purely arbitrary, for it recognizes good performance. However, it nonetheless suggests that co-optation remains probably more than elsewhere the norm. Another statement from the same interviewee corroborates this hypothesis:

"At Total there are two categories of 'cadres' – those who are 'cadre-dirigeants' [senior managers][77], and those who are not. The former, consisting of 250–300 people in the group, are selected for their potential. [...] Managers with a promising profile are picked out, co-opted, and given proper training (through the 'corporate university'); they are mainly tested on their obedience."

The relevance of the above account is twofold – first, it highlights that employees are aware of the persistence of rigid social stratification within their firm, which I have identified as an enduring trait of a French model of capitalism; and, second, the selection process it describes implicitly refers to the way power relations are configured. In this respect, it resonates with a claim made by Maclean and Harvey (2014) that reconnecting "class analysis with organizational analysis" is key to understanding how the "field of power" is constituted in the top management of large French firms. This "field of power" concept was forged by Bourdieu, who defines it as a "field of forces structurally determined by the state of relations of power among different forms of power, or different forms of capital" (Bourdieu 1998).

77. For the remainder of this chapter, I refer to 'cadres-dirigeants' as senior managers. It is worth emphasizing that its translation into English rather trivializes the implicit rigidity most Total employees associate with this aspect of status.

Expanding further on the eminent sociologist's work, with an econometric approach Maclean and Harvey corroborated Bourdieu's findings by isolating the major significance of a "social class effect" in the selection process through which "hyper-agents" come to occupy the highest positions in the French corporate field of power. This result clearly adds depth to the preceding accounts, which hint that there is significant social endogamy in the nomination of senior managers. The latter therefore constitute a dominant group in the firm, a group that secures its status through the perpetuation of "hierarchy-enhancing legitimizing myths" (Pratto et al. 2006) that are deeply entrenched in the corporate imaginary.

So far, by outlining the specific traits of social stratification and the division of employees into different castes, I have by and large described *who* holds power at Total. It is now useful to examine *how* power comes to be exerted across the hierarchy. I have already briefly touched on Goyer's (2006) argument that easier access to foreign capital had not fundamentally changed the concrete arrangements of the exercise of power in the largest French firms. Non-EU investors, having identified the management-led corporate decision-making process as a 'comparative advantage' of French listed corporations, implicitly contributed to its perpetuation by demanding high financial returns. The implementation of cash-flow discipline naturally accentuated the concentration of decision-making power in the hands of the CEO and financial managers by ruling out other performance indicators. However, according to Clift (2012), the longstanding French hostility to liberalism as an intellectual tradition can explain this non-liberal penchant inherent in French corporate government, which one could even interpret as a Rousseauian heritage. Indeed, lower employees often interpreted (and accepted) the decisions of senior managers as the instantiations of a substantial 'corporate will' (which equates here with the Rousseauian "general will") that leaves no room for dissent. During an interview, one respondent said that while

> "coming back from the executive campus [a workshop exclusively dedicated to senior managers], she [his manager, had given] us a debriefing so that we had the key features of

the CEO's intervention with investors in London. Since the management emphasize the importance of transparency, they usually give us this kind of information."

This excerpt evokes a clear sense of how Total channels the transmission of its strategic business information through a top–down chain of command that directly mirrors the firm's pyramidal structure. Because of their privileged position in this chain, senior managers benefit from a qualitative informational asymmetry, which in theory they neutralize by spreading key information to their teams. Yet, perfect transmission never happens, and senior executives usually retain first-hand, 'raw' information (which is not only verbal but also contextual) about the conduct of the firm. In the conclusion of their study on French corporate elites, Maclean and Harvey suggest that "the more class-specific interests of the upper echelons are not articulated as explicit goals but remain largely concealed, woven into a rhetoric of shared values". In Total's case, it is quite clear that flagging the top management's shared values plays a crucial role in enacting and perpetuating the dominant position of this class in governance relations, thereby symbolically restricting access to the "field of power".

Before concluding, it is worth noting that the Rousseauian penchant for absolute power can also extend beyond intra-firm relationships. In 2011, PhiTrust, an asset-management firm holding shares in Total, joined forces with Greenpeace and the National Resources Defense Council (NRDC) to submit a motion at Total's annual general meeting calling for the introduction of an additional clause in the corporation's legal contract obliging it to evaluate and publicly report on the social and environmental risks associated with tar sands extraction projects (*Le Figaro* 2011). In this endeavour, PhiTrust tried to rally minor shareholders to meet the 1 per cent threshold and file the motion[78]. Yet, PhiTrust's chairman (personal

78. A point of divergence between French and Anglo-American corporate law lies in how the mechanisms of checks and balances are designed; whereas filing a motion for an annual general meeting in the United States is relatively straightforward, French law makes the constitution of shareholder coalitions extremely complex when ownership structures are highly fragmented: the shareholders from corporations with capital exceeding 750,000€, must collectively reach a threshold of 1 per cent of the capital to constitute groups of interests (Article L225-120, *Code de commerce*

communication) quickly came under strong pressure from Total's board members and senior managers who, according to him took the motion as a blow to their honour, finally abandoned the project (Greenpeace 2011). This episode is a clear illustration of the particularly limited efficiency of checks and balances in controlling a French managerial authority still haunted by Louis XIV's sense of entitlement to absolute power[79]. In this vein, it is interesting to report how portraits of Total's CEO in the mainstream press (e.g., *Le Monde* 2016) regularly praise his "iron will" and "unilateral style of management".

Throughout this subsection, I have demonstrated how the French corporate elite's latent socio-cultural traits influenced the exercise of corporate power and, therefore, the organization of the accumulation process. As a consequence, power relations cannot be but "embedded in distinctive social contexts" (Clift 2012), and their diverse manifestations are necessarily deeply culturally informed. Yet, emphasizing this explanatory pattern does not rule out others: as Goyer (2006) observed, different patterns may even become closely intertwined. In the next subsection, I supplement the present interpretation with a further analysis of how Total's transition to shareholder capitalism has fuelled an accelerated decoupling of the interests of distinct social groups in the corporate realm, to such an extent that these groups have become antagonist to one another: in this context, the image of Total as a homogeneous organization vanishes.

4.3. Securing the 'fossil rent'

In this subsection, I consider four distinct schematic social groups inside the firm, which, to use the company's own terminology (Total 2016a), are 'executive officers', 'senior managers', 'managers' and 'other employees'. I suggest that their differentiated dynamics are best analysed

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2016). In Total's case, rallying enough investors to reach this threshold proves particularly challenging.

79. Early in 2016, PhiTrust and other shareholders had started to work on a motion calling for detailed disclosure of Total's strategy on climate change when the board decided that the firm would issue an appendix especially dedicated to this issue at the annual general meeting. As a result, PhiTrust withdrew its motion.

by considering their respective positions towards what I refer to as the 'fossil rent', namely the broad array of social goods (Walzer 1984) that in recent decades have become closely associated with the production of hydrocarbons. As we shall see, financial wealth is the most determining of these, but social status also matters. For example, higher executives of oil and gas majors tend to cooperate actively with their national embassies (Auzanneau 2015) more than in any other industry, and thus tend to develop 'privileged' relationships with foreign ministers and heads of states. This bestows a certain grandeur on their position, which, incidentally, other concrete factors reinforce. Kocyba's (2016) description of how the architecture of the European Central Bank tower in Frankfurt mirrors the power relations between EU members applies equally forcefully to Total – the panoramic, top–down view of Paris that many executives enjoy from their offices in the company's headquarters, doubtlessly bolsters their sense that their mission (supplying its "lifeblood" to the *polis*) gives them status.

For the remainder of this subsection, I focus exclusively on the financial wealth that the 'fossil rent' generates. I suggest that the modes of its distribution in Total's perimeter have had a highly significant impact on the 'ecological regime' that the firm has mediately articulated in recent years. Before focusing on the case study, however, I isolate some background elements that will help to make better sense of the wider economic context in which Total has evolved.

4.3.1. Financialization, wage inequalities and innovation

Since it would far exceed the scope of this analysis to embark on an exhaustive study of the intricate links between financialization[80], wage inequalities, and innovation, I first isolate some of the key arguments that have structured discussions around the Anglo-American context, before turning to the French case.

Since the mid-1980s, many observers have stressed how the rapid diffusion of the shareholder value paradigm in the USA had served to justify the explosion of executive pay,

80. Epstein (2006) defined financialization as "the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies."

and the corresponding widening of income and wealth inequalities at the national level. Lazonick (2012) and Lin and Tomaskovic-Devey (2013) have extensively analysed the impact of this transformation on large American firms. The increasing share of executives' earnings realized through financial channels, supported by the emergence of new practices on the stock markets (*downsize and distribute* rather than *retain and reinvest*), has progressively led to the reshuffling of the class alliances that had stabilized in the wake of the New Deal. Duménil and Lévy (2015b) have described this shift as a transition towards 'managerialism' – that is, a late phase of capitalism in which the interests of managers and capitalists become virtually indistinguishable – while labour's share of income steadily decreases. It is worth mentioning here that all these researchers have built their analyses on datasets aggregated at the national level, but have not specifically scrutinized resource allocation within the corporate perimeter. Mueller et al. (2016) partially filled this gap by engaging more in a structural analysis of intra-firm income inequalities than simply focusing on executive pay, which was what had generated the bulk of the academic debates. By concentrating on a sample of British firms and subdividing their hierarchies into nine generic socio-professional layers, the authors were able to demonstrate a positive correlation between the size of the firm and pay inequality across the hierarchy. This finding supports the preceding analysis and confirms the hypothesis of an upsurge in intra-firm income inequality in recent decades, at least in Anglo-American firms. I should also mention, albeit briefly, the effects of financialization on innovation. Graeber (2015) has rather scathingly pointed out that, at least since the 1960s, financialization had been exacerbating a deep-seated feature of mass-market capitalism, namely its structural inability to deliver substantial technological progress (an observation that had been made earlier by Veblen (2012 [1921])). In similar vein, Serfati (2008) has drawn attention to how the growing obsession of multinational firms with the value of their stocks was having a profound effect on their innovative activities (for example, through expensive buyback plans). More specifically, Fieldman (2014) has shown that firms required by their managers to maximize shareholder value were unlikely to pursue policies that reduce the environmental impacts of production.

It would seem perfectly legitimate to extend this diagnosis to non-financial French industries, even if the data on the level of intra-firm income inequalities within French multinational firms are unavailable. However, it is worth underlining that in 2011, Faber (the then VP and now CEO at Danone) estimated, on the basis of non-disclosed corporate figures, that a 30 per cent reduction in the global compensation allocated to the top 1 per cent of Danone's best-paid employees would, if redistributed to the lowest 20 per cent, double the pay of the latter. This order of magnitude clearly hints at a pervasive structural gap in the wage policies of French champions, which it is possible to infer indirectly. Building on datasets aggregated at the national level, Piketty (2014) noticed that the fraction of the French national income going to the top 0.1 per cent jumped from 1.5 per cent in the 1980s to nearly 2.5 per cent in 2010. Earlier work by Landais (2007) showed a similar picture when he established that the average incomes of the top 1 per cent, 0.1 per cent and 0.01 per cent grew by 14 per cent, 29 per cent and 51 per cent respectively between 1998 and 2005. By highlighting the crucial role of the financial sector in widening the income gap nationally, Godechot's (2011) analysis provided a more comprehensive view of this diagnosis: in 2007, 24.1 per cent of the upper 0.1 per cent wage fractile worked in the financial sector, but just 6 per cent 30 years earlier; in the industrial sector, the figures were 14 per cent and 38 per cent respectively. Yet, Alvarez's (2015) analysis of a sample of 6,980 non-financial French firms reveals that an increased dependence on profits accrued through financial channels tends to decreases labour's share significantly, thereby contributing to a widening of inequalities. Cross-checked with Labban's (2010) account of the rapid financialization of international oil markets since the 1980s[81] and the active involvement of oil and gas firms in this process, Alvarez's diagnosis that a "strong incentive for corporations to move investments from real assets to financial assets" exacerbates pay inequality (and low innovation) can probably be extended to Total, a hypothesis I shall confirm in the next subsection.

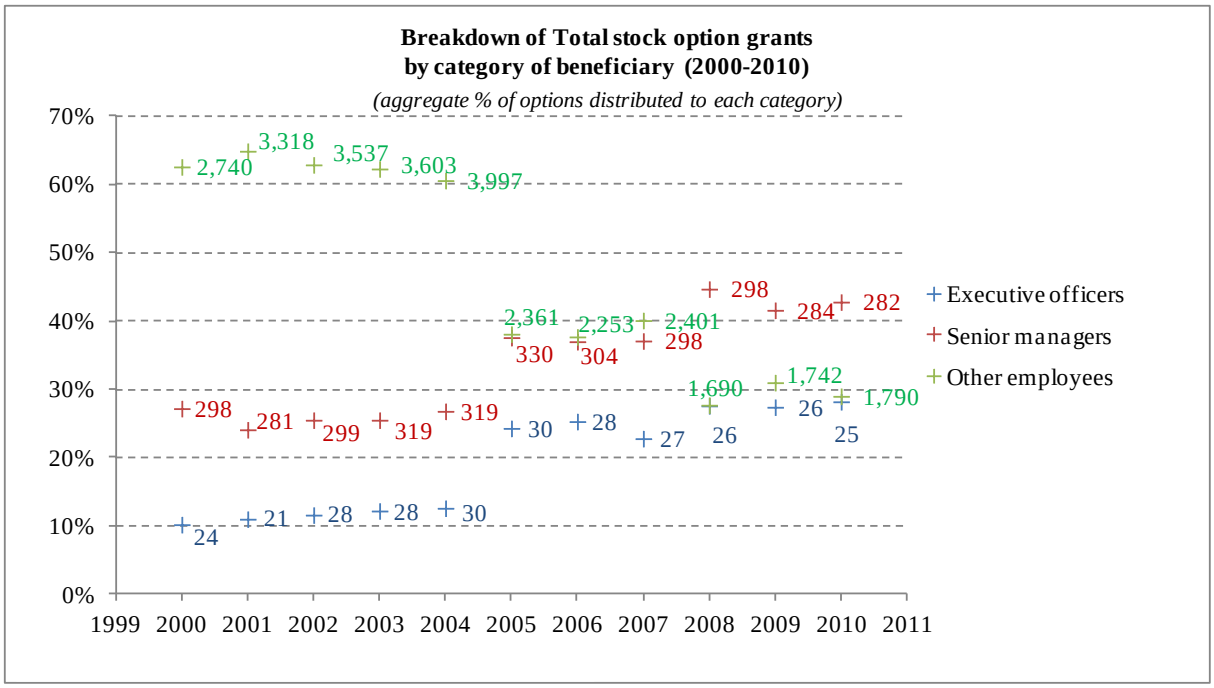
81. Here, Labban is referring to the decoupling occurring between the accelerated circulation of 'paper oil' in financial markets, and its effective trade in physical markets.

4.3.2. Intra-firm class dynamics as a vector of environmental change

In this paragraph, I examine Total's internal power structures with a view to showing that their continuous reconfiguration (articulated, in recent years, by the imperative to align with the interests of shareholders) is intimately interconnected with the articulation of specific 'ecological regimes'. I suggest that only a close study of the dynamics inherent in the process of accumulation can link the social practices enacted everyday by corporate managers at Total's headquarters in Paris, on the one hand, with the degradation of socio-natural habitats in the Yamal peninsula (or the diffracted release of CO_2 in the atmosphere), on the other. In other words, understanding the concrete arrangements of accumulation enables one to interpret these empirical phenomena not only as "ontologically distinct fragments of reality", but also possibly as "parts of an internally related totality" (Arboleda 2015).

When introducing the concept of 'fossil rent' earlier in the discussion, I implicitly hinted at its uneven distribution along the hierarchical chain of command. Now I shall focus more deliberately on its financial component and analyse how Total's executive officers and senior managers (who constitute about 0.3 per cent of the corporate workforce) manage to harvest a substantial share of it. Analysing the distribution of stock options and performance shares over the last 15 years helps one to appreciate this phenomenon better. The breakdown of Total's stock option grants (Figure 6.2) reveals how executive officers and senior managers gradually captured a greater share of the total options distributed, from approximately 30–35 per cent in the early 2000s to about 70 per cent between 2007 and 2010, while their proportion among beneficiaries only rose slightly (from 11.7 per cent in 2000 to 17.1 per cent in 2010).

Figure 6.2

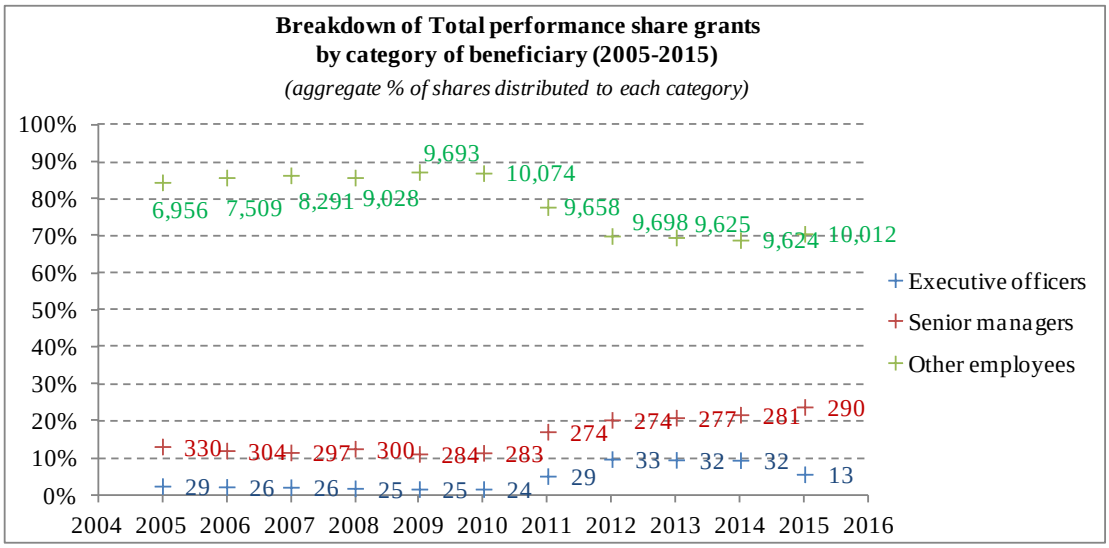


Source: Total 2009; Total 2013; Total 2016a.

In 2000, the 24 executive officers, on average, received 4.6 times as many stock options as the 298 senior managers, who themselves received 4 times as many options as the 2,740 'other employees' (who were in turn granted an average of 554 options). In 2010, these figures rose significantly, reaching 9.3 and 7.4 respectively, with a rising average of 778 options granted to 'other employees'. While the suspension of stock option plans after 2010 partially reined in this progression of intra-firm income inequalities, the phenomenon persisted through other channels. One can observe a similar divergence between 'interclass' multiplying factors when considering Total's distribution of performance share grants between 2005 and 2015 (Figure 6.3). When the firm buys these shares back from the market, it usually grants them to their beneficiaries after a vesting period of two or three years, provided that some performance targets (which the consolidated return on equity mostly defines) are met[82].

82. Between 2006 and 2008, the acquisition rate was equal to zero if the average return on equity (ROE) was inferior to 10 per cent; the firm would distribute all shares with an average ROE greater than or equal to 30 per cent. In 2015, the company computed the acquisition rate by considering both

Figure 6.3



Source: Total 2009; Total 2013; Total 2016a.

While analysing the data, first it is important to bear in mind that, between 2005 and 2010, a fraction of the top management combined variable revenues from *both* stock options and performance shares, though the latter were distributed to a larger number of employees. Moreover, the end of the stock option plans coincided with a substantial increase in the total proportion of performance shares captured by executive officers and senior managers (13 per cent in 2009/10; 30 per cent in 2015). Throughout the period under consideration, a divergence in multiplying factors similar to the one observed for stock options could be noted: in 2005, the 29 executive officers received, on average, 3.5 times as many shares as the 330 senior managers, who themselves received 2.1 times as many as the 6,956 'other employees' (who in turn were granted an average of 260 shares), whereas in 2015, these factors amounted to 5.2 and 11.2 respectively, with a rising average of 336 shares granted to 'other employees'[83]. It

Total's ROE (though with different inferior/superior thresholds – 6.5 per cent and 14.5 per cent respectively) and the relative performance of its adjusted net income compared with that of its peers. Performance criteria are therefore constantly fine-tuned, so that they appear sufficiently 'disciplining' to shareholders, while remaining attainable for managers.

83. Throughout the last decade, Total's stock price oscillated at around €40.

is crucial, however, to remember that about 90 per cent of Total's workforce remains excluded from this compensation scheme – a figure that exceeded 95 per cent for stock options.

Taken as such, these results mitigate Wright's early observation that top executives and managers of multinational firms are occupying "contradictory locations within exploitation relations" in contemporary capitalism (Wright 1985: 87): in Total's case, their interests indeed seem significantly aligned with those of shareholders (Duménil and Lévy 2015b). Wright (2015: 136–7) himself recently emphasized that a significant part of senior managers' earnings

> "should [now] be thought of as an allocation by the executives themselves of profits of the firm to the personal accounts of managers, rather than a wage in the ordinary sense. They exercise their capitalist-derived power within the class relations of the firm to appropriate part of the corporation's profits for their personal accounts."

From all this, it becomes apparent that, far from being a homogeneous institution, Total is composed of distinct social groups (or 'intra-firm classes'), whose interests are decoupled – if not plainly antagonistic. In the following paragraph, I elaborate this hypothesis further by exploring the 'ecological translation' of this alignment of the interests of Total's executive managers with their shareholders' short time horizons.

Contrary to the Marxist intuition that views finance as an unproductive sector, recent scholarship in geography has underlined how finance capital, through its fundamental orientation towards the projection of future value creation (Harvey 2007), ultimately relies on real production to generate profits. As such, it is deeply entangled in the socio-material world – for the worse (see notably Huber 2016), but also sometimes for the better (Castree and Christophers 2015). In this respect, Total's case is not an exception: one can transpose Labban's (2014) account of how the oil and gas majors' endorsement of cash-flow discipline has fostered a degradation of working conditions to analyse how its implementation at Total results in a deterioration of the natural environment.

To highlight this phenomenon, I first need to emphasize how crucial the exercise of 'reserve replacement' has become for public-listed oil and gas firms. Since the value of their stocks mirrors "the value of current reservoirs [as] future cash potential" (Wood 2016), majors (and therefore Total) constantly have to prove their reserves by "formatting them into the financial frames of net present value and discounted cash-flows": "finance [thus] shapes discoveries and formats them into the framework of finance" (Wood 2016). The attempt to keep their stocks afloat in the context of the increasing scarcity of conventional fuels, has, in the last decade, understandably led senior oil and gas executives to turn to unconventional fuels to compensate the declining oil and gas reserves. Focusing on the development of Alberta tar sands, Zalik (2015) has showed how these assets "operate[d] as a spatiotemporal fix for capital at various scales, allowing accumulated capital to be sunk into extractive landscapes and financial futures": replacing reserves is indeed an attempt to appease investors, who expect a return on equity, while ensuring the short-term stability of the top executives' financial packages. Operating unconventional reserves thus resonates with the monetary interests of 'upper-class' managers.

The next step therefore is to retrace how these interests structure the organization of the hierarchical chain of command, which in turn strongly shapes the myriad of everyday practices that frame the production of oil in sites of extraction. Wood (2016) has provided a detailed account of how the 'bottom line imperative' shapes the working activities of corporate geoscientists. In her ethnographic study conducted in Alberta, she describes how these perform a "financialized geology" when they "surf deep time-spaces and interpret the signals from rock using scalar instruments to map zones of opportunity that are read through the lens of finance". Far from representing an already existing value, reserve reports thus "spatialize and assign value on the basis of a well's rate of cash flow"; it is thus possible to conclude that, through mathematical formulas that "provide a means to liquidate the future in the present while creating a financial path dependence on future production, [...] regimes of reserve qualification perform a form of resource management" (Wood 2016). From this perspective, the identification of Alberta tar sands as a locus for capital accumulation appears eminently context

dependent; this is because it relies on the prior diffusion, in the corporate realm and beyond, of a homogenized language in which this identification can 'make sense', thereby transforming deposits into a business opportunity. As Zalik's contribution suggests, over the last few decades, there has been an increasing tendency to articulate technical-economic possibilities through the imaginary of finance (Labban 2010). Top executives have become the devoted ambassadors of this new imaginary, and have had their zeal fuelled by structures of incentivization that they have themselves contributed to shape.

From all this, it seems clear that, in pursuing their interests, Total's top executives transform the environment mediately by steering the firm towards carbon-intensive futures that meet short-term ROE targets. Yet, it is now probable, as many observers have noticed, that in the foreseeable future "stranded assets" (Caldecott et al. 2013; Leaton and Grant 2014) could affect the interests of shareholders and, as a consequence, of financially-incentivized managers. However, the majority of Total's other employees would probably be better off if the company decided to sell "stranded assets" in order to reinvest in an alternative corporate project – for most of them derive the bulk of their income from a wage (paid in exchange for their work) rather than from financial compensation[84], and may therefore develop much weaker preferences for the present than do their top executives.

The interests of the different social groups making up the firm are thus decoupled, and their potential antagonism seems largely predicated on the critical temporality of the 'fossil rent'[85]. Van de Graaf and Verbruggen (2015) have observed that, with the prospect of a structural

84. Until recently, the oil and gas industry paid higher than average wages (*Telegraph* 2014): yet, it is unclear if such wage policies could continue if assets get stranded. It is therefore possible to formulate the hypothesis that employees would optimize the 'net present values' of their wages if Total phased out from fossil fuels to invest in industries with more visibility.

85. I have demonstrated the decoupling of interests between 'other employees' on the one hand and 'senior managers' and 'executive officers' on the other, but whether they are antagonistic remains undecided. The hypothesis here is that interests become antagonistic when a certain threshold is passed, that is when short-term financial profitability (which managers value) is sought at the expense of long-term economic profitability (which workers value). The relative scarcity of empirical material prevents any categorical judgement on whether this threshold has effectively been passed in the present case.

decline in the demand for oil, "petroleum in the ground [could indeed] no longer be considered as the equivalent of a safe financial deposit". If the anticipation of this temporal dilemma has already been identified in the strategies of national producers (for the Saudi Kingdom, see Fattouh et al. 2016), one can reasonably assume that oil and gas executives are engaged in a similar effort to prolong the availability of the fossil rent, for the latter ensures them a safe haven for the remainder of their career. Consequently, one can probably extend Tvinnereim and Ivarsflaten's (2016) finding that Norwegian people "employed in fossil fuel extraction are as favorably inclined to energy-related mitigation as everybody else as long as alternative areas in which to *gainfully* employ their skills can be found" to Total's top executives: considering their poor prospect of finding compensation outside the oil and gas industry to match what they currently receive at Total, it is reasonable to infer that they will stick to rent-seeking strategies.

4.3.3. Concluding remarks

In the preceding subsections, I have attempted to debunk the homogeneous image of Total that a diachronic approach implicitly mobilizes. In doing this, I have shed light on the internal dynamics that currently shape Total's power structure, and demonstrated that the coexistence of decoupled interests among differentiated intra-firm social groups played a significant role in shaping specific ecological trajectories. This focus on the organization has thus prolonged our preceding subsection and enabled to refine our understanding of how, in contemporary capitalism, the social mediations that instantiate a highly-financialized accumulation process simultaneously articulate a distinctive political ecology.

5. Conclusion

In this chapter, I have attempted to delineate the evolving boundaries of the structures of domination generated by a polymorphous, ever-transforming process of accumulation. Identifying Total (*qua* institution) as the main hub of this process, I sought to overcome "fragmented and focalized views of reality" (Arboleda 2015), and to describe the firm as a dynamic, interrelated totality. In this endeavour, I have reconstituted the historical trajectory of Total to shed light on the concrete manifestations of the deployment, in the corporate realm, of an 'intensely constrained' social cooperation – while at the same time highlighting how the changing modes of this deployment had had the effect of constantly remodelling relationships to the wider natural environment.

It is crucial to stress here that it is precisely the *obscuring* of this relational status[86] of the firm that produces 'objective alienation'. As we shall see in the next chapter, individual agents tend to develop conceptions of the social world as opaque, and to talk about social powers as if they had conquered a consistency of their own, thereby appearing "emancipated" or "unshackled" – to cite Haber's (2007) expressive terminology. Of course, integral transparency is not possible: no single employee can have a panoptic view of Total, or of the ramified impacts of its activities. As List and Pettit's (2013) work on group agency suggests, firms are not mere expressive fictions, but rather effective institutions with agencies of their own that transcend the individual agencies of group members. On this basis, it is understandable that multinational firms, like any other group agent, should retain a certain opacity to their members. But if it is impossible to suppress this opacity, the findings of the previous subsections suggest that it is at least possible to curtail it. However 'emancipated' Total might seem, its apparent 'alterity' inescapably emerges from the entanglement of a myriad of obscured social mediations.

86. By relational status here I am referring to the multiple connections that make some social practices and/or ecological regimes "parts of an internally related totality" (Arboleda 2015).

Logically, my attempt to analyse the practical modes of this gradual crystallization of 'objective alienation' has simultaneously enabled to illustrate its contingency and context-dependency.

Another important contribution of this chapter has been to highlight that, for decades, Total's gradual emergence as a major player in the industry has been accompanied with a continuous reconfiguration of its entanglement in the natural world. This strongly suggests that the possibility of 'objective alienation', that is of the possibility that individual agents reify intersecting segments of social reality as a coherent entity, implicitly relies on the animation of an underlying material substratum: the process of production requires material flows as inputs, as well as a *milieu* that can absorb its outputs. In the preceding analysis of Total's involvement in the Yamal Peninsula, I have suggested that the massive size of the project (enabled by facilitated access to debt and equity capital) had been a crucial factor in bringing about the fragmentation of both its economic realization and its ecological impacts. From this case, it seems legitimate to hypothesize that in contemporary capitalism, the continuous reproduction of patterns of 'objective alienation' is coextensive to a sustained acceleration of the perturbation of core planetary biophysical processes, which is the hallmark of the Anthropocene.

CHAPTER 7

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Behind the hidden abode of production:

Human work and the transformation of nature-society relationships

1. Introduction

In this chapter, to refine further our understanding of the historicity of the process of capital accumulation, I develop a comprehensive analysis of the role that human beings continue to play in sustaining its dynamism. As I shall demonstrate, an in-depth enquiry in social ontology pinpoints human work as the most determining factor in the animation and reproduction of social structures, and in the coextensive, mediated transformation of nature-society relationships. However, to appreciate fully the significance of human work, rather than considering it in its generic sense as an abstract, static category, one should interpret it as a specific, concrete form of *industrious activity* performed by embodied agents at the workplace[87]. Yet, as we shall see, in recent decades the public discourse has progressively tended to underrate the centrality of human work in the process of production (and, more widely, in the

87. It is interesting to note that 'concrete' comes from the Latin *concretus*, the past participle of *concrescere*, which means 'to grow together'. Paying attention to the concrete thus means paying attention to 'what grows together' – a definition that is relatively large in scope, but one that probably suggests that analysing an activity implies considering not only intersubjective transactions among individuals, but also the (active) role of non-human artefacts in shaping the experience of work made by individuals.

material reproduction of society), while increasingly referring to socio-economic institutions as if they were self-consistent entities, and thus susceptible to being considered the ultimate *loci* of social reality. Although one could interpret this as a minor shift in collective imaginaries, I suggest that this 'invisibilization of work' has inhibited the emergence of 'grounded' narratives of environmental change – that is of narratives that paint a clear picture of the ultimate reality[88] underpinning the transformation of nature-society relationships. Taking human work as the privileged locus of this reality, I suggest that one can better explain the obfuscation of its core importance in the production of the social world (and in the articulation of a corresponding ecological regime) by resorting to the concept of subjective alienation. As we shall see, individuals who somehow fail to relate 'appropriatively' to the social practices they deploy at the workplace tend formally to downplay their agency as workers (for example, by arguing that the capacity to reshape social practices lies rather in the hands of consumers and/or citizens) while remaining strongly mobilized in productive activities that, whether they like it or not, continuously redefine collective relationships with nature.

This change in focus calls for a different approach from the one I have developed in chapter 6. My attempt to reconstruct a 'more inclusive' history of the firm implied interpreting macro-social phenomena through a structural lens, albeit one that distinguishes different scales: while I still considered the firm a homogeneous entity in the historical analysis, I evidenced its internal fractures in the synchronic one. This approach has enabled me to contextualize the socio-ecological dynamics of the accumulation process channelled by the firm, and has therefore constituted a first step in the long-term undertaking of debunking the image of the firm as an unshackled institution[89]. In this chapter, though, I aim to shed light on the ultimate

88. The expression 'ultimate reality' does not imply that the 'reality' under consideration is substantial, but rather, that it is relational. In this case, ascertaining an 'ultimate reality' amounts to proposing a convincing picture of those alliances of relations that have significant explanatory power over others.

89. It is precisely because the firm is such an incredibly complex and multi-layered social entity that employees and managers feel tempted to target it as an object external to themselves, and to behave accordingly. In chapter 6, I have thus not only offered a contextualized analysis of the firm's trajectory, but also implicitly hinted at how, given the complexity of the processes involved, it was understandable that individuals failed to interpret it through a relational lens.

determinants of the social aggregates I identified and used in the structural analysis, but the consistency of which, up until now, I have taken for granted: this implies paying close attention to the concrete experiences of individuals at work, be they lay employees or managers. As I shall demonstrate, subjecting work to such a phenomenological enquiry allows one to circumvent the kind of totalistic account of the social world that is inherent in structuralist lines of interpretation. More importantly, this approach describes the practical aspects of working activities and facilitates an exploration of the corresponding manifestations of subjective alienation at the workplace. Far from rivalling the structural analysis developed so far, this subject-centred perspective aims rather to complement it: as I suggested in chapter 4, the concept of alienation is at its best when used as a *mediating* concept, that is, when it draws junction points between lived experience on the one hand, and socio-ecological formations on the other[90].

While still in this introductory section, it is worth noting that there have been relatively few attempts to develop narratives of environmental change explicitly grounded in an analysis of human work. Marx and Engels (1998 [1845]) had early claimed that "the first premise of all human history is, of course, the existence of *living* human individuals" defined by their activity and the material conditions under which they live[91]; yet, since then, most social theorists who

90. It is no less important to bear in mind that subjective alienation and objective alienation unfold in distinct temporalities. This claim builds on Archer's critique of Giddens's thesis of the 'duality of structure', and of her proposal to opt rather for what she calls 'analytical dualism' – an approach that makes room for time by avoiding any kind of temporal 'conflation'.

91. In *Capital*, Marx keeps insisting on the inescapability of the material transactions that sustain human activity: "labour is, first of all, a process between man and nature, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature. He sets in motion the natural forces which belong to his own body [...], in order to appropriate the materials of nature in a form adapted to his needs. Through this movement he acts upon external nature and changes it, and in this way he simultaneously changes his own nature" (1990: 283). Despite Marx's repeated insistence on individual vitality, this excerpt is prone to a structuralist interpretation of social life – for work seems to be somehow subordinated to an objectified process. Henry developed a famous anti-structuralist interpretation of the 'genealogical' breakthrough attained by Marx and Engels in *The German ideology*. He writes: "to found truth is, in the first place, to recognize the place where it resides, to reject the claim of ideal truth to be self-sufficient, to constitute truth in itself and of itself, and instead to affirm its necessary reference to reality. This reality, it is true, is history. To found truth is, in the second place, to recognize in the historical reality which has just been acknowledged as its sphere of origin, a true origin, the principle of history itself,

link nature and work have implicitly tended to include the latter as a 'finalized' abstract category in structural explanatory frameworks, instead of considering it an industrious activity, dynamically deployed by living individuals – and resisting therefore any kind of systematization[92]. This has notably applied to environmental historians (Barca 2014; Bonneuil and Fressoz 2016; Cronon 2003; Kahle 2016; Peck 2006)[93], but also to labour geographers (Castree 2007; Coe 2013; Coe and Jordhus-Lier 2011; Harvey 1997; Herod 1997; Herod 2012; Herod et al. 2007). Although their findings are helpful in highlighting the decisive importance of worker agency in constituting the material landscapes of human existence, their focus is largely an offshoot of the structural approach that implicitly construes work as a sheer force, instrumentally deployed to attain ends that are external to it.

The contribution of the present chapter is thus twofold. First, it reasserts the crucial agency of work in reshaping nature–society relationships and, second, it does this through developing a 'thick' theory of work, which frames the latter as a primordial activity involving human beings engaging in a deep and complex transaction with the concrete reality, and in which they experience the world's resistance.

As Trentin (2012) suggests, Korsch and Bauer had already, in the 1920s, caused a breach in the (markedly mechanistic) theoretical architecture of the then triumphant Leninist-Marxism, by insisting on the prime importance of securing more freedom at the workplace instead of making the conquest of the state the top priority: yet, the rise of Taylor's principles of scientific management would eclipse their insights. Focusing on the French intellectual landscape at the end of the Second World War, Deranty (2016) argues that, by offering a subtle, multi-faceted description of human activity, Weil's (2001) contribution, along with the significant advances

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namely life in its fundamental determinations, which are need and labor." (1983: 187) For a critique of Henry's reading of Marx, see Ricoeur (1999).

92. This distinction roughly mirrors that of Marx between concrete labour, which seeks the production of particularized use-value, and abstract labour, which is the undifferentiated commodity the capitalist purchases.

93. Malm (2016) is perhaps an exception here. His account remains deeply structural, but offers a great deal of detail on the lived experience of British workers during the Industrial Revolution.

Sartre and Merleau-Ponty achieved in phenomenology, further weakened the 'shallow' conception of work that continued to underpin most currents of Marxism. However, these innovative contributions were unable to offset the strong leaning towards structuralism that would soon prevail in the social sciences. From the mid-1970s onwards, the gradual reflux of Marxism and the progressive affirmation of the neoliberal agenda (with backing from the theoretical assumptions of neo-classical economic theory) contributed towards the dissemination of a thin, instrumental conception of work[94]. Yet, Smith (2011) underlines that the marginalization of the 'expressive' model of work – that is, a model emphasizing the "contribution [of work] to the self-expression of life or being, and [to] the formation and development of distinctive human capacities" – did not lead to its complete disappearance, as Marcuse's writings in the 1970s testify. However, as Deranty (2009), Bannon et al. (2011) and Daniellou (2005) have observed, it was probably only in the 1980s, with the emergence of a cluster of French researchers who shared a common interest in developing a more integrated definition of work, that scholars fully began to appreciate the analytical potential of this expressive model. Dejours's (2015 [1980]; 2006; 2011 [1993]; 2014) psychodynamic approach triggered interdisplicinary discussions in which sociologists like Clot (2008; 2015), and ergonomists like Wisner (1995, 1998) and Schwartz (1989, 2004, 2008, 2011, 2016) have and still do actively contribute. As Dejours (2011) recalls, the emergence of this new field of study has undoubtedly relied on a fundamental discovery, namely the inevitable existence of a gap between the formal and informal organization of work, derived simply from the fact that human beings find it impossible to perform purely mechanical work. On this basis, "*working* thus means *bridging the gap* between prescriptive and concrete reality", which presupposes

94. At the same time, the very meaning of this 'instrumental' nature of work was undergoing a significant shift. The mechanistic paradigm that had prevailed in industrialized Western societies (and that Charlie Chaplin's film *Modern Times* satirized) was giving way to a cybernetic paradigm. In other words, popular culture and collective imaginaries would increasingly depict humans at work in terms of 'computers' rather than 'clocks' (Supiot 2015: 43). The switch from 'mechanical subordination' (which imposes an external rationality on workers) to 'cybernetic programming' (which supposes that workers internalize this rationality) (Supiot 2015: 257), does not change the fact that human work remains largely reduced to a mere *functioning*.

navigating a path that "must be constantly invented or rediscovered by the subject who is working" (Dejours 2006): human work is therefore "the bodily and intelligent (problem-solving) engagement by a human subject in the realization of a productive task" (Smith and Deranty 2011). All this suggests that the experience of work is intrinsically ethically charged (Nanteuil 2009; 2016)[95]. Following this line of argument, Schwartz (2008) has argued that social scientists should engage with work by considering it not as a mere *object of investigation*, but rather (and more deeply) as an *unknown material*, originally heterogeneous to theoretical thinking[96]. This approach carries the implication that the researcher is actively engaged in the field with the workers: it is indeed only by developing a clinical approach that he or she can capture the contours of the activity of work, which in any case are bound to remain 'enigmatic' (Schwartz 2008). As a result, it should hardly come as a surprise that this attention to 'work as activity' has also been the doing of social anthropologists, with Ingold (2010) being a good example[97].

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95. Nanteuil has shown how early liberal *and* Marxist theorizations of work successively missed this point by construing human work either as a proportional, purely quantitative *exchange* (money for time), or as a sheer force; in both cases, concrete human work is subsumed under an abstract category and reduced to a mere factor of production.

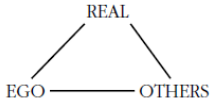
96. According to Schwartz (2008), Marx's description of the fundamentally undifferentiated nature of exchange value is what enabled him to theorize abstract labour, and to establish the concept as an unmissable *object* in subsequent theoretical and political reflection; in fact, scholars such as Arendt, Habermas and the like indeed discussed it as such extensively. But, as Schwartz suggests, "if the truth of work that is to be found in capitalist relations of production is merely its existence as a quantum of abstract labor – that is to say, if the truth of work is indifferent to its concrete manifestations, then why would the philosopher, the activist, the revolutionary go to the *concrete* workers in order to wonder about what is going on in their minds, their bodies, in the relationships they weave with their fellow comrades, in a context where all these workers produce varied use values, through trajectories which are always partially new, and which differentiate and singularize each one of them? [...] Do abstract determinations, which tend to posit the worker as fully subordinated to the circuits of capital, anticipate all that is worth saying about situations of work, the rest being only a residue to which the concept producer could remain indifferent?" Schwartz suggests that, in practice, work conceived as work-*object* (or in Marxian terms 'abstract labour') effectively threatens to stifle work conceived as work-*unknown material* ('concrete labour'). Yet, he argues that it is only when work is depicted as an industrious activity that it can "provide an introduction to concrete human problems" (Canguilhem 1991: 34). This approach resonates with Weil's observation that "a philosophy of labor is not materialist. It arranges all the problems connected with man around an act which, constituting a direct and genuine grip on matter, contains man's relation to the opposing term. The opposing term is matter. Man is not reduced to it; he is placed in opposition to it" (Weil 2001: 160).

97. Deranty (2009) precisely suggests that this psychodynamic approach to work somehow perpetuates the "French tradition of anthropological and sociological literature [Haudricourt, Leroi-Gourhan,

I organize this chapter as follows. In the second section, I briefly defend the argument that work is both a central experience for individuals, and a key factor in the transformation of nature-society relationships – a less widely-held position than might appear at first glance. In the third section, I analyse how, in recent decades, both the nature of working activities and the configurations of working environments have evolved. Building on empirical data collected in the field at Total, I suggest that these transformations have paradoxically contributed towards making human work ever more invisible in the *polis*. Taken together, these two sections thus point to a contradiction: while work appears to be central in the material reproduction of society (especially when performed in industrial firms), the workers themselves and more generally other actors in the public sphere hardly construe it as such. In the fourth section, I give an account of this discrepancy by mobilizing the concept of subjective alienation.

2. Arguing for the centrality of work

In this section, I aim to reassert briefly the centrality of work to both the formation of individual character *and* the material reproduction of society. In this endeavour, I build on Clot's broad definition of work as an "activity directed towards others, by the subject, through the object" (cited in Deranty 2009)[98]. My aim here is to capture the core insights that underpin this 'thick' definition of work illustrated in the following triadic model (Deranty 2009) and to summarize the main transactions that unfold in the deployment of working activities:



Mauss], which consistently stresses the interplay between the subjective, the cultural and the technical".

98. This definition is thus large in scope, and not restricted to wage-earning work as we know it in capitalist societies.

In what follows, I attempt to demonstrate that when interpreted through this model, work effectively appears to have a decisive importance both in the structuration of subjectivity and in wider socio-ecological reproduction.

However, before embarking on this undertaking, it is necessary first to emphasize that this argument of the centrality of work has been challenged for a very long time[99]. In the Western world, Aristotle's "broad privileging of the *bios theōretikos* over the *bios praktikos*, of the contemplative over the practical or 'active' life, retained its authority until the modern period" (Angier 2017), which led thinkers to discard the value of work in their considerations about the formation of individual character. For the Greek philosopher, human life consists of "doing things, not making things" (*Politics*, 1254 a.7–9): for this reason, *poiesis*, a type of action with an external goal (for example the production of an artefact) has to be judged fundamentally inferior to *praxis,* a type of action with an internal finality – its intrinsic worth indeed deriving from the doing of the action itself (*Nichomachean Ethics* 1140 a.1–23). According to Artistotle's account, human work, an activity intended to produce material goods and involving the expense of a great deal of bodily energy, therefore falls into the category of *poiesis* – and thus requires slaves. Like animals, the latter are considered to be directed by appetite and perceptual imagery, rather than by reason. Although human work clearly underpinned the material reproduction of the polis, the flourishing Greek culture did not accord any kind of formative value to this activity[100].

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99. Naturally, much of the philosophical debate on work (from Aristotle down to Smith and Hegel) has tended to focus on the first point (that is whether work retains a formative value for individuals) and to consider it as the most problematic. By comparison, the need for a continuous expenditure of labour power to ensure the material reproduction of social society has undoubtedly long been considered a truism and has only recently emerged as a matter of concern (see details later).

100. Finley (1983) demonstrated that during the Golden Age of Greece, a third of Athens' population (roughly 60,000 people) was composed of slaves. Following this path, Graeber (2014) has insisted that the cultural achievements attained during the period were largely attributable to Athens' military successes and extensive access to metals – the privately-owned silver mines in Laurium alone employed between 10,000 and 20,000 slaves. More recently, Ismard (2017) demonstrated that in ancient Athens, a large number of administrative positions were occupied by public slaves owned by the city-state. All these contributions suggest that work, despite its lack of status in Aristotle's hierarchy of activities (which its relegation to slaves partly explains), retained an unmissable importance in the material reproduction of the Greek polis.

In Western civilization, there were only two challenges to this relative neglect of the formative value of work: first, by Christianity, which put the *vita activa* on an equal footing with the *vita contemplativa*; and later, by Hegelian and Marxist philosophy, which called for an inversion of Aristotle's hierarchy and rehabilitated labour (rather than reason) as a distinctive property of man over animals[101]. Both these traditions saw the immutable contribution of human work to the material reproduction of society as a mark of its specific value; consequently, they significantly improved its status in the hierarchy of activities – while remaining, as Angier (2017) recalls, extremely impressed by Aristotle's classification. In his analysis of the objections that have been raised against the hypothesis that work is central to human life as a formative activity, Deranty (2015) identifies the arguments developed by Marx (and Marxists), Foucault, neo-Aristotelian philosophers (like Arendt and MacIntyre), anthropologists/ethnologists (such as Lévi-Strauss and Descola), and post-Weberian/post-industrial social scientists (like Gorz). He observes that nearly all these critiques can challenge the centrality of work precisely *because* they construe it (often implicitly) as an activity that individuals regard as a separate category in the representations they have of their own social life and of themselves – a configuration that is highly circumstantial in human history, found only with the generalization of the wage relation in modern capitalist society. All these authors somehow cast doubt on the formative potential of the activity of work in this specific historical/cultural context, by highlighting respectively its inclusion into endless cycles of life reproduction driven by necessity, its inescapable insertion into the wider biopolitics, its apparent disembedding from a cosmological order, and, finally, its growing scarcity (in the form of decent jobs) to the citizens of post-industrial societies.

Against this too restrictive approach, Deranty offers a more general picture of work (closer to Clot's definition), which suggests that in these broader terms one can consider it as central.

101. Honneth (1982) recalls that "in opposition to traditional philosophy, Hegel [interpreted] work as the self-actualization (*Veranschaulichung*) of cognitive capabilities and thus as a process of intellectual self-development (*Bildung*), because he [supposed] that the product of work [had] a retroactive significance for the working subject": the novelty of Hegel's paradigm of work paved the way to Marx's critique (see Renault 2016).

Indeed, he observes that in any cultural context, the "work of the individual [is both] addressed to the immediate beneficiaries of the individual's efforts [...] and to the other members of society, as it participates in the reproduction of that society as a whole" (Deranty 2015). One can consider this 'double address' of work, Deranty argues, as an anthropological invariant. The first part of this claim is based on the assumption that work is a pivotal activity in the cognitive learning, emotional maturation and moral development of the individual, which the clinical approach developed in French psychodynamics/ergonomics demonstrated (Dejours 2006; 2011 [1993]; 2014; Deranty and Dejours 2010; Schwartz 2004). Smith (2011, 2013) emphasizes that in this new paradigm, it is no longer possible to reduce the activity of work to *poiesis* because it inescapably integrates a form of *praxis*. Like any other living beings, individuals at work are exposed to the numerous norms that are continuously 'emitted' by their milieu, and they actively reinterpret the norms available to them so that they can exist as singular beings (Lavelle 2010). This description strikingly resonates with the argument Ingold (2010) developed about the 'textility of making', which suggests that it is better to construe the actual process through which production occurs in terms of 'weaving' than of 'moulding'[102]. Working activities thus combine an instrumental dimension, which is related to mastering specific techniques, with a moral one, which the subject explores when plunged into the effort of constant renormalization: within this framework, an 'excellent' worker not only has to develop *techne*, but also *phronesis* (the moral virtue associated with *praxis* in the Aristotelian framework).

This 'thick' description of work as being a compound of *poiesis* and *praxis* makes it seem like a pivotal part of the development of self, but it also makes it possible to frame its decisive contribution to the material reproduction of social life in a more comprehensive way (the

102. In other words, Ingold suggests that the *hylomorphic* paradigm, defined as "the assumption [inherited from Plato] that making entails the imposition of form upon the material world, by an agent with a design in mind", should be superseded by what could, using Latour's (2010) term, be called a *compositionist* paradigm, in which "the forms of things arise [through interventions] within fields of force and flows of material" (Ingold 2010). One could indeed argue that the hylomorphic paradigm still strongly influences the reproduction/destruction dyad.

second 'address' of work that Deranty identifies). This irruption of *praxis* into what was thought to be the exclusive realm of *poiesis* indeed suggests that the activities through which the worker acts upon and transforms certain objects are now subject to normative evaluation, which could not apply to a purely instrumental view of production (its performing did not require any kind of *phronesis*). This observation reinforces Schwartz's (2004) suggestion that

> "an activity of work is always more or less infinitesimally made up of re-appreciations and judgments on the procedures, frames and objects of work – and that through this, it is constantly engaged in a continuous weaving between the micro-politics of work, and the macro-politics of crystallized social life, which is instantiated into pre-existing norms. This back and forth movement does not leave any of these micro/macro levels untouched – which means that the history of economic, political, and social life cannot be written without taking this interweaving into account."

The second 'address' of work (that is to society as a whole) appears clearly in Schwartz's text. However, what is crucial to highlight here is that since the 1960s, which gave new impetus to full-scale critiques of the perversion of work in industrial societies (Gorz 1999; Illich 2013), it is precisely the evaluation of the *quality* of this address that has become more controversial than ever: in many industries, it has indeed become unclear whether the deployment of human work contributes to the material *reproduction* of society, or simply to its *destruction*. I shall develop this discussion in the present chapter.

By challenging the one-sided (exclusively *poietic*) description of work that has been the baseline of much of Western philosophy, the 'thicker' description I have delineated offers a richer account of the generative potential that the activity of work inescapably retains – both in the formation of individual character, and in the material composition of society. With this approach one can frame the worker as actively involved in shaping his or her socio–ecological

milieu[103]. Hornborg's (2017) suggestion that one can understand ecosystems as made up of both *physical flows* of matter and energy (which natural science can document) and of *semiotic flows* (which include non-linguistic sensory signals such as animal sounds, smells and flavours, but also human language, symbolism and culture) proves insightful here. In this general framework, one can indeed locate human working activities at the intersection between these two 'reversible'[104] types of flow – the *poietic* dimension of work symbolizing the physical flows activated through working activities, and the *praxic* dimension embodying the semiotic flows mobilized and channelled in their completion. It is crucial to stress here that it is purely for an analytical purpose that I make this conceptual distinction between physical and semiotic flows, for these are completely intertwined and meshed into one another when they spring to the stream of experience[105]. Following this description, human work can only operate in the 'flesh of the world'[106]: in this non-linear process, it operates like an attractor that reconfigures the flows that make up the weave of the real[107].

In this first section, I have deliberately tried to elaborate an argument that offers maximal scope and, for that matter, one that is based on a set of 'thin' anthropological invariants. I have suggested that, when defined generically as a form of industrious activity, one can identify work as a crucial moment in the genesis of social life – and this regardless of specific cultural

103. See the excerpt from Marx's *Capital* cited in footnote 91.

104. The notion of 'reversibility' is borrowed from Merleau-Ponty (1969: 130–55).

105. Merleau-Ponty hints at this intertwining in an elegant way: "And, in a sense, to understand a phrase is nothing else than to fully welcome it in its sonorous being, or, as we put it so well, to *hear what it says (l'entendre).* The meaning is not on the phrase like the butter on the bread, like a second layer of 'psychic reality' spread over the sound: it is the totality of what is said, the integral of all the differentiations of the verbal chain; it is given with the words for those who have ears to hear" (1969: 155).

106. In *The Visible and the Invisible*, Merleau-Ponty (1969: 147) tries to circumscribe this concept by comparing the flesh with an "interiorly worked-over mass, [that] has no name in any philosophy. As the formative medium of the object and the subject, it is not the atom of being, the hard in itself that resides in a unique place and moment." Merleau-Ponty therefore suggests that "we must not think the flesh starting from substances, from body and spirit – for then it would be the union of contradictories – but we must think it, as we said, as an element, as the concrete emblem of a general manner of being."

107. One could probably draw a comparison with the concept of niche construction, which has generated extensive discussion among evolutionary ecologists. For an overview, see Sultan (2015: 33).

contexts. In the next section, I suggest that this generative role of work has, paradoxically, become increasingly less visible in contemporary capitalism (even if, as in any other human society, it is still effective), and I highlight some reasons that can explain this obfuscation.

3. The transformation and invisibilization of work in late capitalism: the case of Total

In this section, I first analyse the rapid transformation that working activities have undergone in recent decades and show how this deep change in the nature of work partly relates to the incorporation of fossil fuels into the labour process. I show why in this respect a focus on work activities deployed at Total seems particularly relevant. I then delineate the contours of another remarkable phenomenon – the general disappearance over the last few decades of the category of work from narratives of environmental change. By putting in perspective some empirical data gathered in the field with the wider dynamics having shaped contemporary capitalism that are described in the literature, I argue that these two intertwined phenomena (transformation *and* invisibilization of work) are deeply interwoven, and that their mutual crystallization complicates the emergence of 'balanced' shared understandings about the generative role that work retains in both the constitution of subjectivities and the transformation of nature-society relationships.

3.1. Work transformed

3.1.1. The cognitive shift

In this subsection, I suggest the nature of 'standard' working activities deployed by individuals in Western capitalist societies has been subject, in recent decades, to a deep transformation– and I attempt to characterize its scope and extent. This transformation has been largely predicated on the decline of manufacturing industries and a resultant expansion of

the service sector, itself often described as a marker of the transition to a knowledge economy (Bell 1976). The increasing outsourcing or automation of an extensive range of working activities, especially those involving physical effort or basic data input (which do not require the workers to elaborate reflexively on what they are producing) has characterized the changeover. This shift confirms that in Western capitalist societies, as Moulier-Boutang (2012: 117) puts it, "the entropic energy paradigm that had served to qualify labour-power in industrial capitalism as a quantum of energy consumed and needing to be replenished is less and less apt as a way of describing the nature of the human activity mobilized." Scott (2009, 2014) argues that the deployment of such a "cultural-cognitive capitalism"[108] is coextensive to a third wave of urbanization, "in contradistinction to a first wave associated with the 19th-century factory and workshop system and a second wave associated with 20th-century Fordism" (Scott 2014). In this new paradigm, *attention* replaces muscle power as a scarce resource (Moulier-Boutang 2012: 73), and becomes "talent" when skill and expertise augment and qualify it (Clark 2016). Depending on whether their tasks consist of reading technical documents, analysing a provisional planning application, performing an oral presentation at a meeting, or interacting with a customer, 'cognitive' workers must indeed combine a vast array of semiotic *skills*. At the same time, they must show evidence of their expertise, especially in elite occupational activities. One can define attention as the ability of workers to exert their practical judgement by checking their "intuitive responses against reference points not immediately obvious or accessible from the past" (Clark 2016), or, alternatively, as their ability to contextualize symbolical signifiers and/or draw connections between them (Durand 2001). In any case, one can regard attention as the primordial building block of both skill and expertise, which are what give cognitive work its salience. Far from being purely passive, attention is therefore, as Moulier-Boutang (2012: 73) suggests, "multi-oriented and geared to multi-tasking. It does not tolerate monotony,

108. Scott's description of this notion resembles that of Moulier-Boutang (2009: 64), who writes that "the notion of a cognitive-cultural economy refers above all to the circumstance that as these developments have come about, labour processes in general have come more and more to depend on intellectual and affective human assets."

because [it] is driven by desire and intentionality – particularly since the computer and its programs have automated the operations of mechanical memory (repeating things exactly identically, something we generally never need to do) – and because it invites creativity."

In this context, "the canonical separation of the labour-power from the person doing the work and from his or her affects becomes a 'fiction' [in the Polanyian sense] that is less and less operational" (Moulier-Boutang 2012: 117). For this reason, the description and assessment of working activities based on a mobilization of attention appears problematic: unlike working activities directed towards the production of material goods/basic services, which take place in discrete time and are mostly job-defined, cognitive activities shy away from direct observation and are more difficult to taylorize, even if they often occur in highly constrained environments. The norms that sustain their development are indeed internally generated and practice-specific: they emerge from the chains of interpretations that workers are expected to provide about the object of their work. This view resonates with Moulier-Boutang's previous excerpt and suggests that relational work implies greater porosity between the self and the outcomes of the working activities it performs. Dejours (2014) confirms this adherence of cognitive work to the person who performs it when he diagnoses that "we may know where work begins, [but] it is impossible to determine, by criteria that can be applied generally, the way in which work is still in the individual's mind above and beyond the actual time spent in the workplace". According to him, the recent expansion of the service sector has largely amplified this trend. This deep-seated change in the economic structure of Western capitalist societies has hastened the multiplication of 'cognitive jobs', which disclose more clearly the nature of work as a compound of *poiesis* and *praxis* than 'physical jobs' do[109]. By having facilitated a theoretical

109. The range of semiotic skills a worker must mobilize will depend on what position he or she occupies in the organization's hierarchy. Field studies conducted by Ferreras (2007) on Belgian cashiers and by Dujarier (2015) on French managers (whom she refers to as 'planners') highlight two different types of 'cognitive' work: while cashiers are on the lowest rung of the hierarchical ladder and deal directly with customers, 'planners' are often part of middle/top management, and dedicate most of their activities to projects that are developed in the corporate perimeter (for example, such things as inventing various management devices, organizing reporting practices, or enhancing intra-firm cooperation). While one can describe both types of work as cognitive, the first one appears

reappraisal of the fact that "working [not] only implies producing something, [but] also means transforming oneself" (Dejours 2014), one could say that the transition to a service-based economy has enabled an epistemic progress in our understanding of the crucial role of work in the formation of individual character.

Yet, it is important to note that in the last four decades, the appearance of these new modes of mental and bodily engagement at the workplace (which often require individuals to become much more self-absorbed in their working activities) has been happening alongside the progressive dismantlement of the national legal frameworks that protected work during the Fordist regime of accumulation. This weakening authority of labour law to regulate the workplace has thus occurred at the same time as an inversely proportional intensification of another type of normativity, this time operating at the level of subjectivity. Critical management scholars have mobilized Foucauldian concepts (especially that of *assujettissement*) to give an account of this sweeping transformation (McKinlay et al. 2012; Paltrinieri 2015; Pezet 2004). A respondent from Total, in charge of managing the careers of high-profile executives could thus say:

> "Now, today, when you have a high profile, you are told in every circumstance that you will be thrown one time in oil, one time in water, that you will be constantly challenged. [...] A young manager who has just finished a first experience in exploration and production will be sent into the depths of Africa to manage some retailing activities. [...] And today, I would even say that in such a situation, if he is eager to be promoted, he would take this kind of changeover as a challenge, and think – 'all right, I have been picked out, I am on the good path'."

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closer to the 'labour-power' paradigm (but not reducible to it because cashiers need to show empathy and relational intelligence) than the second one, in which workers manipulate objects that are more decidedly abstract. In any case, it seems clear that workers from the low-tier of the labour force must "have a rather well-developed sense of how to proceed from one discrete operation to the next", and for this reason, their jobs remain effectively "imbued with varieties of meaningful cognitive-cultural content", even if they "involve significant degrees of physical engagement" (Scott 2009: 67).

This reconstructed account clearly illustrates that in a context marked by the growing fragmentation of working collectives, corporate discourses addressed to individuals become saturated with injunctions to show "connectivity, responsiveness, autonomy and inventiveness" (Moulier-Boutang 2012: 74). Individuals are surreptitiously enjoined to mobilize an inner disposition that exceeds the legal duties specified in the labour contract – for example by developing a strong sense of belonging to their organization, or by becoming emotionally involved in their tasks: Nicoli and Paltrinieri (2016) have referred to this bundle of implicit demands as a kind of 'psychological contract' – an expression that resonates with Supiot's (2013) description of an ongoing 'refeudalization' of social relations, betrayed by the emergence of new forms of vassalage. According to Gaulejac (2011), this profound reconfiguration of the relationship to managerial power has been reflected, over the last few decades, in the gradual removal of conflicts related to work from the social realm (where they were mainly expressed through strikes and demonstrations) to the psychic/psychosomatic one (where they are growingly articulated through suffering at the workplace).

In the preceding paragraphs, I have described the transformation of 'standard' working activities in Western capitalist societies and explored some of the consequences this sweeping change has incurred. I shall now shed light on some of the background conditions that have made this historical shift possible.

3.1.2. An impossible dematerialization

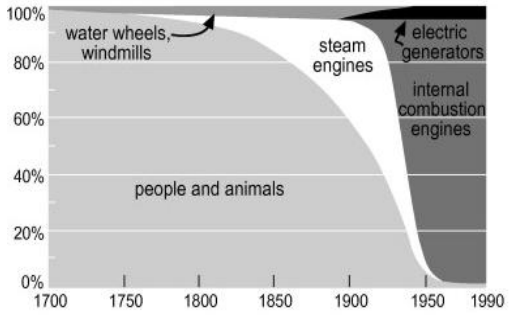
In this subsection, I highlight how the gradual transformation of working activities in Western capitalist societies has relied on a continuous reconfiguration of nature-society relationships, made possible notably thanks to the combustion of fossil fuels.

On this topic, Malm's (2016) account of the rise of coal energy in industrial England is particularly helpful in that it complements previous studies, most notably those of Wrigley (1962, 2010) and Pomeranz (2001). The Swedish historian describes indeed how the rapid

introduction of steam-powered spinning machines in the first quarter of the nineteenth century radically transformed working practices in the textile industry by facilitating a breaking down of complex tasks into much simpler ones. While performing the former tasks required skilled artisans who were often conscious of the crucial role they played in the production process (so were therefore able to engage in power relations), performing the latter tasks required virtually no skills at all. Steam-powered machines taking over the dexterity of "the hands" (the nickname given to workers during the industrial revolution) thus reduced their activities of work to a passive monitoring of automatons. According to Malm, it was no coincidence that the unskilled workers (mostly young women and teenagers) recruited to ensure the frictionless functioning of the machines quickly acquired the nickname "minders". As quanta of entropic energy came to be increasingly delivered by coal power, the most determining component of the labour force became the attention human bodies could perform, rather than the animate power they could develop. In this situation, it is therefore clear that an influx of fossil fuels paved the way for the transformation of a whole class of working activities in a way that would draw them closer to the cognitive paradigm. The transition to steam-powered spinning machines thus reshaped working activities by significantly accentuating their entanglement in wider, more complex networks of production. Unlike the activities in which craftsmen once engaged in their workshops, those that the 'minders' in factories performed were based on the combustion of coal, thus making them reliant on (and closely interconnected with) the working activities of colliers in distant underground trenches. Analysed through the overarching scheme of the division of labour, these two types of working activities thus appear conjoined: and what their mutual entanglement suggests is that from the start, the deployment of cognitive work has always required as a condition of possibility an 'outsourced' transformation of the material world. One can probably interpret the example that Malm developed as the inaugural moment of a sweeping dynamic that gradually overtook the ancient energy infrastructure of the economy and replaced it with a fossil-based one. In this new socio-ecological configuration, the growing incorporation of hydrocarbons into the process of production sidelined the role that human

work had historically played in it as a driving force by overcoming the biological constraints of muscle energy (see Figure 7.1), while accelerating its transformation into a cognitive activity of monitoring[110], which still requires skills and expertise.

Figure 7.1. Global shares of prime mover capacities (per cent): 1700–1990



Source: Huber (2009).

As a result, fossil fuels quickly became the biophysical 'lifeblood' (Huber 2013b) sustaining the deployment of capitalist relations. In that they were "utilized *across the spectrum of commodity production as the material that sets it in physical motion*" (Malm 2016: 288), fossil fuels would now constitute an obvious lever to produce surplus value. Within a few decades, fossil fuel producers thus came to play the crucial role of 'priming the material pump': the only way to ensure not only the renovation but also the continual expansion of the fossil skeletal structure of the economy would be to fill the markets with hydrocarbons. Seen from a different perspective, this means that however 'dematerialized' our economy has become, the constant extraction of fossil fuels still counts as a prerequisite for its sustainment (Behrens et al. 2007).

Yet, despite the relevance of Malm's account, it is worth pointing out that, because its focus is exclusively on reshaping capitalist social relations in the textile industry in the wake of the

110. Crane et al. (2012: 27) report that one reason why Lord John Fisher sought to switch the fuel of Royal Navy ships from coal to oil (in 1882) was that oil "could be pumped into the boiler, [which] would free up men from the arduous task of shovelling coal (from the bunker bays to the furnace), and [therefore] they could be deployed as gunners."

switch to coal-based energy, it fails to offer a comprehensive understanding of the type of social relations that emerged in the fossil-fuel industry *per se*. On this topic, Mitchell's (2013) analysis of the social consequences of the rise (and fall) of the coal industry in Western Europe is particularly insightful. Mitchell's core argument consists of pointing out that while the solid materiality of coal implied that its extraction and transport entailed heavy physical work from a multitude of labourers, the liquid materiality of oil took on the appearance (at least to the capitalists) of a fortunate munificence of nature: underground pressure would drive the crude oil to the surface, making the extraction process astonishingly efficient, and much less dependent on human labour than in the case of coal. As a result, the upsurge in oil consumption, which occurred in the West after the Second World War, profoundly changed the working activities needed to sustain the extraction of fossil fuels: these would themselves be less and less properly described with the "energy entropic paradigm", but rather more accurately with the "cognitive paradigm"[111]. This transformation in the experience of work in the fossil fuel industry was particularly noticeable in the upstream segments of the oil and gas industry: in the operation of deposits characterized by a high energy output, the 'cooperation' of geological forces, acting as a kind of 'natural automation', had indeed suppressed the need to send miners into underground trenches. As Urry (2013: 5) puts it, "one only had to drill in the right place and, with very little energy expended, vast amounts of more or less free energy were enabled." In this new process of extraction, it should therefore hardly come as a surprise that

111. The transition from the first to the second paradigm has not been predicated on a complete switch from coal to oil. Crane et al. (2010: 25–6) calculated that oil's share of total energy demand did not equal the decreasing share of wood until the 1940s, and that it had remained under coal's share until the 1960s: in 2015, oil accounted for 32.9 per cent of the energy consumed globally, and coal (still) for 29.2 per cent (BP 2016) – both fuels coexist in the energy system. Rather, this transition to the "cognitive paradigm" has been predicated on the fact that oil has become the cornerstone of the globalized economy. As Urry (2013: 5) remarks, "almost all activities that presuppose movement now rely upon oil", as it still provides more than 90 per cent of the energy for transport (Crane et al. 2010: 250). If the availability of cheap oil reconfigured nearly all global production chains and existing labour processes, one can therefore justifiably hypothesize that it has also 'trickled down' to the coal industry – where it has no doubt helped to transform the extraction/production processes (and the underlying working activities that sustain them).

the centrality of human work came into question[112]. The thesis here is that human work as such did not disappear, but rather went through a deep transformation – moving from one paradigm to the other. Mallet, who was conducting fieldwork in an oil refinery near Bordeaux as early as the late 1950s, documented this shift. Although the working activities he describes occur downstream in the production process (that is, long after the drilling operations), the French sociologist observes that "in the automated industry, the nature of work [is getting] totally transformed", that "it [is now] more appropriate to describe the worker as a watchman, rather than as an operator or a producer" (Mallet 1965)[113]: as a result, he suggests that these changes are accelerating the formation of a "new working class" (Mallet 1965; see also Boltanski 1979). From all this, a close analysis of the diverse types of working activities deployed all along the extraction/production process of the oil industry suggests that the latter early turned out to be a privileged site for observing deep reconfigurations in the nature of human work. Faced with the challenge of enrolling a constellation of actors in joint mega-projects, it did not take the industry long to identify the crucial importance of mastering processes of knowledge creation and exchange, which required trained and skillful human capital[114]. In many ways, the oil and gas industry thus prefigured the turn to a knowledge-based economy: and, as I suggested above, the

112. As we saw in chapter 5, one interviewee equated the flux of crude oil with gathering up a continuous flow of banknotes discharged from an ATM (p.134).

113. Mallet's work on refinery workers is presented by Mitchell (2013: 152–3). The French sociologist doubtlessly built his analysis on the following excerpt from the *Grundrisse* (first published in 1857): "real wealth manifests itself, rather – and large industry reveals this – in the monstrous disproportion between the labour time applied, and its product, as well as in the qualitative imbalance between labour, reduced to a pure abstraction, and the power of the production process it superintends. Labour no longer appears so much to be included within the production process; rather, the human being comes to relate more as watchman and regulator to the production process itself. (What holds for machinery holds likewise for the combination of human activities and the development of human intercourse.) No longer does the worker insert a modified natural thing [*Naturgegenstand*] as middle link between the object [*Objekt*] and himself; rather, he inserts the process of nature, transformed into an industrial process, as a means between himself and inorganic nature, mastering it. He steps to the side of the production process instead of being its chief actor" (Marx 1993: 705).

114. Over the last few decades, some economic geographers (including Gluckler and Bathelt 2011) have resorted to actor-network theory to emphasize the relational nature of the institutions of contemporary capitalism, while others have warned of the potential side effects of this interpretive framework. Sunley (2008) stresses that "the endless complexity of network ideas [on which it relies] tends to dissipate the sense of direct involvement and responsibility". The relational turn thus bears the risk of dissolving any social critique, rather than elaborating it further: it is therefore crucial to replace the diverse links, ties, and connections it uncovers within a larger "evolutionary and historical institutionalism" – an effort that the articulation of chapters 5 and 6 aims to realize.

continuous delivery of fossil fuels onto the markets, in turn, accelerated this transition in other sectors of the economy, where most people now experience work as a cognitive task (which does not mean, of course, that the bodily implication in the working activity disappears – but rather that it is reconfigured).

Although multinational oil and gas companies keep operating material infrastructures that ensure the continuous functioning of the global fossil pump, it is important to highlight that the activities of work performed by a considerable number of their employees remains largely cognitive in nature: being deployed in corporate offices, these activities appear somehow disconnected from the underlying materiality at which they are directed. As a young engineer based at Total's headquarters stated:

> "Today, when we hear the messages coming from the top management – it's hard to figure out what we are becoming. [...] At the beginning the firm was very much into construction building – it would set up platforms, assemble infrastructure, pour concrete [...] but today Total has outsourced these activities. Projects have become insanely big; the faintest error can cost you billions! [...] One of my chiefs once told me something that gave me food for thought, when he said that "when we do projects at Total we do nothing" – it just makes you doubt about the utility of people! [...] We are more and more an assembler, and we intervene less and less in operations [...] we'll end up outsourcing everything! [...] Actually, my impression is that we are just becoming a big bank specialized in financing oil and gas projects."

This excerpt betrays the malaise of the engineer facing the multiple mediations that separate his desk job (which he describes in the interview as characterized by a lack of concreteness) from the greater purpose of his mission, which is to produce crude oil. Yet, from a purely arithmetical point of view, it is worth noting that, like any other employee of Total's upstream branch, his work nominally produces an average of 136 barrels of oil equivalent (BOE) every

day[115]. Once they are injected into the economy, these barrels either contribute to enlarging its fossil skeletal structure (for example, by accelerating the extension of landscapes of consumption), or to sustaining the reproduction of social relations that already take cheap oil as an unquestioned premise[116] (Huber 2013a). In both cases, these barrels of oil mark the intermediary stage for a carbon that was once stored in the lithosphere and that will end up dispersed in the atmosphere, after having been refined as a fuel and consumed by economic agents. As a result, the barrels produced by each employee of Total's upstream branch induce everyday potential emissions amounting to 59 tons CO_2eq each day[117]. These figures suggest that, although these barrels of oil are largely diffracted into the circuits of the economy, they nonetheless constitute a significant material output for a single day of work.

From a phenomenological point of view, it is also worth underlining how these orders of magnitude contrast with the engineer's routine. How can the sticky blackness of tons of crude oil 'lodge itself' in the asepticized, bureaucratic corporate environment that constitutes the canvas of his daily life? Beyond the material output that his working activity clears, it is important to point out that the process of production with which it relates turns out to be much more carbon-intensive than his clean office and silent computer might suggest[118]. If we interpret his working activity in a relational way, it can indeed be approximated, using EROI figures from Gagnon et al. (2009), that our engineer 'needs' about 5–7 BOE in productive consumption

115. In 2015, the upstream branch had 17,187 employees and Total's daily production amounted to 2,347k BOE/day. This ratio is only intended to offer an order of magnitude of the material transformation involved. It obfuscates the participation of subcontractors all along the production chain: but, if we take an organicist metaphor and compare the production network with a living body, one could say that Total constitutes its head – for it remains the entity that plans, organizes and decides, whereas the subcontractors are integrated into the chain of command.

116. Oil is a surprisingly invisible commodity: it travels through pipes, is transferred from one tank to another, and is then burned inside an engine; neither oil workers nor consumers are supposed to see it. This could explain why the fossil basis of the economy is a blind spot to most social theorists and practitioners.

117. The Environmental Protection Agency estimates that the combustion of the final products obtained from a barrel of oil equivalent induces an average emission of 0.43 tons CO2eq: https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references

118. This carbon intensity denotes the complexity and fragmentation of the process of production (see the Yamal case in chapter 6), and thus explains why the cognitive workers who manage the small hangings together of big projects experience a certain kind of distance, whether physical/topographical, temporal, hierarchical/ organizational, or causal (Dujarier 2015).

every day to produce 'his' 136 BOE[119]. Once again, the contrast is significant: as the engineer's tasks are largely cognitive (since they consist of ensuring the good functioning of the organization – i.e., a circulation of 'semiotic flows' that is efficient enough to secure social coordination), they seem materially disconnected from this input/output machinery. Yet, the field in which they are deployed finds its stability by resting on non-negligible background conditions, or, in other words, the continuous incorporation of a substantial amount of fossil fuels in a highly-fragmented production process.

All these considerations corroborate the hypothesis that however cognitive they might look like at first glance, desk jobs effectively articulate what one might call a 'diffracted, distant materiality' that largely exceeds the spaces and places of corporate offices. Giving an account of this phenomenon is a delicate task, but I have suggested that a relational analysis could open relevant perspectives for tracking the interlacing that connects the working activities of an individual to those that his or her colleagues deploy in the wider space of the firm.

3.1.3. Provisional conclusion

In the previous subsections, I have described the significant transformation in human work in a substantial number of industries in Western capitalist societies in recent decades and showed that, in this respect, Total was no exception. I have also explained how the generalization of 'cognitive work' had occurred on a pre-existing fossil base, and how hydrocarbon producers play a decisive role in constantly priming the material pump that animates the economy.

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119. These orders of magnitude only make sense if they are interpreted in a way that does not obfuscate the working collective. The engineer should not say "I produce the equivalent of 136 barrels every day" but rather "I *collectively* produce the equivalent of 136 barrels every day", since the activity of a worker can only make sense when inserted into the greater canvas of the intertwined working activities deployed by the other workers of the collective. Any atomistic account of these figures would thus be meaningless. Building on Huber (2017), it is important to emphasize that this 'nominal equivalent' overshadows intra-firm class disparities: such a calculative approach "assumes [that] all impacts are emerging from an 'equal playing field' of control and access to resources and the ecological repercussions of their use." The findings of chapter 6 suggest that these intra-firm class disparities are real in Total's case.

3.2. Work invisibilized

3.2.1. The disappearing of work in advanced capitalism

In the next two parts (3.2.1 and 3.2.2), I explain the conspicuous absence of human work from most narratives of environmental change. However, to do so, I first need to explain why it is best to interpret this absence against the backdrop of a wide-ranging phenomenon, namely the gradual 'invisibilization' of work in advanced capitalism. By 'invisibilization', I refer to the trend by which individuals have become less and less inclined to construe themselves as 'workers'. This amounts to say that the importance of professional identity in the process of construction *and* affirmation of the self has tended to recede – at least in the Western world. Below, I suggest that the recent recomposition of the capital-labour relation, of which I highlight two intertwined facets (both having been simultaneously an effect *and* a cause of this recomposition), has largely intensified this trend.

The first facet of this recomposition has been the contemporary exhaustion of the workers' movement, which has occurred in most developed countries. Diagnosing this phenomenon, the members of the writing collective EndNotes (2015) suggest that it retrospectively reveals that the true nature of the workers' movement was a specific form of identity politics. Although its attempt to create a shared identity among masses of semi-skilled workers was extremely successful (these workers could indeed have been just rival sellers of labour in a competitive market), the movement has always faced external and internal limits (EndNotes 2015: 126–7)[120]. In the decades following the Second World War, these limits became increasingly critical as "the path from the development of the productive forces to the triumph of the working class was becoming more obscure" (EndNotes 2015: 138). The opening of new national zones of accumulation, the dissemination of the factory system in global production chains, the rapid

120. The external limit corresponds to the fact that the workers' movement has been constrained by the size of the industrial share of total employment (other social classes would simply not endorse its programme). The internal limit designates the fact that even in the proletariat, only a portion of workers ever actively identified with the movement.

transition to a service-based economy, and the rise of unemployment all seemed to undermine the advent of the "collective worker" and to usher in the coming of the "atomized worker" (EndNotes 2015: 138).

Let us consider first the consequences of the transition to a service-based economy in which one can best describe most working activities from within the paradigm of cognitive labour. It is important to stress that before this transition crystallized, the various working activities that semi-skilled industrial workers performed in different branches somehow tended to overlap: in making sense of them, workers implicitly relied on the 'energy entropic paradigm' and on an archetypical conception of 'work as moulding'[121], for they willingly saw themselves as invested with the mission of *making* a new world. The working activities of a growing number of technicians, engineers, middle-managers, white-collar workers and civil servants, by contrast, lacked the shared basis of common practices that had given the semi-skilled industrial workers the wherewithal to forge a collective identity. As Moulier-Boutang observed, the "internal differentiations [that characterize cognitive labour] repeat at an even more complex level the old cleavages between free dependent workers, half-free workers and slaves, as well as those between the poor, the lumpenproletariat, the proletarians and the working class" (Moulier-Boutang 2012: 98). Despite the early hopes expressed by some observers that new professional identities could emerge outside the industrial proletariat (Veblen 2012 [1922]), the realities subsumed under the concept of cognitive labour were too variegated: their mere juxtaposition could hardly offer a sufficient basis for the emergence of new class solidarities that would transcend sectoral branches. As these new forms of working activities expanded, the gradual exhaustion of the workers' movement contributed to thinning out the moral repertoire (available in collective imaginaries) through which individuals could construe their professional identity as a building block of their existence as *zôon politikon*.

The rise in unemployment, which resulted from the global macroeconomic downturn triggered by the oil shocks, further amplified this phenomenon. With left-wing parties on the

121. See above, footnote 102.

verge of assuming the reins of many European countries' state apparatuses (Trentin 2012), this unprecedented situation caused a decisive shift in their *raison d'être*. While the struggle for the emancipation of human work had long been their hobbyhorse, the left-wing parties gradually abandoned it in favour of prioritizing their fight against unemployment – thereby reducing the anthropological question of *work* (which sociologists and legal scholars explored) to the technical one of *employment* (nearly exclusively treated by economists) in the elaboration of their ideological apparatus – for an overview of this recent shift in France, see Lefebvre and Sawicki (2007), Linhart (2017) and Méda (2017).

The second facet of the recomposition of the capital-labour relation has been the steady growth of corporate organizations, which have gained an unprecedented status in the contemporary world order (Robé et al. 2016). As early as 1967, Galbraith could already argue that "decision-making in the modern business enterprise is the product not of individuals but of groups", and having observed that there was "no name for all who participate in group decision-making or the organization which they form", he proposed "to call this organization the Technostructure" (2007: 88). Insisting that circumscribing the nature of technostructure constituted decisive epistemic progress for social theory, Galbraith proposed a holist account of the corporation that coarsely overlooked the irreducibility of the working activities performed by individuals in the socio-genesis of institutions: *individuals* would melt into *organizations*, and *human work* into *corporate activities*.

In the decades that followed, the considerable expansion of market relations through the rise of corporate power reinforced this blind spot. As Pineault (2015) suggests, contemporary capitalism is characterized indeed by a normalization of a representation of capital as an intangible asset, under the form of organizational capacity. While the means of production (machines, factories) could, in early modern capitalism, still be identified by workers as being the personal property of the *bourgeois* capitalist, the progressive mutation of capital into a

private organizational power in today's capitalism[122] has made it more complex for individuals to evaluate their own position in the production process. In Marx's time, the direct, phenomenological confrontation between the worker and the machine perfectly epitomized the antagonism between labour and capital, and offered a basis for the subjectivation of individuals *as* workers (*against* a capital that could be delineated); but today, as the social reality that the term 'capital' designates has become much more diffracted and much less legible, the conditions of this clear-cut head-to-head have melted away: 'organizational power' can neither be phenomenologically faced, nor physically destroyed. In this context, it is therefore more difficult for individuals collectively to derive the forging of a 'thick professional identity' from a shared sense that their working activities are being alienated: unlike the semi-skilled workers for whom the way machines could absorb and reify their vital energy was somehow self-evident, employees from multinational firms often lack an appropriate grammar to articulate how the 'organizational power' in which they are daily enshrouded at the workplace can grow at their own expense as they perform cognitive working activities.

In previous paragraphs, the analysis of two facets of the recent reconfiguration of the capital–labour relation has thus enabled to cast light on the reasons why human work had gradually become invisible: both the fall of the workers' movement and the increasing complexity of the social structures of present-day capitalism have contributed to eroding the (potential) political agency that had long been associated with professional identities. In contemporary capitalism, "employees are [indeed] considered as [...] 'stakeholders' insofar as they are the bearers of a 'human resource' or of some 'human capital', *but they are not considered as 'workers' any more* – for this word has been banned from the vocabulary of corporate governance" (Supiot 2015: 46, emphasis added).

122. Pineault suggests that this mutation has resulted from the dissolution of industrial, commercial and financial capital, and of their subsequent recombination in organizational hubs. In this framework, capital becomes a capacity to organize social practice in general: with the generalization of new accounting practices and the development of stock markets, capital assumes the form of an "immaterial, intangible power, viz., as a pure organizational capacity projected in the future" (Pineault 2015).

3.2.2. The absence of work from environmental narratives

I now argue that this invisibilization of work has made it more difficult to challenge the bias that already existed in most environmental imaginaries before they started to flourish in the late 1960s – that is their propensity to build on an expressivist, romantic rather than an analytical critique of the capitalist economic system (Pineault 2008). As a result, there have been few attempts to develop in-depth descriptions of how human work, once harnessed into the circuits of organizational capital, intervenes in the transformation of nature.

As Boltanski and Chiapello (1999) have famously argued, the late 1960s saw the discourses that criticized capitalism becoming much more diverse and fragmented. The long-held privileged status of the 'social critique' – its 'scientific' credentials were rooted in the Marxist analysis of the wage relation identified as the internal contradiction of the capitalist economy – gave way to other narratives of emancipation emerging from distinct schools of thought. Among these, the "ecological critique" was renewed through the echo given by a constellation of neo-Malthusian scientists (e.g., Ehrlich 1968), journalists (Carson 2002 [1962]) and libertarian and/or degrowth theorists (e.g., Gorz 1999; Illich 2001 [1973]) to the post-war advances that had been attained in Earth system sciences (Antonio and Clark 2015; Doel 2003). It is worth noting that, from early on, this critique built on a fragmented theoretical corpus that had no specific affinities with the Marxist intellectual apparatus, by then already rejected for its 'productivism'[123].

Fraser (2014) suggests that this shift in the critique of capitalism from an exclusive focus on 'class struggles' to a wider awareness of multiple "boundary struggles emerging from crisis tendencies grounded in contradictions between the economic system and its background conditions of possibility" constituted a decisive epistemic advance, insofar as it enabled us to

123. Audier's (2017) historical genealogy of the social movement debunked misconceptions about the supposed existence of an entrenched antagonism between the idea of emancipation and the will to build an 'ecological society'. In his book, he demonstrates that ecological thinking, far from having its intellectual roots exclusively in the Romantic reaction to the ideas of the Enlightenment, has been a disputed field for centuries.

refine our understanding of capitalism as an "institutionalized social order". It is worth mentioning that if Fraser noted in 2014 that these boundary/class struggles "could conceivably coordinate or unite", it was precisely because they had long remained largely dissociated from one another. Many social scientists have suggested that the progressive dissemination of the neoliberal approach in recent decades had reinforced such a disjunction through a process of "depoliticization" (Felli, 2015, 2016; Swyngedouw 2010). As a result, it is therefore hardly surprising that in the context of a labour-divided economy (itself atomized into global circuits), scholars have rarely identified the working activities in which individuals engage in their daily routines as the privileged site from which environmental destruction could emerge: it is rather the corporate activities – that is, the deeds of *organizations* – that have attracted their criticisms.

To understand this, it is worth highlighting that, since their development in the 1960s, most non-governmental and civil society organizations have developed strategies that demonize *social aggregates* by depicting firms as unified corporate agents, rather than as collectives sustained by individuals involved in working activities geared towards achieving a practical goal. By doing so, they have helped to shape collective imaginaries that implicitly endorse Galbraith's holist view of the social world (with employees discursively conflated into a single unified *firm*), and which mostly frame environmental struggles in terms of a confrontation between institutions. As capitalist organizations affirmed their capacity to absorb and neutralize external criticisms (Chiapello 2013), non-governmental and civil society organizations had to enrich their strategic repertoire to avoid becoming bogged down by routine: yet, the constant reconfiguration of conflicts did not prevent their gradual institutionalization, to the point that they have stabilized into genuine 'wars of position' (MacKay and Munro 2012), with relatively predictable front lines. CSR specialists have thus become the privileged interlocutors of NGOs, and act as diplomats of the corporate agent. The following description of his main missions by the senior manager at Total in charge of relations with non-governmental and civil society organizations is telling. It offers a glimpse into how ethical 'deliberation' becomes absorbed into and centralized at the organizational level and therefore into how, through their exclusion

from an immediate face-to-face encounter with the external stakeholders, the other employees are left out of it:

> "Around 10 to 15 per cent of my time is dedicated to conducting a watch [over social movements]; another 10 to 20 per cent is spent in meetings with NGOs, where we exchange ideas, share visions, debate conflicting points, and so on; and the rest of the time is focused internally, as I work to translate the messages from NGOs into operational measures, in order to help things evolve."

This excerpt clearly suggests that the emergence of CSR specialists in charge of enacting corporate responsibility has facilitated this 'hollowing out' of the ethical charge of work. Yet, I suggest that the NGOs themselves have incidentally (and paradoxically) also reinforced this 'hollowing out'. Their strong critique of organizations, often fully justified – remember Pineault's (2015) argument that organizations *are* the new locus of 'capital', has nonetheless contributed to depicting firms as reified corporate agents, in a way that has tended to obliterate the fact that they can only derive their social consistence from a continuous deployment of human work. The framing of the campaign led by the climate movement against 'Big Oil' is a perfect case in point (Klein 2015; McKibben 2012), and the same goes for the most recent study published on Total (Deneault 2017). By being tempted to reify firms, social movements have thus helped to construe CSR in terms of a responsibility held *by the organization as such* towards its stakeholders – and a recent study by Frynas and Stephens (2015) confirmed that this trend is overwhelmingly reflected in the literature[124]. Yet, this holist view is unsatisfactory, for it produces narratives of CSR that fail to address individuals at the site of their connection with productive activities (Bevan and Corvellec 2007)[125]. Nanteuil (2009) rightfully identified this long-lasting flaw and suggested that the perimeter of CSR should be defined by the degree of

124. Their meta-analysis is not particularly critical of this absence of work in the CSR literature; in fact, the word 'work' does not even appear once in the article.

125. An underlying reason for this may lie in the fact non-governmental and civil society organizations implicitly build on 'full-scale Bourdieusian' premises, by considering that employees are fully aligned with corporate interests.

freedom granted to individuals in their moral deliberation over the ethical dilemmas they face in their ordinary working lives – that is, by the extent to which it is possible to relax the constraints of instrumental reason and utility that weigh on the development of their capacities of interpretation. This argument resonates with Deranty's observation that human work has a 'double address' insofar as all working activities somehow bear a fundamental orientation towards 'the reproduction of society as a whole' – an orientation largely constrained by managerial power in the wage relation. The increasing fragmentation of global production chains, as well as deep changes in the nature of work, have made it more difficult to trace the diverse ramifications through which this 'second address' of work concretely materializes. Yet, this lesser legibility of the concrete output of working activities (namely their *poietic* dimension) does not justify wiping them out of environmental narratives. As Schwartz (2004) recently observed, any attempt to develop a thorough, balanced historical materialism stumbles over the necessity to offer a fine-grained description of the variegated activities that underpin what we call 'production'.

3.2.3. Provisional conclusion

Above (in section 3), I have explored different facets of the various changes imposed on the experience of work in recent years, and highlighted the material basis (the sustained incorporation of fossil fuels) that had made this transformation possible. I have argued that the growing heterogeneity of the reality of human work had occurred alongside a thinning out of the perception of its generative potential, and a corresponding underestimation of its salience in narratives of environmental change. In section 4, I suggest that this general decoupling between the perception of the centrality of human work (which, as we have seen, has eroded) and the

real effectiveness that it retains (when evaluated at the social level through the division of labour[126]) manifests at the workplace through the phenomenon of subjective alienation.

4. Making sense of the gap: subjective alienation

In chapter 4, I suggested that the expression 'objective alienation' conjured up an image of social entities as unshackled because agents perceived them as external to themselves and experienced or related to them as such. Having focused on the 'objects' of alienation (notably the firm along with its integrated global production networks serving as a hub for capital accumulation) in chapter 6, I now concentrate on those who are 'subjected' to alienation (the individuals who place their workforce at the disposal of their employer) and I delineate some manifestations of their being alienated. Analysing this facet of the phenomenon is crucial, for at the end of the day, it is indeed the concretion of fragmented experiences of subjective alienation over time that paves the way to the deployment of objective alienation.

4.1. Four types of subjective alienation

In subsections 3.1 and 3.2, I have outlined the recent transformation and invisibilization of human work in general, but particularly in the oil and gas industry. These analytical developments have prepared the ground for a more precise delineation of the various ways in which the phenomenon of alienation is manifested at the workplace at Total. One can interpret the four reconstructed accounts I briefly introduce below as reflections of a situation of alienation; and I classify them according to the scope and extent of the social segment that

126. Marx insists that in the capitalist mode of production, the parcelling out of human work implies that the latter can only find its effectiveness at the collective level. "What, on the other hand, characterizes the division of labor in manufacture? The fact that the specialized worker produces no commodities. It is only the common product of all the specialized workers that becomes a commodity" (Marx 1990: 475). As a result, individuals cannot properly construe their own working activities if they do not place them against the backdrop of what the 'collective worker' attains.

generates the alienation (by being intended as if it were self-subsistent). An in-depth analysis is developed in subsection 4.2.

The first excerpt, which I have drawn from an interview with a senior corporate executive, is highly representative of remarks that respondents frequently made about the *world economic order*:

> In my view, there are three challenges, and one can equate the problem of climate change with them: these are India, Africa, and the US Republican Party. For the two first, it is necessary that they have the ability to consume substantially more in the coming decades. That is why the issue of access to energy is money when we talk about climate. [...] How are we going to enable African populations to become as mobile as in Europe?

The second extract, which is from an engineer, perfectly encapsulates the disarray that respondents often expressed when speaking about their position in the *division of labour*, which is particularly complex in the oil and gas industry:

> I have travelled to Tianjin, where I have visited one of these dockyards where they prepare pieces for Yamal LNG [Liquefied Natural Gas]. [...] It is an incredible hive of activity [*fourmilière* (anthill) in French], it is unbelievable [...] so when there is a delivery of turbines or big items like that, you never know if they are going to crush a worker in the supplier's factories or even in one of their own factories. ... Then you get to understand that it is all messy, and that total control is an illusion.

The third excerpt, which is from a senior executive, explicitly describes the rigidity of *Total's internal corporate power structure*:

> Well, then there are the happy few at the top who benefit from another regime. What is indisputable here is the way that things work: it is all about setting a premium on obedience. The Total corporate culture accords most value to technological skills and obedience. The more 'rebellious' profiles, namely those people with a strong

temperament, do tend not to climb the hierarchical ladder. So, you can talk all day long about CSR, but nothing will really change unless you change the managers' financial packages. The performance criteria of the 600 [top managers] is the one question that most needs addressing.

The fourth account illustrates an experience of alienation generated within an *intra-firm organizational unit* (team, department or subsidiary) in the direct working environment. The engineer interviewed here describes a troublesome situation he encountered while working offshore in a country with deficient state institutions:

There are two types of drilling processes: one requires that we use a sort of water-based sludge [...], and the other requires an oil-based one. It is actually the intentional cleaning out of this oil-based sludge that bothers me more and more. These effluents are indeed super polluting: we produce a non-negligible quantity of them – and we release them straight into the sea at night! Hardly anybody on the rig knows about it [only about 15 of the 170 or so people working on the rig are Total employees; all the rest are employed by subcontractors]. Unless you pay attention, you won't even know that this is part of the routine. Of course, nobody in the onshore offices of Total's subsidiary knows about it. Maybe the superintendent has vaguely heard about it (because I briefly let him know), but he knows this from very far afield, and he does not actually care. Let us just say that here we are super far from Paris and that nobody raises this kind of thing anywhere other than in Paris. At the Total tower, however, the discourse is much smoother; they tell us that everything is perfect, that the work is executed well and that everything is in order, but that is not true. On the rig, all Total employees know that it is going on, but I think I must be the only one to take it seriously. For my boss, there would be three possible reactions. The first is to recognize that the situation is annoying but to say 'too bad, that is how it is, we cannot do anything' (in this case you do not go out on a limb); the second is to tell the onshore employees that 'it's not cool' and then do everything possible to fix the

problem; the third is to say 'I will stop the rig until it is fixed!', which would cost the firm millions every day and have him sacked!

I intentionally cited these four excerpts in this order in order to show a transition from a macro to a micro perspective, following a world–industry–firm–department sequence. I suggest that alienation occurs when individuals *either* fail to grasp that these segments of social reality are relationally constituted, and that their activity of work inserts them to this process of constitution (this "false consciousness", as Marx would have it, appears in the first and second case) *or* when they develop a reflexive understanding that makes them feel impotent (as in the third and fourth cases).

Before turning to a more developed analysis of alienation, I should stress that the cited accounts mostly describe an alienation that reflects the demands of cognitive labour: respondents frequently express a form of psychic disarray (reflexive or not) rather than bodily suffering. This, I suggest, is a bias of our sample, for the range of phenomena that denote alienation is extremely wide and heterogeneous. One cannot simply enclose alienation as something occurring 'in one's head'; lived experiences of organizational pressure or of spatial segregation (often required in zones of operations located in failed states) are indeed often (if not always) primarily articulated at a bodily level[127] before the agent reflexively identifies them (or not) as characterizing a situation of alienation.

127. As Ricoeur (1988: 100) observed, Marx "abandoned the word 'alienation' [in his mature period] because it belonged too much to the language of consciousness and self-consciousness, to what now appears an idealistic vocabulary. When replaced, however, by the basic structure of the self-assertion (*Selbstbetätigung*) of individuals, then the concept's non-idealistic intent may be recovered." Recently, Dreyfus and Taylor (2015) put forward an account of the human self that sought to expand Marx's intuition that 'life' retains some kind of priority over 'consciousness' by building on the findings of phenomenology and analytical philosophy: they demonstrate that the thick reality of our being-in-the-world far exceeds our reflexive understanding of it. More prosaically, this suggests that the simple fact of working on an offshore platform on the high seas generates a form of corporeal alienation.

4.2. Qualifying subjective alienation

On the basis of these excerpts, I suggest that the accounts of alienation by Fischbach (2009), Haber (2007), and Jaeggi (2014) can be put to work to flesh out our understanding of the different facets of the phenomenon. Far from being exclusive to one another, these accounts are mutually supportive: each describes alienation as a form of interference that affects the quality of the relationships through which the self exists in the world. As a result, each of the three philosophers aims to bridge the gap opened by the commonsense dualistic model (largely mobilized by respondents), which falsely opposes the 'subject' (the individual at work) to the 'object' (the social world) by obfuscating the mediating relations through which they become mutually integrated.

A remarkably common feature of these four excerpts is the propensity of the interviewees to talk about their external environment as if it were "thing-like" (Young 2013: 56) – the degree of reification being (unsurprisingly) correlated with the extent of the social segment under consideration. In the first extract, the respondent thus depicts the world economic order as purely external to his action, without expressing any kind of frustration[128]: in the fourth excerpt, the respondent identifies a structural deficiency with which he does not know how to cope without compromising his career – and (as in the second and third extracts) this situation generates discomfort. Even if each respondent hints at a specific pole crystallizing objective alienation (from the smallest organizational unit to the world economic order), all somehow express a sense that they lack some grip on social reality – as if the latter had *absolutely* no rough edges, and as if it were *completely* slippery and unseizable. Conversely, one could say

128. When speaking of the necessity to tackle climate change, this respondent strongly insists that pathways of mitigation have to be 'win–win', and that scenarios creating 'losers' (for example, African countries, India, and so on) are unrealistic. Dujarier (2015) has observed that the semantic field of play was frequently mobilized by managers otherwise disarrayed by their powerlessness. Displaying how the combination of their intelligence and intellectual agility enables them to grasp the workings of their external environment thus 'compensates' for their impotence. Without making a direct analogy with play, Boltanski similarly observed that French *cadres* could not "define [themselves] or exist socially without bringing into play vast regions of 'social space' within which they are constantly on the move, at least symbolically" (Boltanski 1987: 10).

that all respondents somehow express (unreflexively in the first extract) that the world to which they have access is saturated with affordances that are difficult to circumvent. Morgagni (2012), defines affordances as "dispositions to act and patterns of expectation"; they ensure that "each element belonging to the world [and, in our case, to the external environment of working individuals] fits into a system of practices and knowledge that always foreshadows a located and specific horizon of action"[129]. Here, one can characterize these affordances as 'affordances of dispossession' because they enact the immutability of social structures. Although I collected the four excerpts from different interviews, it is worth noting that, in the study, many other respondents expressed a 'multi-layered' alienation that at the same time interconnected the different scales I have mentioned here (world–industry–firm–department). 'Affordances of dispossession' therefore appear mutually supportive, and have a strong ability to grow together through a ratchet effect. They discourage and prevent the employee from taking a reflective stance on the norms that channel his activities of work to the point of shrinking into a mere functioning, focused solely on espousing the constraints dictated by what the employee perceives as the course of things. 'Affordances of appropriation', by contrast, which can open interstitial margins by facilitating an effective projection of the self into the relationships it deploys, appear veiled – or, as in the third extract, concretely out of reach.

Far from being unilateral, this tendency for Total employees to construe their external environment as 'thing-like' is reversibly correlated with their proclivity to undervalue the 'world-disclosing' potential of their working activities. In other words, living individuals often fail to develop balanced understandings of how their day-to-day working activities effectively inject life into the production process: yet, it is through these "concrete instantiations" that their self opens onto the world (Haber 2007). There is thus a fundamental gap between what working individuals materially 'project' through their effective participation in the collective enterprise of production, and their ability to delineate consciously the contours of this projection. This does

129. A more in-depth discussion of the concept of affordance would undoubtedly benefit from the efforts of Dreyfus and Taylor (2015: 83–84) to characterize how 'non-conceptual coping skills' unfold against the backdrop of a 'holistic background know-how'.

not, as the fourth excerpt suggests, mean that it is impossible to close this gap: here, the respondent realizes that his working activities somehow relate to a material output that is attributable to the collective. Yet, such a balanced image of the generative potential of working activities often emerges against the backdrop of an external environment that is proximate and limited in scope (in this case, the offshore operations on one of Total's rigs). However, when employees manage to close part of this 'epistemic' gap (by developing more insight into their contribution to the production process), they often tend to insist that the rigidity of structures of domination prevents them from relating in an 'appropriative' (Jaeggi 2014) manner with the social practices they deploy at the workplace. This is the case in the third and fourth extracts, in which the external environment is *supposed* to be relationally constituted, but is not is in fact *related to* in that way.

I propose two explanatory factors here. The first, insofar as it points to an institutional deficiency in the wage relation, is *internal*. As managers or engineers, the respondents are bearers of a private discretionary power (Ferreras 2007; Robé 2011), which they exert through governing a hybrid collective of human subordinates, socio-technical apparatuses, material equipment (and so on), but the general orientation and modes of operating this power somehow slip from their own control. The contours of the world that their variegated work activities can disclose are heavily shaped by the employer's 'power of direction', to which they remain submitted through the hierarchical chain of command[130]. Building on Hornborg's (2017) above-mentioned terminology, one can thus say that in the wage relation, working individuals transform the world (and themselves) by actively reconfiguring *semiotic* and *physical* flows. However, because of their subjection to their employer and to the division of

130. For a discussion of what French labour law says about the employer's 'power of direction', see Supiot (2001). This legal provision encapsulates the inherence of subjective alienation to the wage relation, since it entitles the employer to harness the vital power of employees to perform tasks, without letting them deliberate about the ends towards which these tasks are oriented. Marx was the first to describe the alienating potential of the wage relation. Weber expanded the analysis by suggesting that both the increasing diversification of social spheres and technological development helped to add complex layers to the phenomenon of alienation.

labour, they have no capacity to relate appropriatively to this many-sided projection[131], as evidenced in the fourth extract.

The second explanatory factor, in that it exceeds the perimeter of the institutional factor (namely the power imbalance in the wage relation), is *contextual*. Its focus is rather on the deep-seated impacts of wider socio-cultural dynamics, which Rosa (2015) described as 'social acceleration'. The idea that acceleration can induce alienation surfaces in the second extract, and in the excerpt cited earlier (p.217) in which the respondent declared that "when we do projects at Total, we do nothing". As I demonstrated in chapter 6, it is the legal organization of a greater interoperability between previously compartmentalized socio-economic spheres that has facilitated the metamorphosis of Total's role as a "core system integrator" (Beyazay 2015) of fragmented and dispersed production chains; as such, these reconfigurations paved the way to an intensified social acceleration. In this respect, it is not surprising that both respondents stress the paralyzing effects of this sprawling interconnection of global production networks, thus epitomizing what Rosa (2015) described as the experience of being stuck in a "frenetic standstill". The latter directly derives from the fact that hyperacceleration in modern societies dialectically implies the "solidification and hardening of deep social structures" (Rosa 2015: 89), which eventually appear totally rigid. The "frenetic standstill" that the employees implicitly describe thus denotes a dramatic disarticulation between agency and structure, which makes it exceedingly difficult for them to improve their mutual integration in the corporate realm: its expression confirms that social acceleration effectively amplifies alienation.

131. Marx (1990: 477) observes that the "division of labor within the workshop [a contemporary reformulation would be: 'within the global production networks organized by the firm'] *implies* the undisputed authority of the capitalist over men, who are merely the members of a total mechanism which belongs to him." The equivocal meaning of the verb 'imply' (*unterstellen*) makes it unclear whether the division of labour *causes* managerial authority (of which, as we have seen, alienation is a correlate), or *if it counts* managerial authority (that is alienation) *as a precondition* to its emergence. In any case, this suggests that the proximate 'employer's power of direction' does not exclusively generate subjective alienation, but that the greater division of labour, as expressed in the second extract, also fuels it. This hypothesis is consistent with Ricoeur's observation that the division of labour "plays in *The German ideology* [and in Marx's subsequent works] the same role as alienation [in the *Manuscripts of 1844*] because it has the same structure, except that it is no longer expressed in the language of consciousness but in the language of life" (Ricoeur 1988: 97).

In the preceding paragraphs, I have identified two deeply-intertwined facets of the experience of subjective alienation: individuals experience both a fascination for the apparent 'thing-likeness' of objective social reality, and a difficulty in appreciating the 'world-disclosing' potential that is effectively realized through the deployment of their vital power – especially when they sell their labour force on the market. In this context, employees lack detachment vis-à-vis their working activities, and have limited insight into how the entanglement of the latter in complex networks of social cooperation relationally connects their self to wider socio-ecological processes (Young 2013: 105), thereby making it reverberate into the world.

4.3. Human work and action

Can one interpret human work, previously defined as "the bodily and intelligent (problem-solving) engagement by a human subject in the realization of a productive task" (Smith and Deranty 2011), as pertaining – at least potentially – to the anthropological category of action that Arendt (2014) defined? Below, I briefly suggest, contrary to Arendt, that such a rapprochement makes sense, before exploring its implications more extensively in the next chapter.

Had Arendt confronted the form of human work I describe (that is, deployed in the context of the wage relation and cognitive in nature), she would no doubt have interpreted it as falling into the category of labour, or even perhaps, into the category of work. Through their work activities, Total employees not only ensure the maintenance of biological cycles and the material reproduction of society, but they also collectively create a world distinct from anything in nature, for its massive territorial hold on infrastructures gives it a permanence of its own. The activities that Total employees perform, to adopt Arendt's terminology, exemplify their existence as both *animal laborans* and *homo faber*. Yet, her argument in *The Human condition* is clear and reflects a consensus held across many cultures[132], according to which

132. The idea of alienation being an anthropological experience basically attached to the experience of work is vivid in many cultures (see the account for axial religions by Bellah 2011).

human work remains bound to the realm of necessity – and not to that of liberty – to which action pertains[133]. Or, put differently, subjective alienation is an unsurpassable horizon of human work[134].

Recognizing this does not, however, imply that a fixed 'perimeter' and 'intensity' could define alienation once and for all; rather, agents willing to relate more appropriatively to the social practices they deploy (Jaeggi 2014) can always circumscribe its manifestations in already existing forms of life. Following this line, I suggest that the practical engagement in which human work consists is, for every individual, characterized by an internal structure that drives it towards its own unfolding as a genuine form of action – this deployment being elicited or inhibited by the external environment, depending on the type of affordances it offers. Reframed against the backdrop of this 'thick' description of work, one can thus interpret alienation as characterizing situations in which agents experience a blockage in the maturation of their *praxic* capacities, and a correlative amplification of the disconnection between the *poietic* and *praxic* components of their activities of work[135]. In the case of Total employees, we see this disjunction in the impressive productive power that their work channels (when observed through the lens of the collective into which it is inserted), and the little grip they have on the orientations it takes. Such situations thus deprive agents of their ability to take a reflective stance on (some of) the implicit norms that guide their work activities and, consequently, their ability to act upon them.

From all this, it seems clear that the kind of 'necessity' to which human work is effectively subjected cannot be full-scale[136]; rather, it materializes through a bundle of diffuse constraints characterized by a highly variable geometry. Even the recurrence of stable patterns of

133. This dichotomy between labour and action resonates with the one Aristotle introduced in *Politics*, and with Kant's contrast between nature (realm of necessity) and human action (realm of liberty).
134. In chapter 8, I flesh out my critique of Arendt's conception of human work.
135. In most Western countries, the institutionalization of the wage relation in labour law has precisely drawn the legal contours that circumscribe the exercise of *praxic* capacities at the workplace.
136. Nanteuil (2016) demonstrated that both Marxian/Marxist and liberal schools of thought overwhelmingly shared this rough premise on human work, namely that it cannot escape the extrinsic and instrumental constraints to which it is subjected.

subjection, such as the hierarchical relationship that the employer's 'power of direction' legitimizes, seems insufficiently strong to rule out the possibility that situations emerge in which individuals exert their *praxic* capacities (however atrophied they may be) to challenge some of the instrumental constraints placed on their activities. By conducting such a fundamental critique of their form of life (Jaeggi 2015), human agents reduce the perimeter of alienation and extend the degree of freedom they are granted in the deployment of their working activities.

5. Conclusion

In this chapter, I have outlined the contours of a 'thick' conception of work, and argued that this multi-faceted phenomenon retained an anthropological centrality. I have then suggested that both the incessant transformations of the capitalist mode of production and the growing incorporation of fossil fuels in the economy had led to a rapid transformation of human work, and to its gradual eviction from shared imaginaries. Finally, I have argued that the discrepancy between the effective centrality of human work and its increasing invisibility largely explained the development of subjective alienation. In chapter 8, I contend that an alleviation of alienation at the workplace inevitably leads to a reconsideration of the political status of human work, and of the business firms that mobilize it in their processes of production.

CHAPTER 8

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From alienation to dwelling:

Reconsidering the status of human work (and of multinational firms) in the Anthropocene

1. Introduction

In this chapter, I outline a more explicit image of the 'positive' dialectical opposite of alienation, which I propose to call 'dwelling'. To do so, I take the formal anthropological model outlined in chapter 3 as the normative 'vanishing point' from which to evaluate empirical reality. It is, I argue, against the backdrop of this model that the mutual opposition between alienation and dwelling can take shape. Each pole enables indeed to evaluate the concrete practices that individuals collectively deploy, depending on whether they are oriented towards consolidating or weakening the general structures of human self-realization – an evaluation which, of course, requires prudence and self-reflection. In what follows, I mobilize this framework to initiate a critical discussion of what political status one should assign human work and, by extension, the socio-economic institutions (like multinational firms) that harness it and that, in turn, it animates.

Before continuing further, I need to clarify the specific position of this chapter in the structure of the dissertation. In the first three empirical chapters, I have successively (1) retraced the genesis of the corporate climate imaginary, (2) identified key connections between the institutional deployment of the accumulation process and the transformation of nature-society relationships, and (3) diagnosed the difficulty Total employees experience in trying to develop balanced understandings of their work activities and to relate to them in an 'appropriative' fashion. In my attempt to reconstruct the socio-historical conditions that have shaped (and still shape) the general context in which Total employees engage in the process of ethical deliberation – the hindrance of which is the hallmark of alienation – I have built on both critical theory, which "considers it possible to separate what is true from what is false" and genealogy, which is "interested in identifying what counts for true and false in a given world at a given moment" (Fassin 2017). By conjoining these two approaches, I have thus delineated a critical genealogy of the subject by emphasizing the numerous obstacles that prevent individuals from orienting the cooperative social practices they deploy at the workplace towards what Honneth (2009: 35) calls a 'rational universal'.

In this chapter, I take a somewhat different stand. I aim to close (and somehow recapitulate) the reflection on alienation developed in the previous chapters by opening perspectives on its dialectical opposite, dwelling. In this endeavour, I engage more decidedly with the task of delineating a *hermeneutics of the self*[137], and attempt to map out the transformative social practices that could concretely contribute to its articulation. I thus give my full attention to the fundamental ethical quest that has haunted this research and that I described in the

137. The two intellectual projects that I counterpose here (the 'genealogy of the subject' and the 'hermeneutics of the self') obviously capture Foucault's and Ricoeur's alternative approaches. Castonguay (2014: 408) observes that although their intellectual frameworks appear mutually irreducible to one another, Foucault and Ricoeur nevertheless share a common basis. To problematize the description of the relationship to oneself (*rapport à soi*), both insist on the historical constitution of subjectivity. Along the same lines, Revault d'Allonnes (2016) identifies a major divergence between them. While for Foucault "the ethical substance is not subordinated first to alterity", for Ricoeur it is. She indeed suggests that "Foucault never saw in the institution anything else than the *instituted*, while Ricoeur [...] insisted on the *instituting* dimension, which he considered was a decisive element in the articulation of self and world."

introduction as *the effort to enunciate the conditions of possibility of human action in the structures of contemporary capitalism, in the age of the Anthropocene.* Unsurprisingly, this reflection naturally draws us from the field of ethics to the edges of law and politics. This is because, as Ricoeur (1991: 334) observed, "the State of law is the actualization of ethical intention in the political sphere."[138] In this reconstructive chapter, I indeed aim to outline "proposals that have not yet been implemented but nevertheless are attentive to realistic problems of institutional design and social feasibility" – which typically characterize "real utopias" (Wright 2010: 1). This supposes achieving "a clear elaboration of workable, [context-sensitive] institutional principles", that would inform not so much "emancipatory *alternatives to* the existing world", as Wright (2010: ii, emphasis added) would have it, but rather emancipatory *practices within* the existing world and, more precisely in our case, at the workplace.

As I shall demonstrate, such an endeavour consists mainly of drawing the institutional implications that derive from a substantial reappraisal of the status of human work, through which one comes to recognize its hybrid nature (*poietic* and *praxic*), alongside its genuine potential to flourish as a specific form of action. By following this thread, I outline the contours of a regulatory ideal that construes the firm as a 'commons', i.e. as an institution that actively participates in the realization of what Honneth (2014) calls "social freedom", which I interpret here as '*geo*-social freedom'. In some sense, the notion of 'commons' mobilized here is a transposition to the political realm of the notion of dwelling, which is more distinctively anthropological.

138. In what follows, I implicitly rely on Ricoeur's distinction between ethics and morality. He writes that while "both refer to the intuitive idea of *mores,* with the twofold connotation, which I shall attempt to decompose, of that which *is considered to be good* [ethics] and of that which *imposes itself as obligation* [morality]." A few lines later, he suggests that the former retains some precedence over the latter: "morality is held to constitute only a limited, although legitimate and even indispensable, actualization of the ethical aim, and ethics in this sense would then encompass morality" (Ricoeur 1995: 170).

That said, it is important to emphasize that, compared with the previous ones, this chapter adopts a different stance vis-à-vis the empirical material gathered in the field. While the bulk of the analysis deployed in the previous chapters built on the interpretation of this primary data to reconstruct the diverse facets of Total's social reality, in this chapter, I inaugurate a different approach.

Based on previous developments, I advance a reconstructive critique that harnesses some unfulfilled normative potentials that already 'striate' empirical reality without human agents necessarily identifying them as such. Although these 'roads not taken' are discernible in the case study, their full elucidation often requires moving one step ahead and interpreting the 'gaps' (i.e., what is not said) in order to delineate the contours of these possible normative developments. For this purpose, I mobilize the concept of dwelling.

Scrutinizing social reality through the prism of this concept makes it possible, I argue, to cast light on some of its insufficiently-explored normative potentials. As such, this enquiry aims to bring new insights to the ongoing debate on climate justice by suggesting that we treat it not only as a demand-side, but also as a supply-side problem. As discussed in chapter 5, researchers from different disciplines have called for such a shift in a number of ways, for example by putting forward the concept of carbon budgets (Allen et al. 2009; McGlade and Ekins 2015), by emphasizing the challenge of curbing the subsidies available to fossil fuel producers (Coady et al. 2017; Stephens 2014), and by computing their respective historical contributions to climate change (Frumhoff et al. 2015; Heede 2014). However, these works have not penetrated deep enough into society to remodel shared imaginaries. The multilateral negotiations on climate change held under the auspices of the UNFCCC have formulated roadmaps and policies by privileging scientific inputs from formal normative debates and economic projections: but both of these are drawn from the liberal tradition of philosophers (Broome 2012; Caney 2014 Cripps 2013; Gardiner 2013; Gardiner et al. 2010) and economists (Jackson 2016; Nordhaus 1994; Stern 2006), rather than from concrete sociological approaches (Dunlap and Brulle

2015; Grundmann and Stehr 2010). This partly explains why the UNFCCC process is increasingly described as generating a genuine 'schism of reality' (Aykut et Dahan 2015). Another (related) explanation for this 'schism' is that multilateral negotiations occur at the level of public international law; yet, the last few decades have witnessed an increasing hybridization of structures of power. Multinational firms have indeed acquired unprecedented status. By systematically exploiting the flaws of a fragmented legal order (to their benefit), they have significantly undermined the regulatory function and values embodied in statutory law, and accelerated the rapid disintegration of the Westphalian order (Calliess 2011; Catá Backer 2007, 2008; Deneault 2017; Eidenmuller 2011; Robé et al. 2016; Supiot 2015; Teubner 2011).

This unprecedented domination has not been without consequence for nature-society relationships. In a recent study of worldwide seafood production, Österblom et al. (2015) have demonstrated how a limited number of firms exerted a disproportionate influence on the structure and function of marine ecosystems, and suggested that one could define such institutions as "*keystone actors* of the Anthropocene". In what follows, I build on the double hypothesis that Total (like other multinational oil and gas firms) rightly deserves this designation[139], *and* that one can also describe the living individuals who, through their productive activities give the working collective its vitality, as diffracted but nevertheless key actors of the Anthropocene[140]. On this basis, I explore the ethical and political perspectives that the deployment of a genuine *praxis* of dwelling could open to them.

This chapter is structured as follows: in the second section, I expand on the concept of dwelling by highlighting its link to an immanent critique and by interpreting it as an activation of

139. Even if investor-owned firms hold only a limited fraction of remaining hydrocarbon reserves (Heede and Oreskes 2016), their financial leverage enables them to develop complex, capital-intensive assets that are beyond the reach of most state-owned companies (*Carbon Tracker Initiative* 2014). Their activities thus mechanically contribute towards extending the global carbon budget.

140. On this precise point, Kutz (2007) has offered a decisive account of the notion of complicity. While it is feasible to isolate a *causal* responsibility for firms (for the case of GHG emissions, see Heede 2014), it is pointless to 'distribute' the collective harm they generate down to employees. One can, indeed, best describe the complicity of the latter as a form of *relational* responsibility, which derives from their intentional participation in a joint corporate project.

capabilities. In the third, I analyse how its practical decline in the sphere of work can help us reconsider the normative status of this fundamental experience in a human-dominated planet. In the fourth, I develop the reflection further by arguing that one cannot confine its practical decline solely to the sphere of work, but that it is also necessary to address the institutional deficits inherent in the legal structures of multinational firms. In the last section, I contend that instituting these enterprises identified as 'keystone actors' as a 'commons' is a limiting condition to the realization of ethical life in the Anthropocene.

2. Elementary remarks on 'dwelling'

Having demonstrated, in the preceding chapters, how the conditions of the reciprocal enveloping between the subjective dispositions of individuals and the objectivity of institutional norms (the former actualizing the latter) could be obfuscated, thereby generating alienation, I now develop a different approach. I explore how one can not only render the practicalities materializing this reciprocal enveloping more visible, but also potentially subject them to fruitful rearticulations. I argue that a concept such as dwelling provides valuable heuristic resources with which to address these two tracks. In what follows, I aim to flesh out a more extensive definition of the concept, before getting back to the case study in the next sections.

2.1. Dwelling and the task of an immanent critique

In chapter 4, I argued that resorting to the concept of alienation necessarily presupposed mobilizing a background picture of the self. I claimed that it was possible to grasp its formal structure by using of a 'thin' anthropological model stripped of its metaphysical assumptions and anchored in a relational ontology. As I suggested, one can define dwelling as the dialectical opposite of alienation, namely as an enrichment of the 'chromatic scale' of the self–world

relation (with alienation marking its thinning out)[141]: one can therefore articulate the concept against this same anthropological model.

Before continuing further, I want to emphasize that the way I propose to articulate alienation and dwelling resonates with Ricoeur's account of the peculiar line that distinguishes ideology and utopia. Although antagonistic, these two overlapping concepts share a similar functional structure: both have a constitutive *and* a pathological dimension, and the wide intermediary spectrum opened by their mutual opposition provides a backdrop against which one can evaluate all transformative social practices[142]. By suggesting that "the very conjunction of these two opposite sides typifies what could be called social and cultural imagination", Ricoeur (1988: 1) implicitly frames ideology and utopia as two dialectic opposites that constitute one another – and that cannot, for this reason, be purely external to one another.

One can thus define dwelling as characterizing the dynamics by which the individual grasps the alteration of her self–world relationship and, alongside others, enacts a set of transformative geo-social practices aimed at mitigating the intensity of alienation (objective and subjective together). In the remainder of this chapter, I refer to this full set of dynamics by resorting to the shorter expression '*praxis* of dwelling'. Can one liken the deployment of such a *praxis* (or at least of its first diagnostic phase) to a form of immanent critique? Jaeggi defines the latter as a critique that "does not confront [...] 'reality with a prefabricated ideal', and [that] does not just extricate such an ideal from it but instead [that] develops it from the contradictory 'dynamic of reality' itself" (Jaeggi 2009: 75). By evaluating "existing reality according to standards immanent to this reality, [an immanent critique thus] remains *normatively significant* without using a

141. This characterization undoubtedly shares common ground with Rosa's (2017) effort to delineate 'resonance' as an alternative to alienation. As I write, the French–English translation of Rosa's most recent book on resonance is still pending.

142. Ricoeur (1988: 17) writes that ideology is "a force of social integration which can become, beyond a certain tipping point, a force of distorted dissimulation; similarly, utopia is a vector of subversion which can become a futile escape, if it avoids its obligation to cope with the real difficulties of a given society."

normativistic approach" (Jaeggi 2009: 73)[143]. This description effectively shows convergences, I argue, with the approach I seek to develop. The relational account of the self I mobilized in chapter 3 is not meant to be imported as a normative ideal 'falling from the skies'. Rather, that it gives us the most fundamental features of humankind's 'mode of belonging' to the world without presupposing any 'thick' idea of the good life makes it a suitable hermeneutical key with which to detect and clarify the normative potential that is already latent in the 'contradictory dynamic of reality' itself. From this viewpoint, it becomes possible to characterize as a form of immanent critique the identification of an unfulfilled normative potential in existing technical and socio-political mediations. As the self deploys its hermeneutic resources to engage in a transformative, open-ended process of evolution and learning, it therefore attains greater realization by relating more appropriatively with the relations that it projects onto the world.

From this perspective, one can indeed describe a genuine *praxis* of dwelling as consisting of subjects simultaneously (1) 'spelling out' the concrete modalities of their anchoring in a corporeal condition – which mobilizes their interpretive capacity to decipher the 'texture' of the social, technical world in which they are plunged, *and* (2) exercising their faculty of practical reason to identify and act on the key mediations by which their daily practices are connected to distant processes of environmental destruction, in order to transform them[144]. At the personal

143. As Jaeggi observes, "the relation between ideal and realization in the process of immanent critique is rather complicated. If the realization of the ideals evoked by immanent critique simultaneously involves their transformation, then this realization is not a static actualization of a potential that was already present, but an augmenting, enriching movement. What is to be realized is first generated in the process of realization itself. Such a 'performative-constructivist' interpretation of the philosophical motif of potential and realization suggests that there can never be a perfect correspondence between potential and realization, but that the motivational link between them is nevertheless significant" (Jaeggi 2009: 85). Jaeggi describes the approach she develops as a "rephrasing of the Hegelian model in a pragmatist spirit" (Jaeggi 2009: 77): as such, it shares common ground with Honneth's (2006, 2014) enterprise to develop a theory of justice on the basis of the structural preconditions actually existing in society.

144. Karsenti (2012) suggests that a retrospective look at the sociological and anthropological works of Latour reveals a 'philosophy of attention' that resonates with both James's radical empiricism and Dewey's theory of inquiry. If Latour opens up creative perspectives by suggesting that, to interpret our concrete belonging to the world, we have to "learn [how] to become sensitive [to] multiple,

level, such a *praxis* mobilizes the subject's capacity to answer for her actions– that is, her capacity to respond "Here is where I stand!" as she recognizes herself as being "'summoned to responsibility by the other" (Ricoeur 1995: 189)[145]. Yet, the status of this *other* status appears particularly problematic and 'his' injunction reduced to a murmur when it is diffracted into infinite networks of relations, and mediated by planetary-scale processes of environmental destruction (such as climate change). As Casey (2017) observed, an embodied subject's understanding of climate change is necessarily highly fragmented, for this phenomenon designates nothing but a "closely knit fabric of closely intercalated edges"[146]. Since its totality remains beyond phenomenological grasp, the subjective experience of its reality cannot materialize unless it is reconstructed and 'given density' through interpretation. The faculty of imagination thus plays a significant role in enabling the subject to *refigure* himself the face of this distant "other" who calls him in and through chains of mediations, and in enjoining him (i.e., the subject) to consider the practices he deploys as genuine *occasions of interlocution* – which can of course be missed.

2.2. Dwelling as an activation of capabilities

In subsection 2.1, I have argued that the deployment by the subject of a *praxis* of dwelling implied that he mobilizes and sharpens his interpretive capacities to 'see through' the technical and socio-political mediations that shape his access to the remote natural world; yet, a *praxis* only deserves its name if it combines interpretation *and* effectuation. It is therefore crucial that the subject re-models the mediations that he, alongside others, gradually unveils, by getting engaged in a transformative collective action.

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controversial, mutually entangled loops" (Latour 2017), his reluctance to consider 'modern concepts' (such as 'ethical life') prevents us from bringing him to the forefront of any discussion on dwelling.

145. In this excerpt, Ricoeur cites Levinas.

146. Casey defines edges as not merely being "the literal ends of things but the point or phase where things (including events) diminish in their being or substance: where they diminish and run out." He insists that "despite their inherent diminution, edges are far from weaklings; they are often the very feature that is most characteristic of something."

When it comes to evaluating the opportunities that the subject effectively has to get engaged in such transformative action, the capability approach offers, I suggest, useful resources – which nevertheless need supplementing. This theoretical framework, which Sen and Nussbaum pioneered, rests on the premise that it is essential to understand freedom in terms of the actual opportunities people have at their disposal to do and be what they have reason to value. As such, the capability approach builds on the assumption that the freedom to achieve central human functionings is of primary moral importance (Robeyns 2016). In this respect, the approaches of both Sen and Nussbaum remain tightly linked to the Rawlsian theoretical framework (Sen 1980), and thus refrain from taking a stand on the valuable capabilities that people have cause to prefer. For this reason, and despite the importance they give to the deep social relationships that bring individuals together, Sen and Nussbaum hold that structures of living together and social arrangements are only instrumental in the enhancement of individual capabilities (Deneulin 2006). This view is, I suggest, unsatisfying. From the perspective I have sought to articulate, the active involvement of people in reconfiguring the institutional mediations they enact is not *instrumental*, but rather *consubstantial* to their effort of shifting from alienation to dwelling. Deneulin (2006) demonstrates that one can compensate for this shortcoming by attaching the capability approach more firmly to Ricoeur's interpretation of institutions, which is more demanding than those of either Sen or Nussbaum[147]. A reintegration of the capability approach into the comprehensive theoretical framework of social philosophy therefore seems fully justified[148].

147. Ricoeur (1995: 194) defines institutions as structures that "belong to a particular *historical* community", and that "are *irreducible* to interpersonal relations and yet bound up with these". Deneulin insists that this 'thick' account of institutions is what distinguishes Ricoeur here from his liberal, post-Kantian counterparts.

148. Evans (2002) stresses that if Sen explicitly construes the capacity to choose as a collective capacity dependent on the existence of stable institutions channelling public interactions, he barely explores the political implications of this deep social interdependence. In this respect, he remains a "good Manchester Liberal"' whose focus is first and foremost on individual choice. More positively, Fudge (2013) argues that "although the capabilities approach is typically located within a liberal framework, it offers valuable resources for a critique of the liberal conception of justice". Moreover, she makes the full realization of this critical potential conditional on reintegrating the capabilities approach into a 'thicker' theoretical framework.

On this basis, I suggest that strengthening both individual and collective capabilities is equal to deploying the transformative action that underpins a *praxis* of dwelling. Given that this action unfolds in an intensely-mediated context, it is important, if it is to fulfil its promises, to orient it primarily towards redefining the background institutional settings that cause structural social and environmental injustice (Young 2013). As such, only individuals who coordinate at a collective level with a view to living up to their shared responsibility for justice can therefore take up such a transformative action.

3. Fulfilling the normative promises of human work in the Anthropocene

In the preceding section, I have mobilized the formal anthropological model outlined in chapter 3 to introduce the concept of dwelling as the dialectical opposite of alienation, and thus to give a more complete picture of the spectrum that their mutual opposition opens. It is against the backdrop of this spectrum that one can evaluate the experiences of individuals, depending on the extent to which they can relate appropriatively to the practices they deploy, and on their effective capability to act on the conditions through which their dialectical relationship to the world unfolds. In this section, I harness this theoretical framework to analyse productive activities: I suggest that doing so allows one to engage in the much-needed task of retrieving and criticizing the normative foundations of the prevailing economic order.

3.1. Overwhelming significance of the sphere of production

Any subject willing to engage a *praxis* of dwelling, I have said, needs to make an interpretive effort to understand how technical and social mediations organize her belonging to nature. Doing this entails scrutinizing the multiple social spheres (i.e., public life, production, consumption, community organizing and so on) through which her ethical life articulates, in order to assess how each 'leverages' the mediations that she, as a living individual, activates.

In what follows, I argue that the participation in the sphere of production of employees of multinational firms which Österblom et al. (2015) identify as "*keystone actors* of the Anthropocene" exerts such a disproportionate influence on shaping nature-society relationships that its negative impacts can hardly counterbalance the active participation of these same people – but also and more importantly of the vast majority of other people – in other social spheres. This amounts to defending the claim that any serious attempt to understand how ethical life gets structured (or hollowed out) in contemporary capitalism cannot avoid highlighting the pivotal role that some segments of organized labour play in the dynamics of socio-ecological change.

The argument that the sphere of production shapes the polity is, of course, a long-established one. Hegel was the first modern philosopher to give a proper account of civil society as a distinctive sphere of social life. As Honneth (2014: 223) observes, he was already "aware that the actual heart of the economy [lay] in the market-mediated sphere of social labor" rather than in the sphere of consumption, yet he considered both as organically integrated into the higher sphere of the state. Likewise, Marx affirmed that "the position individual members of society [occupied] in the social structure [was] obviously not defined by their role in the process of economic circulation [namely consumption], [...] but by their position in the system of capitalist production" (Honneth 2014: 222). Nevertheless, he rejected the Hegelian idea of a higher integration, and proved more attentive to the dynamics of ecological change induced by the development of productive forces. A century and a half later, the argument about the primacy of the sphere of production is still running. Honneth recounts that this structural imbalance between organized workers (assembled into hierarchical firms) and atomized consumers has never ceased to grow stronger, to the point that it has lastingly deprived the market of "the prerequisites that could make it an institution of social freedom" (Honneth 2014: 222)[149].

149. One of the many reasons for the consolidation of this structural imbalance has been the disaggregation of national economies and their integration into global production networks. Cowen

The oil and gas industry is a near perfect illustration of the emergence and entrenchment of this structural imbalance. Mitchell (2013: 43–65) demonstrated how, from very early on, oil companies had built their power on 'producing scarcity': as they sought to avoid the collapse in the price of crude oil induced by overproduction and thus to preserve their vested interests, throughout the first quarter of the twentieth century these firms (with the help of finance capital) actively cooperated to organize the global integration of oil markets[150]. As a result, oil companies soon overtook the state authorities and quickly emerged as (quasi) sovereign entities transcending national borders; the atmosphere that prevailed in France when Total's predecessor, the CFP, was being created in 1924, reflected these tensions (Bussiere 1982; Deneault 2017: 19–56). On this basis, one can assume that the development of the French 'industrial compact', which Hughes (2016: 78) defined as "the outcome of [a] process of bargaining between government and business interests" (see chapter 6), has in fact always been pointedly distorted in favour of corporate interests, with the benevolent cooperation of the higher state apparatus (Deneault 2017). As such, the trajectory of this 'industrial compact' has thus remained beyond the grasp of *citizens*: and it is also clear that the oil-dependent social matrix that this 'industrial compact' organized after 1945 (see chapter 6) ruled out any possibility of *consumers* finding alternatives to fossil fuels. This structural imbalance has become so embedded in the last decades that the current situation now perfectly bears out Honneth's diagnosis. Like most other multinational firms, Total has reached indeed a level of organizational efficiency that multiplies the productivity of the working activities its employees deploy[151]: channeled through a dense network of social-technical mediations, their mutual cooperation attains levels of performance that could hardly be reached in other social spheres,

(2010) and Hansen-Miller (2017) have emphasized the role of the 'revolution in logistics' in this reconfiguration.

150. One can probably interpret the industry's recent global initiative to tackle climate change (see chapter 5) as a leftover from this taste for cartelization.

151. In chapter 6, I pointed out that the nominal production of an employee in Total's upstream branch amounted to the equivalent of 136 barrels of oil a day.

which are structured by other principles than competition and efficiency while having much less access to financial resources to leverage their projects[152].

A careful look at occupational roles suggests that one should consider the active participation of some people in specific activities in the sphere of production (such as the corporate activities of '*keystone actors* of the Anthropocene' like Total) not only as the main building block towards which their own *praxis* of dwelling has to be oriented (insofar as their agency *qua* producers largely rules out the agency they can attain in other spheres), but also as a social reality that significantly erodes the capacity of other members of society to deploy a sound *praxis* of dwelling. However hidden from the public eye they may be[153], the concomitant deployment of Total employees' activities of work continuously crystallizes into a social labour that generates indeed vast material flows which, if aggregated, make up for a non-negligible part of global emissions (Ekwurzel et al. 2017): in other words, the scope of the extractive industrial process that employees activate is such that it overdetermines "the larger 'dialectic' between society and nature" (Huber 2017). In this context, the 'second address' (Deranty 2015) that stems from the working activities of Total's employees appears problematic: because these activities are fundamentally *oriented towards* achieving intra-firm coordination and thus aim to fit into organized social labour, they are simultaneously *oriented towards* the transformation of nature, which is itself only effectively attained at a collective level through social cooperation. With the rise of the climate justice movement, it is precisely the legitimacy of this very orientation of corporate activities – and through a cascading effect, of the working activities that compose them – that people are increasingly challenging. From this perspective, the

152. In this sense, consumer associations, civil society organizations and political parties clearly have much less agency than businesses, for they draw many of their human and financial resources from volunteers and donations. Political parties are of course a special case, for when they come to power, the state administration is supposed to back the implementation of their programmes. However, it has been well-known since Weber's time, that bureaucratized administrative bodies develop an internal rationality that can be at odds with the political ends they are meant to serve.

153. Appel (2012) suggests that offshore operations symbolize this attempt of oil and gas firms to disentangle themselves from spaces that could be subject to contestation: one could draw a parallel with the fact that the verticality of corporate headquarters facilitates the organization of their inaccessibility to external stakeholders.

confrontation in the public sphere between fossil fuel producers and civil society organizations lays bare a deep normative antagonism, expressed only at the institutional level. In a society characterized by considerable functional differentiation, in which distinct social spheres are subject to intense pressure to homogenise, it becomes extremely difficult to grasp reflectively the kind of world composition that is implicitly 'intended' by individuals through their working activities, so as to take it as the referent of rival normative evaluations; it is indeed continuously made invisible as individual activities get integrated into institutional circuits and thereby coalesce into social labour.

From all this, one can therefore justifiably argue that, in the Anthropocene, the occupational roles of some people in keystone industries carry significant enough socio-material discretionary power to constrain the capacity of other members of society to deploy a genuine *praxis* of dwelling[154]. This de facto gives these specific working activities a public character[155].

3.2. Human work as incipient action

In the second section of this chapter, I have characterized the anthropological tenets of a *praxis* of dwelling, though without specifying in which social spheres one should deploy the latter to retain substantial efficiency. In the previous subsection (3.1.), I have contended that

154. In his account of contemporary struggles over technology, Feenberg (2017a) suggest that these struggles "result from new actors intervening in the design process, actors excluded from the original networks of influence": by "challenging the codes regulating whole domains of technical activity", these 'democratic interventions' reshape the definition of progress. Feenberg's description is relevant but, I argue, overly horizontal and underspecified; it overlooks the fact that some people may, because of their occupational role (for example, being employed in a 'keystone' firm), have greater power (and thus, greater responsibility) to inflect, or impede, technological progress. In our case, the fossil fuel industry actively contributes towards shaping the technological trajectory of human societies by making its products irreplaceable.

155. This argument enlarges on Ferreras's claim that, in Western countries, the progressive shift to a service economy has contributed towards bringing human work to the public sphere (Ferreras 2012: 75–80,155–69). Her fieldwork with supermarket cashiers (Ferreras 2007, 2012a) suggests that, in the service sector, working activities increasingly involve direct 'civic interactions' with customers/clients and 'democratic interactions' with colleagues, and that they can, for this reason, be described as a specific form of political experience. The kind of publicity assumed by the work deployed by employees of 'keystone actors of the Anthropocene' is very different: it rather stems from the *aim* of their productive activities (that is, conveying carbon from the lithosphere to the atmosphere through social cooperation), rather than from the concrete *form* they actually take (which is still very embedded in bureaucratic/isolated environments, with little interaction with the 'public').

activities associated with certain occupational roles in the sphere of production played a critical role in accelerating the large-scale dynamics of socio-ecological change, and that individuals engaged in these activities played a part in undermining the background conditions that sustain the possibility of ethical life in contemporary capitalist societies. I now explore the normative implications of deploying a *praxis* of dwelling at the workplace and argue that, since the very orientation of some productive activities has become a growing matter of concern, we should interpret human work as a form of incipient action, despite the intensity of the instrumental constraints that burden it.

In chapter 7, I have emphasized the double nature of human work as both *praxic* and *poietic*, which I based on Smith and Deranty's (2011) comprehensive definition of human work as "the bodily and intelligent (problem-solving) engagement by a human subject in the realization of a productive task". Although I have also stressed that the deployment of productive activities was intrinsically norm-generative, I have mostly focused on the 'micro-politics of work', without further questioning the status of this normativity in the 'macro-politics of social life' (Schwartz 2004). I aim to close this gap in the following paragraphs.

To do so, however, I need to challenge the liberal/republican conceptions of the polity premised on an interpretation of human work as a merely *poietic*, infra-political activity, and to demonstrate that since human work always contains the germs of its higher realization in a genuine form of action (as it conjoins *poiesis* and *praxis*), its normative orientations have to be taken into account when the moral foundations of society come to be discussed. In the twentieth century, Arendt and Habermas have been prominent defenders of the position I criticize. I briefly outline their respective theses, before suggesting that Honneth offers a framework that enables one to re-evaluate the critical-political aspect of the experience of work.

In her theory of action, Arendt (1998) recasts the Aristotelian distinction between *praxis* and *poiesis* by describing the *vita activa* as being constituted by three categories (labour, work and action) that are mutually irreducible to one another. She contends that only the deployment of

action (through speech) is a vector to the realization of freedom (Arendt 1998: 198–9). Labour and work, by contrast, are "strictly speaking, unpolitical" types of activity (Arendt 1998: 208), but "certainly not antipolitical" ones (Arendt 1998: 212), and they thus remain firmly bound to the realm of necessity (*poiesis*). In an article published the same year as *The Human Condition*, Arendt (1958) expressed this dichotomy even more clearly:

> "as a matter of fact, it is quite doubtful whether the political principle of equality and self-rule can be applied to the economic sphere of life as well. It may be that ancient political theory, which held that economics, since it was bound up with the necessities of life, needed the rule of masters to function well, was not so wrong after all".

Like Arendt, Habermas (1975) takes the distinction between *praxis* and *poiesis* as a premise for his theory of communication: in his account of historical materialism, he categorizes work as a form of instrumental action that only responds to the human interest in controlling nature, so it is no longer the key concept (as it is in the Marxist narrative). Habermas argues that the paradigm of communicative action provides a better analytical platform from which to assess the degree of freedom characterizing the forms of interaction that specific social structures host.

Both accounts, I suggest, are problematic. The 'thin', instrumental conception of human work that these accounts mobilize categorically deprives work of any sort of potential emancipatory significance[156]. To counter this view, following Honneth (1982), I argue that, in their concrete empirical reality, working activities intrinsically bear normative pretentions that effectively help to structure ethical life through the mediation of social labour. This position resonates with earlier perceptions expressed by Hegel and the young Marx, but takes from the rear a thesis that surfaced in *Capital* before becoming mainstream in critical theory. As Honneth (1982) explains, the mature Marx suggested carrying the emancipatory achievements of reflection over from the concrete act of work to the proletariat, which would purportedly

156. Honneth (1982) argues that the then-prevailing *zeitgeist* of a triumphant Taylorism, which had massively rationalized industrial production and subjected workers to unprecedented levels of heteronomy, significantly permeated both Arendt's and Habermas's conceptions of human work.

bring all the empirically separated work processes together to realize social emancipation. Lukács, Sartre and Marcuse implicitly endorsed this model of action, as they did the actualization of the potential for liberation of human work being conditional on its incorporation and transfiguration into some sort of supra-individual subject. Honneth criticizes this view because, he insists, it not only undermines the possibility of subjects revealing their capabilities through gradually deploying their working activities, but also denies these activities any normative significance prior to their absorption into social labour.

In his most recent work, the German philosopher has argued that since such theories of revolutionary social change have proved inconsistent and that "there do not seem to be any practical alternatives to the economic system of the market" (Honneth 2014: 196), one can justifiably retrieve what he calls Hegel's and Durkheim's "moral economism". This theoretical framework is based on the premise that the sphere of the economy is "founded on pre-market relationships of solidarity" (Honneth 2014: 194)[157], and lays the basis for a social critique that aims, through institutional mediations, to 'ethically embed' the distinctive moments that constitute the market (that is, acts of work and of consumption) rather than to abolish the market (as in the Marxist critique). This view, Honneth argues, is firmly grounded in our experience. For example, when ethically-concerned social movements call for greater regulation of businesses, they do not view "their moral demands as being external to the market; rather, [they are] convinced that their demands are a part of normative claims, and thus the conditions of justifications, of the market economy itself" (Honneth 2014: 208). By that means, social movements bring the normative claims inherent in the deployment of working activities into the 'space of appearance', where they immediately become subject to a conflict of

157. As Honneth (2014: 196) observes, both Hegel and Durkheim refuse to "describe the market solely in terms of economically successful coordination", and insist that economic actors must "recognize each other as members of a cooperative community *before* they can grant each other the right to maximize individual utility" (Honneth 2014: 192, emphasis added). Polanyi and Parsons forcefully recast this argument in the twentieth century. Nanteuil's (2016: 51–5) analysis of Smith's work suggests that *The Theory of Moral Sentiments* (1759) seems to foreshadow Hegel and Durkheim by according key importance to 'sympathy'; yet, Nanteuil shows that Smith (1776) eclipses the ethical significance of this notion in *The Wealth of Nations*, where he rules out moral sentiments from the sphere of production.

interpretations involving not only workers and employers, but also other constituencies. In this conflict, the very legitimacy of these normative claims is precisely what becomes contested – that is, their compatibility with the underlying principle of reciprocity which the market requires to exist as a 'geo-social' institution, thereby permitting the mutual satisfaction of interests.

Before reflecting on a case of conflict between employees and external stakeholders, I think it is worth mentioning that moral disagreements already take place in the corporate realm – that is, in the 'hidden abode of production'. During my fieldwork, many informants reported having to face ethical dilemmas that threatened the values they implicitly regarded as elementary principles of reciprocity for intra-firm cooperation. One of them, assigned to offshore operations but interviewed in Paris, expressed his moral outrage in the following terms:

> "I have a friend who is an engineer in [this country]. Recently, it happened that they cleaned out a tank in the open sea, and it was rather dirty. The volumes in question were, no doubt, ridiculously low, but my friend nonetheless notified his manager, who bluntly answered 'one tank cleaned out means it's all clean!' before removing the information in the report he was meant to send to a higher level in the company hierarchy. This episode really gave my friend food for thought, and he still thinks about it – and, as far as I am concerned, I can't say that I feel comfortable about such a thing."

This testimony illustrates that employees effectively expect their intra-firm interactions to incorporate some basic principles of reciprocity – in this case, an elementary idea of moral integrity, or the value of an unspoiled natural environment. Respect for these principles (which often remain vague, so hence their fragility[158]) marks out the boundaries of a field of experience in which employees working with one another judge certain ethical compromises acceptable (and reject others as immoral).

158. As individuals spend time in the corporate environment, which is intensely "governed by numbers" (Supiot 2017) and marked by a deep-seated culture of realpolitik, these basic moral principles gradually become more difficult to discern when they are not simply levelled down to basic utilitarian arguments. From this perspective, the corrosive effect of this social world is an obstacle to the deployment of a *praxis* of dwelling.

Moral disagreements also take place beyond this intra-firm level, that is in the 'space of appearance' where social movements challenge the legitimacy of employees' working activities. Let us imagine, for example, that a top manager at Total decides (say on the CEO's instructions) to change the payroll structure of all middle managers to increase their incentivization on equity returns. This new redistribution doubtlessly has strong normative justifications in the corporate environment (such as better intra-firm distributive justice or greater efficiency). Yet, a member of an NGO might well challenge the validity of such justifications by demonstrating that the decision has traceable environmental impacts, so is no longer a solely private matter: in this case, the manager must either provide a more convincing justification or find an alternative solution.

What is interesting about Honneth's account (compared with those of Arendt and Habermas) is that it repositions the experience of work on an axis that facilitates a normative evaluation of its emancipatory significance. Yet, what makes evaluating the normative features of productive activities particularly delicate is that, in the wage relation, their explicitation and development is hindered by alienation: for this reason, human work can never fully satisfy the criteria of the Arendtian paradigm of action. Nonetheless, one should consider this latent alienation seriously, because it creates huge interferences when it comes to judging the inherent normative claims borne by working activities[159]. However, within Honneth's framework,

159. The reality of alienation explains why the brief imaginary case introduced above cannot materialize as such, and why the 'conflict of interpretations' often turns out, in real life, to be authentic 'trench warfare'. There are two reasons for this. First, the top manager's lack of autonomy gives him little reflexive grasp on (and thus naturalizes) the implicit normative claims that his own working activities 'emit' as they become incorporated into social labour. By casting light on these claims and criticizing them, the NGO member singles them out and makes them *exist* as a matter of concern, thereby proving that they are anything but natural. This places the top manager in an uncomfortable position, and shakes the foundations of the 'separation thesis' (between business and society) (Westermann-Behaylo 2009) that he spontaneously endorses. However, if he keeps interpreting his working activities as 'norm-free', he would likely dismiss the NGO member's interpretation as romantic and over-dramatic. Deneault (2017: 301–82) has demonstrated how these tensions surface in the public interventions of Total's CEOs. The second reason is that confrontations between normative justifications almost always take place at the institutional level, notably through PR departments. From a practical viewpoint, this means that there is no face-to-face encounter between Total's top manager and the NGO member (and, by extension, no face-to-face contact between Total's top manager and a Bengali farmer who, threatened by rises in the sea level, could legitimately

alienation never completely deprives these activities of their moral significance. For individuals who are alienated at the workplace, it is indeed always possible to look "*just beyond* the horizon of existing ethical life, in order to explore the possibilities for making as many changes as can be realistically expected given the circumstances" (Honneth 2014: 8, emphasis added); put differently, these individuals can always find ways to circumscribe further the 'perimeter' and 'intensity' of the alienation that affects them, and thereby manage to relate more appropriatively to the socio-technical practices they deploy (Jaeggi 2014).

On this basis, the contours of a *praxis* of dwelling at the workplace appear more clearly: whereas alienation signifies a disconnection between the *poietic* and *praxic* components of work, dwelling designates their successful rearticulation. For individuals working at Total, this supposes (1) that they develop the ability to decipher the socio-technical mediations into which they, as workers, are inserted; (2) that they grasp the implicit normative claims that their work activities powerfully 'project', as they get incorporated into social labour; (3) that they critically assess the contribution of these claims to the realization of a geo-social freedom, which implies a confrontation with judgements from other actors; and (4) that they, alongside others, strengthen their capabilities to act on the socio-technical mediations in which they are engaged, and which ultimately organize their belonging to nature.

To put it simply, as individuals coextensively deploy a *praxis* of dwelling in the sphere of production, their working activities draw closer to the Arendtian paradigm of action; as such, these activities become genuine vectors of the realization of a greater geo-social freedom[160].

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be concerned that the manager's new incentivization scheme might increase fossil fuel extraction). This absence of a situation of direct interlocution makes it particularly difficult to cast light on the normativity that inheres to working activities deployed at the individual level – that is, prior to their absorption into social labour (Bevan and Corvellec 2007).

160. The concept of 'hyper-good' adequately captures this orientation. According to Taylor (1992: 69), "the picture of moral life in which a hyper-good figures is one where we are capable of growth from a 'normal' or 'original', or 'primitive', or 'average' condition, in which we acknowledge and orient ourselves by a certain range of goods, to a recognition of a good which has incomparably greater dignity than these." In the case where individuals strive to deploy a *praxis* of dwelling at the workplace, the hyper-good that acts as an attractor is this comprehensive understanding of freedom that I have sought to delineate. However, the perspective of removing *all* the obstacles to the realization of this freedom is perfectly illusory; rather, the attainment of 'geo-social progress' comes

3.3. Reinstitutionalizing the wage relation?

In the last subsection (3.2.), I have mobilized Honneth's theoretical framework to demonstrate that human work holds a distinctive type of normativity, and that the latter matters in the 'macro-politics of social life'. I have also demonstrated how the reality of alienation interferes with the expression of this normativity, thereby making its critical evaluation a contested exercise. In what follows, I suggest that the existence of obstacles to the deployment of a genuine *praxis* of dwelling at the workplace, which is particularly urgent in the case of 'keystone actors of the Anthropocene', derives largely from the permanence of a deep-seated deficiency in the institutional structure of the wage relation which stabilized during the Fordist compromise in both France and throughout the Western world. Although various actors (including trade unionists, sociologists and legal scholars) have long identified this flaw, I justify its critical importance from another perspective, namely that it creates a potential block to the realization of geo-social freedom in the Anthropocene.

Before getting into more detail, I briefly outline the contours of this structural deficiency and, for that purpose, resort to Supiot's (2011) diagnosis. According to him, since its gradual institutionalization during the Second Industrial Revolution, labour law has mostly focused on organizing professional relationships, by setting the terms of trade for wage bargaining. For this reason, it has tended to rule exclusively on the *quantitative* aspects of social justice linked to human work (such as the distribution of work/leisure time, money, and various protections and guarantees). Its *qualitative* aspects, on the other hand, such as the meaning and organization of work, were implicitly judged to be the prerogatives of an extrinsic 'pure techno-scientific rationality'. Trentin (2012) suggests that if the germs of this distortion were already evident in the scientistic concerns of early orthodox Marxism, it was only with the triumph of Leninism (manifested by the 'success' of the Soviet revolution) that it crystallized. Fascinated by Taylor's

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through trial and error, hopefully recorded in labour law, whereas new forms of alienation always appear.

principles of scientific management, Lenin orchestrated their deployment in the Soviet economy through the New Economic Policy (1921), which played a key role in anchoring the idea that the continuous reorganization of the workplace was an unavoidable requirement for technological progress. As this narrative of ineluctable rationalization began to taint the cultural imaginaries of the left, social-democratic parties soon came to formulate political projects that sought liberation *from* work rather than liberation *of* work. The 'Fordist compromise' consecrated this compensatory approach, where state-organized mechanisms of social redistribution were meant to 'buy' the workers' consent to be dispossessed of their civic/political rights at the workplace. Against this paradigm, Trentin recalls that the 'roads not taken' to prioritize a liberation *of* work existed both before the emergence of Taylorism, with Owenism, guild socialism and Austro-Marxism (Trentin 2012: 339–92), and after its landslide. In the 1930s, Weil insisted on the tragic consequences of the large-scale rationalization of production, which oppressed workers in both capitalist and (so-called) communist economies alike by amplifying the division between manual and intellectual work: such a dissociation of thought and action at the workplace in advance undermined the prospect of transforming the social order (Dommange 2008; Noël-Lemaître et Ruzza 2014; Sparling 2012); Weil 2001: 36–115). For Weil, revolutionary social change was thus conditioned by the realization of a 'truer liberty' at the workplace, one that realizes the spiritual potential of work, since "no society can be stable in which a whole stratum of the population labours daily with a heart-felt loathing"(Weil 1976). A few years later, Friedmann would lay the basis of his sociology of work along the same lines, offering a sobering critique of the Taylor system (1992) and contending that "the first ground where the battle for the humanization of leisure had to be fought in the industrial civilization was the work time" (Friedmann 1960).

These insights from Weil and Friedmann are, I suggest, highly relevant to the current context. In the Anthropocene, the fact that the working activities of a few people jeopardize the Earth's core biophysical processes indeed casts a crude light on the institutional deficiencies of the Fordist wage relation. This situation provides negative confirmation of Parsons's claim that

"in the contract of employment there is a kind of common valuation of the function of production in the society". This common valuation, which is supposed to "set the background for integrating the exchange system itself by mitigating or eliminating the effects of inherent conflicts of interests" (Parsons 2010: 110) is indeed disaggregating in the case of 'keystone actors', as the legitimacy of their function of production becomes increasingly contested. The institutional form of the employment contract that enables to harness the labour power of Total's employees is thus deeply deficient.

In accordance with Honneth's suggestion that one should initiate transformational social practice "*just beyond* the horizon of existing ethical life", I suggest that one must first evaluate the possibility of re-institutionalizing the wage relationship through an analysis of the untapped resources of labour law. In making this claim, I endorse Deakin's (2007, 2013, 2017) view that there is a systemic interdependence between socio-economic institutional forms and legal structures. From this perspective, the observation by legal scholars that "the substantive content of labour law has changed over time" and thus remains open-ended (Fudge 2013), or that labour law needs to "expand its justificatory horizons and as a result liberate itself from its traditional empirical domain and conceptual categories" (Langille 2013) are worth noting. They implicitly suggest that the wage relationship could attain a greater level of 'geo-social embedding' through an evolution of its underlying legal basis. Following Trentin (2012: 393–439), Supiot (2015b: 255–61) and Clot (2017), I suggest that decisive social progress would require the conquest of new subjective rights that would limit the discretionary power of the employer in the determination of the orientation of working activities. This claim resonates with an extensive discussion led by labour law scholars and initiated by the Supiot Report (2001), which added new normative insights to conventional discourses in labour law. By suggesting that Sen's capabilities approach could constitute an appropriate normative basis for revitalizing labour law, the report opened new perspectives. As Browne et al. (2002) observed, the capability approach enables one to interpret social rights not only as "immediate claims to

resources", but also as "particular forms of *procedural* or institutionalized interaction", which obviously include workplace organization. From this viewpoint, social rights provide "mechanisms or extend the range of choice of alternative functionings on the part of individuals". Sen's approach thus enables one to recast the theoretical foundations of labour law on the basis of a simple axiom, namely that "individual freedom is a social commitment" (Langille 2013) without changing its core purpose, which is to "enable workers to mobilize in order to seek justice in the workplace" (Arthurs 2013). The capabilities approach has nonetheless some limitations: in particular, it mobilizes individualistic premises that can conflict with the idea of social rights (Browne et al. 2002; Deakin 2005, 2009; Fudge 2013), and it cannot capture the fact that in the history of labour law, successful attempts to strengthen the individual capabilities of workers have systematically been achieved through mechanisms of collective action. The subtle articulation between the individual and the collective remains the central pillar of labour law: recasting its intellectual framework through the capabilities approach thus presupposes adjusting the latter's individualistic assumptions[161].

In this last paragraph I explore the implications of Deakin's interdependence thesis by shifting the focus from an analysis of legal forms to an investigation of some ideal-typical emancipatory practices that could shape them in the long run. In other words, I shift from the *instituted* to the *instituting* (as Castoriadis would have it), and turn back to Total's case. More specifically, I question the role that trade unions play in addressing the structural deficiencies of the wage relationship that compromise the deployment of a *praxis* of dwelling.

In Total's case, the 'Confédération Française Démocratique du Travail' is, to the best of my knowledge, the only trade union that has articulated a position on climate change. In 2015, when Total's executive committee announced its twenty-year business project (*Financial Times* 2016), the union organized a series of workshops to outline its own industrial vision (CFDT 2016). This stressed the need to accelerate a shift from oil to gas markets, to increase

161. See footnote 148.

investments in renewable energies and green chemistry, and to integrate the concept of 'industrial ecology' into most sites of production. Overall, this projection rather looked like a *corrective* rather than a genuine *alternative*, since it did not overtly challenge any specific axis of the official business project. The CFDT's response thus broadly mirrors what Felli (2014) called a 'collaborative growth strategy', in which trade unions address climate change by highlighting the need for a 'just transition' (CFDT 2015; Stevis and Felli 2015), which itself often relies on narratives of ecological modernization. If this compromise perfectly illustrates the reformist orientation taken by the union since the 1980s (Georgi 2004), it significantly contrasts with the radical ecological critique that some of its branches developed in the 1960s and 1970s (Bécot 2012, 2015).

The union can still be a place of debate when core business activities raise ethical concerns, but its transformative influence seems somehow limited. On the critical topic of tar sands, a union representative thus recounts that in the early 2010s

> "the issue was too touchy to put forward, as we did not have any substantial counterproposals [...] and since we always try to come up with constructive counterproposals – it is a matter of credibility! – we were at first reluctant to talk about it. But this gradually changed, as the climate issue was getting increasingly critical. We [the CFDT members] sat around a table, clarified some important points, built up a vision; in the union, this work was welcomed. It is more difficult to know how our leaflet has been received in the company... we have had some valuable feedback – and actually I believe that there was some unvoiced concern over this issue."

Notwithstanding the limited impact of this initiative on the business-as-usual trajectory, it is worth mentioning that it is oriented towards developing what Ferreras (2012a) calls "distributed resources", the availability of which enhances the capacity of employees to improve their collective capabilities. Ferreras identifies 'information' and 'perspective' as the most critical *cognitive* distributed resources. As employees acquire more contextual information about the

nature of corporate activities (an example here might be the impact on the environment of tar sands extraction) and freely discuss it with one another, they can develop a more refined understanding of the ambivalence of the moral claims that implicitly inhere to their working activities, as well as an improved ability to interpret their position in the process of production in a perspectival way[162]. However, it is impossible to develop such *cognitive* distributed resources without securing *and* expanding *practical* distributed resources (visibility/assembly, time, communication)[163]. Only by making these two types of resources available can unions hope to convert them into effective collective capabilities. The last sentences in the excerpt cited above shows how difficult it is for unions to operate this conversion, and to engage in an effective socio-ecological transformation[164]; later in the interview, the same respondent evoked

162. These resources ('information' and 'perspective') are difficult to secure. As the organizational structures and production processes of multinational firms grow increasingly complex and multi-faceted, it becomes more and more difficult for people to identify (and access) the necessary information on which to base their moral deliberations. If Aoki (2010: 8) insists that "inside business corporations, cognitive activities, such as information collections, processing, uses and storage, are systematically distributed and interrelated between the management and the workers" and that the corporate body can consequently be described "as an associational cognitive system" (Aoki 2010: 21), he fails to highlight the fact that, within the corporate realm, crucial elements of information often remain inaccessible. Although the French labour code entitles work councils (and thus unions) to access certain data on the conduct of the business enterprise (art. L2323), this access is subject to strict conditions. Furthermore, the diversity of the legal frameworks in which subsidiaries operate accentuates the difficulty of achieving any homogeneous circulation of information at the corporate level. For these reasons, many corporate practices (such as transfer price manipulation, lobbying spending, industrial risk evaluations, etc.) remain invisible to most employees. Also, since they take place below the 'radar' of the unions (whose memberships are in any case declining), these practices largely escape internal social critique.

163. Ferreras identifies three types of practical distributed resources: (1) the ability of the workforce to assemble physically to increase its self-awareness, which in Total's case is impossible because of the fragmentation of the working collective across global production networks; (2) the availability of time so that employees can meet and organize freely at the workplace; (3) the availability of safe means of communication so that workers can keep in touch with one another. In a context where "even workers who [...] work for the same ultimate employer often do not even know of each other's existence, let alone share common experiences, cultures, customs, languages, or legal frameworks" (Arthurs 2013), discursive mechanisms such as virtual platforms (as Honneth 2014: 217, 222 hinted) could, in the case of multinational firms, plausibly be used to transcend national borders and achieve greater unification of labour at the corporate level (Bieler 2012).

164. Although the CFDT embraces a 'collaborative growth strategy', one could characterize the call to stop investing in tar sands as an incipient form of what Felli (2014) calls a 'socialist strategy', oriented towards reconfiguring the process of production to mitigate environmental destruction. Yet, since falling market prices dictated Total's partial withdrawal from its Canadian projects, the conflict never developed. A more realist interpretation would stress that the consensus against tar sands at the CFDT crystallized because oil prices were plunging. From this perspective, one could still interpret

the difficulty of attracting young and talented employees as an explanatory factor – an observation that corroborates the wider diagnosis of a decrease in the membership and influence of trade unions (Bieler 2012), which the diffusion of an individualist managerial ideology notably amplifies (Flocco 2015). All this suggests that an internal mobilization of employees through unions to develop a *praxis* of dwelling is admittedly possible, but seriously hindered by recent reconfigurations at the workplace.

The transformative potential of unions could be elicited through coalitions with other civil society organizations (Saincy 2015). On this point, the union representative mentions various of the CFDT's attempts to cooperate with NGOs, and observes:

> "NGOs have their own lenses. They act in fits and starts, in a strategic way... we [the union] have [institutionalized] places, but they do not. We have places, relevant bodies to conduct negotiations; we can gather people, but it takes time. NGOs don't have the same temporality; their action is crucial, but it is not always easy to be on the same wavelengths."

This description implicitly rules out the possibility of stable partnerships, which qualifies it as conservative. As such, it contrasts with the intensity of the debates between CFDT representatives and the nuclear industry's more politicized scientists in the 1970s, when nuclear energy was attracting most of the ecological criticism, as fossil fuels now are. The absence of such a radical alliance today is undoubtedly due to (1) the reformist turn of the union, (2) the differentiation of social spheres and the fact that it has become more difficult than it was in the 1970s to organize 'translation processes' (Teubner 2011) between their respective internal

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the initiative as part of a 'collaborative growth strategy', where the union moderates the corporate 'extractivist bias' by paying more attention to stakeholder claims, at no financial cost.

rationalities, and (3) because employees tend to believe that phasing out fossil fuels will generate net job losses and, therefore, they judge it inadmissible[165].

In his account of what he calls the "treadmill of production", Obach (2004b) insists that if "capital plays the central role in propelling expanded production", two other central factors – social labour and the state – must necessarily endorse it. In this configuration, Obach argues, because labour is "the weakest link in the treadmill chain", a reformed labour movement would offer the best chance of a socio-ecological transformation of the production process. His diagnosis, in the early 2000s, of the emergence of "an organized political movement [merging] labor and environmental concerns [with] organized labor shifting its stance in regard to environmental protection" seems retrospectively invalid, for such a dynamic never actually materialized. Two decades later, unions are still too weak to address the structural deficiencies of the wage relationship in the Anthropocene, and Total is a good case in point. Paradoxically, however, this does not rule out the possibility of labour remaining comparatively the "weakest link in the treadmill chain". I have already stressed that a deep re-institutionalization of the working activities deployed in keystone industries was the horizon of a genuine *praxis* of dwelling in the firm, and probably the only convincing way to "voice" (rather than "exit") (Hirschman 1990). In this case, however, active support from the state (for example through extending subjective rights associated with working activities) and a multiplication of alliances with NGOs both seem unavoidable if organized labour is to secure new individual *and* collective capabilities at the workplace. However, it is not because labour is the weakest link (in relative terms) of the treadmill chain that it is itself weak (in absolute terms) and thus likely to change. In Total's case, the strategies of unions remain bound by an ecological modernization narrative that maintains the 'extractivist bias' and thus impedes the emergence of a thick *praxis* of dwelling.

165. Obach (2004a: 282) observes that "the key question [regarding labour–environmental coalitions] is whether environmental goals will have a positive or negative impact on the economic and workplace interests of workers."

4. 'Keystone' business firms in the Anthropocene: addressing the institutional deficit

Earlier in this chapter), I suggested, following Young (2013), that the deployment of a *praxis* of dwelling implied orienting transformative action towards redefining the background institutional settings of geo-social life. Later, I identified the wage relationship as one of these settings, arguing that it needed to be re-institutionalized to fulfil the normative promises of human work more deeply. Now, I contend that the legal form of the limited liability corporation through which capital is harnessed and business firms structured (Robé 2010, 2011) is another background institutional setting that suffers from severe structural flaws. As the deficiencies of this legal form (and of the imaginary that it contributes to spreading) translate into concrete socio-ecological impacts, one can reasonably include attempts to integrate them within the horizon of a sound *praxis* of dwelling. This amounts to saying that any attempt to re-institutionalize the business enterprise to make it compatible with the socio-ecological demands of democratic life (Honneth 2014) has to pay particular attention to, and reconfigure, the modalities through which human work *and* capital are harnessed in the process of production. It is important to stress that since organized labour and corporate capital are structurally antagonistic, the developments addressed above (section 3) have 'negatively' prepared those that I shall develop in this one[166], where I more specifically analyse the structural deficiencies of corporate law before suggesting, in the last part of this chapter (section 5), that the business firm should be instituted as a commons.

4.1. A temporal legitimation crisis?

In earlier chapters in this dissertation, I have emphasized that descriptions of Total's business projections (and likewise those of most 'keystone' industries of the Anthropocene) are

166. The contours of the wage relationship and the modalities of capital accumulation are indeed mutually interdependent; re-evaluating the former has an (indirect) impact on the latter.

increasingly antagonistic to the *future*, that is to a long-term preservation of 'geo-social' freedom. As scientific knowledge about the harmful nature of fossil fuel extraction accumulates and public awareness of the problem increases, multinational oil and gas firms are becoming hostage to the structural rigidification of their historical business models[167]; and even if these capitalize on their dominant position as energy supplier to maintain the status quo, it seems that *time works against them*[168].

Revault d'Allonnes's opportunely emphasized the peculiarity of this situation in her analysis of the concept of authority, which prolongs Arendt's (1961: 91–142) path-breaking argument. As she explains:

> "*Time is the matrix of authority as space is the matrix of power*. It is the temporal character of authority – more specifically *generativity* – that makes it an essential dimension of social life. [...] It is not a question of including [the multiplicity of] discontinuities in a great totalizing and homogeneous continuity, but of thinking about the continuous/discontinuous tension as constitutive of *public duration*." (2006: 13 - emphasis added)[169]

Although Revault d'Allones looks at state institutions, it is possible to transpose her framework to 'keystone' business firms: notwithstanding the intrinsic legitimacy of the claims they might have, *qua* business firms, to exert some kind of authority (an argument examined later), it is

167. On this dialectic between acceleration and rigidification, see Rosa (2015: 277–98).

168. A recent event illustrates this critical situation perfectly. On 15 November 2017, the *Guardian* warned that a Brazilian government proposal to grant tax relief for offshore oil exploration and production betrayed its plan to "fire-sale its oil resources before shrinking global carbon budgets push down demand and prices", and that it would help to launch a "global fossil fuel extraction race" (*Guardian* 2017a). Four days later, another article reported that the UK's trade minister had lobbied Brazil on behalf of Shell and BP to relax its regulations (*Guardian* 2017b). This episode illustrates the capacity of multinational firms to pervert the law to serve their own ends (Deneault 2017): 'law making' thus appears as the ultimate development of 'law shopping'.

169. Nietzsche early identified this link between time and authority. "The entire West no longer has those instincts from which institutions grow, from which a *future* grows: possibly nothing goes more against the grain of its 'modern spirit' than this. One lives for the moment, one lives very quickly – one lives very irresponsibly: this is exactly what one calls 'freedom'" (Nietzsche 1997: 74). Like Nietzsche, but for very different reasons, and unlike Arendt, who insists on its provenance from the past, Revault d'Allonnes (2009) argues that in modern times authority cannot but come *from the future*.

possible to raise a strong pragmatic argument against this prospect, as there is mounting evidence that the material effects of these corporate activities jeopardize future social prosperity. This conundrum deeply corrodes the binding force of authority, which is eminently temporal. In the context of the Anthropocene, the likelihood of multinational oil and gas firms legitimizing their corporate power by demonstrating that it institutes a form of 'public duration' (i.e., in that it guarantees the permanence of a common world) seems increasingly compromised. As corporate power gets deprived of any transcending source of authority, its exercise becomes 'bare', purely coercive (Arendt 1961: 93), and therefore blind to the moral foundations that its exercise inevitably presupposes (Honneth 2014: 194)[170].

On this basis, I contend that the emergence in the Anthropocene of a configuration in which the unchecked deployment of the corporate activities of 'keystone' business firms systemically jeopardizes ecosystems, casts a new light on the structural deficiencies of the limited liability corporation[171]. This situation calls for a re-politicization of the corporate form, namely a recognition that it does not, as Hansmann and Kraakman (2000) argued, owe its existence to some kind of 'natural necessity' but rather that it is (and always has been) a political construct used by particular groups to further their own interests (Ireland 2010).

4.2. The architectonic moral significance of corporate legal structures

In this subsection, I continue to explore the implications of basing a socio-ecological critique of the prevailing economic order on Honneth's concept of 'moral economism'. In section 3, I have attempted to highlight some of the key normative foundations associated with the experience of human work and suggested that addressing the internal deficiencies of the wage

170. Blindness can be another name for cynicism. On previous developments regarding the 'performance of seriousness', see chapter 5 of this dissertation.

171. In earlier decades, it was the *discrete* rather than *continuous* environmental catastrophes that corporate activities generated that attracted public attention, a paradigmatic example being the Bhopal disaster in 1984. The Anthropocene brings us one step further in the critique of the corporate legal form, as a growing consciousness about the unfolding of 'continuous' catastrophes (like climate change) strengthens arguments against limited liability when coupled with shareholder primacy.

relationship in a practical manner might alleviate alienation. I now wish to expose visibly (and assess critically) the normative canvas from which the legal form of the corporation has emerged, and to argue that traces of this initial configuration still undermine the prospect of multinational firms benefiting from a thorough legitimacy in the global effort to undertake a (much-needed) "moral re-civilization of the capitalist market economy" (Honneth 2014: 253).

Is it justifiable, I ask, to concentrate on this point when the focus of this chapter is on dwelling as an alternative to alienation? I believe that it is, precisely because corporate law is almost always one step ahead of labour law and has played a decisive role in structuring its development[172]. Langille (2013) ascribes the limited capacity of labour law to reflect on its own normative premises to the fact that it has long been conceived of as a mere 'resistance movement' inside the normative system of market ordering, and that it has thus remained trapped in the latter's intellectual paradigm. The reason why one can view the moral significance of the legal form of the limited liability corporation as 'architectonic' thus becomes clearer: with its introduction, business firms quickly became joint-stock companies and structured their activities beyond national borders (Ireland 2010; Robé 2009). In a few decades only, this shift deeply remodeled the institutional background of most Western countries, as the growing mobility of capital fragilized social movements. This dynamics has expanded up to the present day, as multinational firms have become sovereign entities in their own right (Robé et al. 2016). Accordingly, I contend that retrieving the normative foundations of the capitalist market economy entails uncovering the moral dilemmas which were initially encapsulated in

172. It is worth noting that this has not always been the case. The labour contract existed long before the joint-stock company became the norm. As Ireland (2010) observed, family firms and partnerships still dominated the manufacturing industry when Marx wrote *Capital*. However, one can reasonably hypothesize that from the onset of the boom in joint-stock companies (in the late 1860s in the United Kingdom), corporate law began to 'gain the upper hand' over labour law, and never lost it. As Carrigan (2011) put it, from early on corporate law had its content "circumscribed by the need to consolidate the sovereignty of private property and reinforce the dual power of directors and shareholders". The legal forms that emerged did not challenge the status quo that kept workers out of corporate governance (in family firms and partnerships), and contributed instead to reinforcing the hierarchical organization of the firm.

the corporation's legal form, and which have haunted it ever since – and evaluating whether the structural deficiencies that have derived from these dilemmas can be corrected[173].

Honneth (2014: 193) has insisted that both Hegel and Durkheim believed that corporations and occupational groups needed "to preserve a cooperative awareness of mutually supplemental responsibilities" by integrating principles of precontractual solidarity into their structures. Irrespective of their underlying legal form and because they harnessed human work, business firms were meant to secure the basic institutional conditions to ensure the flourishing of its formative potential, and to foster the realization of the ethical aspirations that were tightly attached to the "labour force membership status" of workers (Supiot 2001: 213). Ireland (2010) reports that in nineteenth-century England, business enterprises structured around the traditional law of partnership (based on unlimited liability) derived their legitimacy from their natural alignment with the then widely shared religious principle of eternal justice, which was to reward success and punish failure. This legal arrangement served to maintain market transactions enveloped in thicker social values, and thus fulfilled the requirements of 'moral economism'. Scottish economist McCulloch could then declare in 1856 that "in the scheme laid down by Providence for the government of the world there is no shifting or narrowing of responsibilities, every man being personally answerable to the utmost extent for all his actions" (Ireland 2010). Given these conditions, it was hardly surprising that the introduction in 1855/6 in the United Kingdom of free incorporation and general limited liability generated strong public hostility. By being authorized to speculate for profits without being liable for losses, the 'sleeping' partners providing the money threatened to undermine the prevailing moral order (Bryer 1997; Carrigan 2011).

173. However irreconcilable the premises of social philosophy and of liberal egalitarianism might be, it is worth underlining that there are significant convergences in recent accounts by both schools of thought about the status of business firms. Proposing a synthesis of the recent Rawlsian literature, Blanc (2014) argues that firms can be interpreted as institutions that are constitutive of the basic structure of society (to which the principles of justice are meant to be applied). This position obviously resonates with the Honnethian approach developed here, which, in line with the tradition of critical theory, emphasizes the connection between the social and the political.

Suspicions about corporate form were equally widespread on the continent. Although in France limited liability was introduced much earlier, in 1807, until the advent of free incorporation in 1867 it could only be granted once the state had cautiously evaluated whether corporate activities would create public utility – and this process could last for up to two years! (Freedeman 1965; Robé 1999: 54–56; Robé 2009). The same period saw the emergence of the doctrine of a separate corporate personality when, across Western countries, shares ceased to bestow equitable interest on company assets but instead were gradually redefined as embodying the rights to benefit from dividend streams and to exert control. This certainly separated companies from their shareholders, while offering the latter a state-sanctioned vehicle through which to speculate for profits without being liable for losses. If the modern corporate legal form finally triumphed, it was not because it reflected the demands of a 'moral economism' but rather because it had been judged a sufficiently efficient political construct to protect the interests of a rising *rentier* class of wealthy investors (Ireland 2010; Schmoeckel 2015). With the introduction of this limited liability model to most countries as the standard legal form of corporation, within a few decades the deep asymmetries and moral hazards initially ingrained in its core structure had become naturalized, as had the patterns of social relations that tended to derive from it when used to organize business firms.

When it appeared, this new legal form consolidated the existing status quo that relentlessly exploited workers and kept them away from corporate governance[174]. As Carrigan (2011) observes, corporate law in nineteenth-century England had its content "circumscribed by the need to consolidate the sovereignty of private property and reinforce the dual power of directors and shareholders" and, as a consequence, it ignored the workers. The new opportunities the legal form of the limited liability corporation offered tended to amplify worker dispossession: as business firms had access to unprecedented amounts of capital

174. As Marx wrote in *Capital*, the manufacturing industry was still largely dominated by family firms and partnerships, but the labour force was already being subjected to appalling working conditions, so it would be wrong to blame the joint-stock company for all evils (Ireland 2010).

through public subscriptions, they quickly grew into hierarchically-organized corporate bureaucracies, started to embrace the principles of scientific management, and made the division of labour considerably more complex. By introducing greater moral hazard into the corporate legal form, the shift from unlimited to limited liability not only marked a new step in driving business firms away from the basic demands of a 'moral economism'[175], but also indirectly led to a reshuffling of the workplace environment in ways that would transform the experience of work by amplifying the hollowing out of its intrinsic ethical charge[176].

Before proceeding, I would like to emphasize that, nowadays, most contemporary approaches to CSR completely overlook this architectonic moral significance of corporate legal forms. These approaches remain largely conservative, in the sense that they fail to trace the origins of corporate irresponsibility back to their internal structural deficiencies. Rather, they tend to promote corrective, voluntary self-regulation that leaves fundamental power asymmetries untouched (Ireland 2010). To rein in the shareholders' reckless appetite for financial value, some scholars have argued in favour of abolishing limited liability, which would mean taking the idea of a separate corporate personality *less* seriously (Hansmann and Kraakman 1991), but many believe that this would have little effect. Since institutional shareholders with vast financial resources now operate contemporary capitalism, rather than individual entrepreneurs with limited resources, to reintroduce unlimited liability would simply increase the investors' preference for holding bonds rather than shares (Ireland 2010; Toporowski 2010). Incurring debt would become an uncomplicated way for multinational

175. The family firms and partnerships that preceded joint-stock companies were not of course perfect, but unlimited liability undoubtedly curbed greed and reckless risk-taking, the diffusion of which is a significant obstacle to the realization of 'geo-social' freedom. One can therefore argue that, from a purely internal perspective, the shift from one predominant legal form to another weakened ethical life, *ceteris paribus*.

176. MacIntyre's (2007, 2015) descriptions of the dissolution of moral life in the modern economy barely mention the technical/legal reforms – apart from lifting constraints on usury (2015) – that concretely enabled money to reorganize social hierarchies. However, there is little doubt that since it created an opportunity to 'socialize' capital by pooling it from dispersed, indifferent shareholders – thereby making the texture of the economy even more illegible, the introduction of the limited liability corporation helped to accelerate the diffusion of 'emotivism' (2007: 23–36), and thus of a purely subjectivist take on ethics.

firms to shift their financial liabilities without damaging their core business interests[177]. As Ireland (2010) suggests, the way out of this dilemma would rather consist in taking the idea of separate corporate personality *more* seriously.

5. Instituting the firm as a commons

In this last section, I aim to develop the argument that the deployment of a *praxis* of dwelling has ultimately to be oriented towards a re-institutionalization of 'keystone' multinational firms as 'commons' (Bommier and Renouard 2018), that is as "shared resources vulnerable to social dilemmas" (Hess and Ostrom 2011: 11). This is, I suggest, a limiting condition to the realization of ethical life in the Anthropocene.

In many respects, I have laid the ground for the discussion I propose here. First, I have argued that workers had a legitimate claim on the conduct of the firm, but that the institutionalization of the wage relationship in the Fordist compromise had failed to translate it into effective power. I have then suggested that the legal form of the modern corporation had largely been implemented to channel the claims of investors on the conduct of the firm. However, I have hinted that this legal innovation had also contributed towards installing a significant power imbalance in the investors' favour, which since then has never really stopped consolidating. In the 1970s, the irresistible rise of the shareholder primacy paradigm (Friedman 2007; Heilbron et al. 2014) reshuffled the coordinates of shared imaginaries, thus spreading the (unfounded) idea that shareholders were the exclusive owners of the firm[178]. Over the last few

177. As pressure to phase out fossil fuels mounts, it is possible that in the coming years, multinational oil and gas firms will 'go private' (that is withdraw from the stock markets) to diminish their public exposure, which remains considerable so long as the regulatory authorities force them to disclose information to investors. By doing this, strictly speaking they would not escape the regime of limited liability, but somehow depart from it by limiting their reliance on equity markets. As 'going private' would come with a significant relaxing of disclosure requirements (and thus generate greater opacity), it is difficult to see how such a shift could effectively limit corporate irresponsibility (I am indebted to G. L. Clark for this point).

178. Robé (2011) recalls that shareholders only own the shares of the corporation, but not the corporation itself.

decades, the crystallization of this idea has offered corporate shareholders "the best of all possible legal worlds" (Ireland 2010, 2016) by providing them with the resources they need to argue, alternatively depending on their convenience, either that firms are separate legal entities (in the case of going bankrupt or being involved in scandals) or that they are objects of their property (when they generate cash flows that can be extracted). In the case of Total, I have fully discussed the pervasive impacts of this schizophrenic reification of the firm in chapter 6.

This entrenched domination of one constituency (shareholders) over others does not, however, go all the way down: the firm cannot be owned as a mere thing precisely because it is legally structured as a fictive person (Chassagnon and Hollandts 2014; Deakin 2012; Robé 2011). As a result, corporate law does not unilaterally dictate its institutional form: rather, it emerges at the intersection of variegated practices, each shaped by different bodies of law. These reflect the often-contradictory interests of the numerous constituencies that model the firm (Deakin 2012): corporate law covers shareholder rights and the structure of the board; labour law demarcates managerial authority to protect workers; health and safety law regulates the workplace environment; environmental law prevents the destruction of ecosystems, and so on. From this perspective, there can be "no single, all-encompassing legal vision of the enterprise, but rather a series of fragmented, domain-specific perspectives". Drawing on Ostrom's work, Deakin (2012) suggests that because no constituency can legitimately claim exclusive ownership of the firm, one can justifiably reconceptualize it as a commons. From a normative viewpoint, this implies that each stakeholder benefits from a bundle of rights (access, withdrawal, management, exclusion, alienation) that secure its participation in corporate governance. This claim resonates in many ways with the argument that Dodd defended in the 1930s during his landmark debate with Berle. He stated that, in a context where "modern large scale industry [had] given to the managers [...] enormous power" (Dodd 1932), the latter could not have fiduciary duties exclusively towards shareholders, but that they had to accept a greater

trusteeship role towards the firm's constituencies (Macintosh 1999)[179]. However, Dodd's argument cannot, I maintain, be used to justify the irenic interpretation of the stakeholder approach that predominates in the CSR literature (a good example being Scherer and Palazzo 2007). Later in his life, the American lawyer observed indeed that "since [Roosevelt's New Deal], the implementing of the obligations of business toward labor [had] been accomplished by means *other* than treating business managers as in some measure fiduciaries for their employees"; it had rather resulted from labour "strengthening its legal position as *against* business enterprise" (Dodd 1942, emphasis added). Following this line of thought, one can interpret the firm as a *fundamentally agonistic* commons over which each constituency struggles to maximize its sway by securing new rights or influencing shared imaginaries[180]. Such an approach therefore implies that the corporate governance problem is reformulated to take power and not ownership (which is a non sequitur) as its core concept[181] (Chassagnon and Hollandts 2014); and if the firm is truly a commons, corporate power should formally speaking remain an "empty place" (Lefort 1988). From this perspective, one can interpret the crystallization of the paradigm of shareholder primacy in recent decades as a movement of enclosures that has prevented other constituencies from taking their due part in the contested negotiations that should draw the contours of this power, and thereby give it its legitimacy. Elaborating institutional arrangements that would counteract shareholder primacy and re-

179. By describing "the business corporation as an economic institution which has a social service as well as a profit-making function", Dodd (1932) sought to offer a realist, socially-embedded account of the firm. It is worth mentioning that in the same essay he insisted that "property employed in a business [...] classed as a public utility [like gas, electricity, telephone, railway companies] [was] private property *only in a qualified sense*" (Dodd 1932, emphasis added). Had he lived until 2018, Dodd would have probably been hard on the fossil fuel industry!

180. It is important to highlight that the idea of shareholder primacy owes little (if anything) to the legal framework of corporate law. Deakin (2012) insists that it is rather the long-lasting cultural impact of the law and economics doctrine that has gradually consolidated the influence of such a reified understanding of the firm.

181. Chassagnon (2011) defines power as "an individual or collective entity's ability (that will be exerted or not) to structure and restrain choices and actions of another individual or collective entity by some particular mechanism intrinsic to the given social relationship that may be formal as well as informal."

establish a balance between corporate constituencies appears therefore necessary to bring corporate power closer to the 'empty place' paradigm.

Ferreras's (2017) proposal to transpose the bicameral system from the polity to the firm is worth highlighting. According to her, introducing an institutional innovation that made managers accountable to a two-chamber parliament that gave 'capital investors' and 'labour investors' equal standing, would radically rebalance power relationships. Corporate *governance* would give way to corporate *government*. While the former designates the exercise of corporate power when it has become a spectrum of shareholder interests taking the form of a mere 'optimization under constraint', the latter characterizes its exercise when managers are forced to craft compromises between dissonant rationalities – in Ferreras's (2017) case, instrumental and expressive ones (attached to capital and labor respectively). Instituting the firm as a commons[182] subjects the orientation of corporate power to an intensifying 'conflict of interpretations': exercising it legitimately, that is transforming it into genuine *authority*, implies that managers not only mobilize their practical reason on both the individual *and* collective level, but also that they are held accountable to other constituencies for the compromises they finally make[183]. For this to happen, it would become necessary to introduce robust checks and balances to 'civilize' corporate power. However, given that its consolidation in recent decades has become a powerful vector of social acceleration (Rosa 2015: 161–74), which has led to the configuration of new, deterritorialized normative *spaces* that have prospered on the ruins of established normative *orders* like nation-states (Lhuilier 2016), this is indeed a daunting task.

As Muir-Watt (2011) rightly observes, the current situation exposes deep-seated deficiencies in private international law, which, hampered by the constraints inherent in the Westphalian doctrine of sovereignty, has proved unable to deal with "the myriad black holes opened by the

182. For an in-depth discussion on how individuals engaged in a practical activity can simultaneously produce a new collective subject, namely a commons, see Dardot and Laval (2014).

183. Ricoeur (1991b) emphasizes that "compromise is a demanding art, since the common good cannot be achieved through a unitary justification, but only through the crafting of an intersection between several orders of worth. Compromise is therefore essentially linked to a pluralism of justifications." Wright and Nyberg (2013), however, stress how difficult it is to make such balanced compromises in the corporate realm given that it is overwhelmingly shaped by market values.

confiscation of transnational adjudication and regulation by private entities". Taking stock of this sobering complexification of contemporary capitalism in globalization, legal pluralists (Robé et al. 2016; Teubner 2011; Teubner and Beckers 2013) have argued that processes of "constitutionalization" had to be expanded beyond the nation-state, and deployed to transnational private entities. By exerting massive "learning pressures" on them from the outside, they argue that stakeholders could initiate "translation processes" (Teubner 2011) and make corporate codes and practices more compatible with fundamental democratic aspirations – and with the new temporal horizon of the Anthropocene. Such a view is, of course, plainly compatible with the normative claim that the firm should be construed (and realized) as a commons.

6. Conclusion

The picture I have outlined of the firm as a commons can be interpreted, I argue, not only as a 'positive' dialectical opposite to the reified firm that prevails under shareholder primacy, but also as a political translation of the anthropological concept of dwelling, which I have situated as opposed to alienation. Their mutual relationship is relatively simple: the possibility of the firm being instituted as a commons, and thus to become an institutional vector to the realization of 'geo-social' freedom in the sphere of the market (Honneth 2014), derives from the capacity of individuals from different corporate constituencies (and primarily workers) to engage collectively in a transformative *praxis*, oriented towards re-embedding economic relationships in their overarching socio-ecological base. As I have argued, extending the democratic ethos to firms, like Total, identified as 'keystone' actors of the Anthropocene (Österblom et al. 2015), is particularly urgent because their business-as-usual already jeopardizes the stability of planetary ecosystems. In this endeavour, I have suggested that organized labour has a significant role to play, but that its fragile structure and bias towards

extractivism weaken its legitimacy. If a model of corporate governance enabling Total to phase out fossil fuel production and thus put an end to the destructive cycle of carbon-based capital accumulation were to emerge in the coming years, there is little doubt that it would come from unprecedented pressure from external corporate constituencies such as the state, NGOs, civic-minded investors and citizen collectives[184].

184. It is worth noting that climate litigation could constitute a new threat to extractive firms. A Peruvian farmer recently brought the German energy-supplier RWE to court on the grounds that cumulated emissions of corporate activities had significantly damaged his environment (*The Guardian* 2017c). A law project currently discussed in France aims to modify the definition of the business corporation by making its accountability towards external stakeholders more explicit (*La Croix* 2017). If adopted in its demanding version, such a reform could lay the basis for future legal precedents in climate litigation.

CHAPTER 9

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Conclusion

Throughout this dissertation, I have tried to develop an in-depth critical account of the conditions of possibility of human action in the institutional structures of contemporary capitalist societies. To this end, I have focused on the case of Total, considering that the legitimacy crisis affecting corporate activities geared towards fossil fuel extraction encapsulated the core challenges posed to ethical life in the age of the Anthropocene. I have sought to demonstrate that it was possible to mobilize the concept of alienation to characterize these challenges further and to expound on their genesis, by using it as a prism through which to disentangle and interpret the multi-layered empirical reality of the corporation and, more particularly, of the ethical experience of individuals at the workplace.

1. Restatement of objectives and fundamental findings

In this section, I recall the objectives I initially set for this doctoral work and identify the most important findings to have emerged from this long intellectual journey in and through the dense, complex, and ultimately inexhaustible universe of Total.

A first broad target was to deliver a balanced, multi-faceted empirical description of Total. In this dissertation, I have thus striven to reassemble the dispersed pieces of a complex puzzle with which to provide a comprehensive, open-ended representation of the corporation. I have done this by shedding light on some of the elements responsible for creating and diffusing the corporate imaginary, by tracing the concrete dynamics that structure the process of accumulation, and by offering a glimpse at the ethical experiences of employees and the formation of their moral identities. The outcome of this analysis, I suggest, is of interest to a range of different fields of scientific research.

One notable shortcoming in the literature I intended to consult as I embarked on this research project was the virtual absence of any useful empirical analyses on 'keystone actors' of the Anthropocene. The status of the fossil fuel industry was then already a matter of considerable concern to Earth system scientists: however, because of their propensity to develop realist narratives focused on adaptation, they tended to accept the 'reasonable' discourses of European multinational oil and gas firms, which emphasized the need for a pragmatic, market-oriented and technology-driven response to climate change. Social scientists interested in the topic were less prone to develop such affinities, and some had even suggested renaming the Anthropocene the 'Capitalocene'. Although it was well-founded, there were no in-depth studies on the internal dynamics underlying the activities of critical business firms to back their proposal. Each of these two camps was thus prone to making normative judgements about actors in the fossil fuel industry without basing them on substantive empirical knowledge. In this respect, I am optimistic that this doctoral work will, at least partially, fill this gap, for it provides one of the earliest empirical descriptions of the organizational structuration of a major firm in the oil and gas industry – and one that is undoubtedly a 'keystone actor' of the Anthropocene. As debates about the public legitimacy of 'global carbon conveyors' are bound to heat up in the years to come, this account of the institutional dynamics that organize the fossil metabolism of capitalist societies could thus be of interest to both social scientists and

Earth system scientists who feel the need to sharpen their understanding of these critical business firms.

Another blind spot I intended to address as I initiated this doctoral work, was that contemporary social theorists have insufficiently problematized the nature and status of the corporate power that multinational firms exert. Although it is widely recognized that these socio-economic institutions have gained unprecedented influence in shaping Western polities over the last decades, their activities have rarely been subjected to systematic accounts. Although the analysis I have developed throughout this dissertation remains relatively idiosyncratic and bound to the specificities of Total's case study, I nevertheless consider that some of its findings can claim some generic validity. I believe they have a contribution to make to wider discussions, for example on the transformation of human work in an increasingly labour-divided economy, on the political economy of multinational firms and, more generally, on their ambiguous political status in the contemporary world-power system. In bringing together these different points, the refined description I have developed of the mutual envelopment of individuals' working activities on the one hand, and the complex reality of the firm as a 'geo-social' institution on the other, is a cornerstone of this research and, as such, points towards an ideal-typical validity with an application beyond the oil and gas industry. Although yet another description of the classic agent/structure problem might seem trivial or unnecessary, I suggest that its meticulous undertaking has achieved a deeper purpose in drawing attention to the nature and modes of existence of corporate power in present-day capitalism. By following this line of reasoning, I have sought to do justice to the fundamentally unstable, dynamic nature of empirical reality: this approach has enabled me to demonstrate that the ways in which corporations exert their power concretely reshape the contours of the social and ecological realms that form the background of capitalist societies – though it goes without saying that the way it does it will vary from industry to industry.

A second objective of this research has been to demonstrate that one can mobilize the concept of alienation as a 'critical refractor'[185] through which to clarify our inchoate grasp of the concrete reality of the firm, and thus acquire the valuable heuristic resources needed to explain the complex ethical experience of individuals at the workplace. This leads to my evaluation of the theoretical contribution of this doctoral work, which, I suggest, is twofold.

First, I consider that however modest it might be, this contribution can surely be situated in ongoing debates on the organization of the conceptual apparatus of critical theory. The findings of this research directly resonate with the thesis defended (among others) by Jaeggi (2014, 2016) and Rosa (2015, 2017), according to which the critique of capitalism is ultimately predicated on an analysis of how individuals collectively develop deficient ways of relating to their own self, to others, and to the wider world – at the workplace and beyond. By scrutinizing Total's empirical reality through the 'critical refractor' of the concept of alienation, I have indeed brought convincing evidence that the latter is effectively the 'smallest Russian doll' of critical concepts, insofar as it offers the most appropriate resources for developing fine-grained analyses of the ultimate determinants of socio-ecological misdevelopments. I have thus demonstrated that even a phenomenon as impersonal as climate change, could be 'brought down to earth', and have a significant part of its socio-historical genesis clarified by harnessing the heuristic resources offered by the concept of alienation. In other words, I have shown that climate change could be more accurately described as resulting from the persistent forging of particularly deceptive self–world relations among employees of the oil and gas industry[186]. By

185. Hailwood (2015: 251–2) uses this metaphor (which refers to the device opticians use to determine the lens combination required to adjust a patient's vision) to describe how a concept can be harnessed to decipher the fuzziness inherent in empirical situations. This metaphor is therefore a bit more precise than those of the 'prism' or the 'lens' that I have frequently mobilized.

186. Earlier emissions, which occurred before the warming potential of greenhouse gases was clearly established in the 1980s, still have an enduring effect on the climate system. As such, they cannot, properly speaking, be analysed with the concept of alienation as I have defined it. For current emissions, it seems quite clear that the moral responsibility of the senior managers of privately-owned multinational firms should be differentiated from that of the senior managers of national oil and gas companies. Although the first live in rich countries and extract fossil fuels to satisfy the demands of shareholders, the second often live in emerging countries and extract fossil fuels to

following this thread, I have thus prepared the ground for a better integration of the environmental 'negative' that inescapably inheres in accounts of social alienation, but which had until now remained insufficiently explained (at least in the writings of critical theorists). In a more classical way, which Rosa (2017) notably explored, I have also argued that the work of elucidation which the concept of alienation enables, could gain from having its underlying 'positive' orientation expounded – and I have therefore suggested that introducing the concept of dwelling (as the dialectical opposite of alienation) could help uncover it. Throughout this doctoral work, I have therefore symmetrically harnessed these two concepts and 'put them to work' to interpret the empirical material gathered in the field. On this basis, I have developed a normatively-principled critique of the generic form of life being articulated at Total. As such, I consider that the latter is not entirely idiosyncratic and that it can, again, claim validity as an ideal-type. Put in a wider context, such an intellectual endeavour might indeed enable one to appreciate once again the political status of human work in contemporary capitalist societies, especially when harnessed by multinational firms whose activities generate large-scale environmental degradation. In this respect, the final discussion about the legitimacy of reclaiming the firm as a commons represents, at the institutional level, the logical development of our in-depth analysis of the specific type of alienation arising in the corporate realm.

Although the core theoretical contribution of this dissertation undoubtedly lies in the various inputs it brings to the ongoing discussion on the centrality of the concept of alienation, I suggest that its significance may exceed this perimeter. As the previous paragraph suggests, developing a more comprehensive account of alienation has indeed required me to build bridges between different disciplines. I thereby sowed the seeds of a larger, more composite theoretical enterprise, which I proposed to label a 'geo-sociology of the good life'. From the very start, however, it was clear that I would not, in this doctoral work, attempt to build from scratch a general theory of this as yet unexplored field, but rather that the conduct of an

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generate revenue for the national public administration – embezzlement notwithstanding! In both cases, the paradigm of alienation clearly cannot be applied homogeneously.

empirical case study on Total would constitute an opportunity to grasp, in a somewhat inductive way, some of the essential features that would characterize its intellectual infrastructure. Whether these efforts have been consistent enough to draw the contours of such a 'geo-sociology of the good life' remains, of course, open to discussion. In any case, this second facet of the theoretical contribution of the dissertation remains more 'impressionistic' than the first one on the concept of alienation.

2. Main implications

By its very form, this doctoral work opens a meta-theoretical discussion on the relationship between theory and practice in critical social sciences: this debate is, in my opinion, a much-needed one. In what follows, I briefly explain why this is so, before clarifying the main implications of this research in a broader reflection about the legitimacy of Total (and of other similar firms) in the Anthropocene.

In this doctoral work, I have done my best to honour a longstanding tradition of critical, humanist thought in the social sciences, which is to pitch a critical concept against the empirical reality it is ultimately meant to denote. In this respect, I have identified some workable, context-sensitive institutional principles towards which to orient collective action in an attempt ultimately to re-embed human work and businesses in their background socio-ecological framework. By following this thread, I have weaved my way between the theoretical and practical, and attempted to develop a critique 'riveted to the real', preconditioning its self-articulation to its being altered by a deeply variegated empirical reality, composed of fragments as incommensurable and diverse as the public statements of CEOs, the narrated ethical experiences of employees immersed in the corporate realm, countless reports from Total, think-tanks and NGOs, newspaper articles and, of course, the scientific literature. I have

attempted to argue that critique could recover its sharpness by thinking itself through this heterogeneous assemblage of data.

Some scholars will, no doubt, find the results of this intellectual enterprise unsatisfactory, for they will regret either the lack of precision and exhaustiveness of its empirical descriptions, or the limited ambition and effective yield of its theoretical developments. In some ways, such reproaches might be justified. This piece of work may well remain disappointing to observers who expect 'pure' analysis (whether empirical or theoretical). As such, the very form of this doctorate is indeed probably 'somewhere in between' and, as such, its main value might lie in its ability to reopen the question of how theory and practice can be interlinked in critical social sciences. A century ago, Simone Weil was undoubtedly the first thinker to take a radical stance on this issue. By delving into the world of a Renault factory and writing notebooks on her experience of working on the assembly-line, she brought an unprecedented 'down-to-earth corrective' to the triumphant, yet disembodied scientism that constituted the *doxa* of the then almighty Marxism-Leninism. Of course, times have changed, but although concerns about such a coarse and misguided scientism are nowadays much less justified, there is clearly still a significant discrepancy between the critical emancipatory social sciences on the one hand and the concrete reality of the individuals whom they are supposed to empower on the other. In this respect, a core intuition of this research has been that there was nothing to justify allowing such a discrepancy to persist in a case where the ascription of blame seemed straightaway so unproblematic. Even if the fossil fuel industry holds indeed decisive moral responsibility for causing climate change – which undoubtedly constitutes the most terrifying signature of the Anthropocene – it does mean that one should not engage in a fine-grained, genetic analysis of its activities, likely to shed light on how these ultimately rely on individuals deploying their vital powers. In this dissertation, I have thus tried to navigate between theory and practice to develop a critique that, without necessarily sacrificing its theoretical ambitions, is more grounded, context-sensitive and, thus, more in tune with the struggles that take place around contemporary 'critical bottlenecks'. One could even probably legitimately believe that such an

intellectual undertaking could contribute towards 'inflecting from within' the type of theoretical questions that critical theorists raise and discuss, and thus strengthen the vitality of their links with social movements.

That said, a burning question remains: what do the findings of the present doctoral work tell us about Total? Giving a clear-cut answer about the *future* of the firm would undoubtedly be presumptuous, not only because predicting the future is always a risky business for a social scientist, but also because I have demonstrated, throughout this dissertation, that 'one-sided narratives', regardless of whether they come from the corporation or from civil society, do not adequately capture Total's trajectory. Anyone wishing to formulate a balanced judgment on whether the firm 'could make it' (and under what conditions) is thus bound to cross-check a multiplicity of sources emanating from scientific literature, corporate material, NGO and think-tank reports, newspapers, and the like.

Regarding the *current situation*, however, the conclusion of this study is clear. At present, Total, alongside other multinational oil and gas firms (and in fact most national companies), is an *enemy* for the future of humanity: as such, the deployment of its corporate activities jeopardize global human wellbeing in the twenty-first century. The findings of this research indeed show that the barriers between Total's business-as-usual projections and its alleged commitment to the 2°C target are probably insurmountable – and that its executive managers are too comfortably dependent on their shareholder-aligned incentivization schemes to do anything other than 'perform seriousness'. It is entirely possible, however, that unanticipated and spectacular developments might take place in the coming decade to bring about a significant reshuffling of the rules of the energy game. Meanwhile, we should not underestimate the inbuilt inertia of fossil infrastructures, for the sobering diagnosis I have just outlined rests on a balanced appreciation of the dynamics that currently structure the firm's growth trajectory.

A glance at the recent news tends to confirm that the gap between Total's level of fossil-fuel extraction and the likelihood of it meeting its 2°C target for emissions reductions is continuing

to widen. Total's CEO Pouyanné recently estimated that in 2040, the world economy would still consume between 80 and 90 million barrels of oil per day, which is only a slight decline compared with the 96 million barrels that the International Energy Agency reported was consumed daily in 2016 (*Le Monde* 2018). A few months earlier, the world-renowned Earth system scientist Rockström (2017) and his team had described the imperative of rapid decarbonization to keep the rise in temperature below 2°C as "the world's biggest gamble", and estimated that "by 2040, oil [would] be about to exit the global energy mix". The antagonism is clear. Pouyanné, in the same interview, stated that "big investments in the [investor-owned] oil and gas industry had not yet started up again, for there were only around 400 billion dollars invested worldwide", which is a much lower figure than the 750-billion-dollar peak reached in 2014. Then, some days later, Pouyanné declared that Total's capital expenditure would be capped at between 13 and 15 billion dollars between 2018 and 2021 *(Financial Times* 2018). However, recent research by Heede and Oreskes (2016) established that while "the use of the existing proved reserves held by the largest investor-owned corporations [would] not lead to climate warming above the 2°C limit, *exploration for and development of new reserves – beyond those that are presently proved – [would] exceed the carbon budget*" – an assessment that seriously weakens the credibility of Total's commitment. Using a different method, Leaton estimates that 30–40 per cent of Total's overall capital expenditure projected to 2025 is outside the 2°C scenario (*Carbon Tracker Initiative* 2017)[187]. These cross-checks corroborate the hypothesis, defended in chapter 5, of an enduring 'schism of reality' between Total's commitments and its effective socio-material projection.

Meanwhile, every day that passes seems to reinforce the hypothesis that sustained fossil fuel extraction significantly jeopardizes human flourishing (in that it accentuates alienation and

187. These two results are not necessarily inconsistent, for one can reasonably infer that the 'stranded' 30–40 per cent that Leaton identifies broadly corresponds to the share of capital expenditure allocated to the exploration and development of new reserves that Heede and Oreskes judge incompatible with the 2°C target. Conversely, the remaining 60–70 per cent of capital expenditure in Leaton's model probably overlaps with the investments allocated to the operation of existing proved reserves, which Heede and Oreskes consider as relatively unproblematic.

impedes dwelling). Millar et al. (2018) have recently introduced another element to the case, which looks increasingly likely to add to the unstoppable groundswell of converging accounts. From a practical point of view, this diagnosis points to the need to approach the very nature of the kind of work that Total employees undertake as a matter for public concern. This would thus not only require that employees regain their capacity to voice their opinions about the conduct of the business enterprise, and that they actively participate in it – a readjustment that would harm the interests of the investor-aligned executive management –, but also that they give other stakeholders ample room to challenge their own views, so that they too may effectively take part in this delicate exercise. Under the present conditions, any attempt to establish the firm as a commons would entail contesting and thwarting the predominant form of corporate power (corrupted as it is by rampant and ruthless greed) at every possible turn, in all the spaces and places where it seeks to expand its domination. The first of these would be the workplace, which is where the strategic objectives that trickle down the hierarchical chain of command are turned into performance targets that serve the short-term goals of a few top managers rather than the long-term prosperity of the many lay employees. However, this would also (and more obviously) need to happen beyond the corporate realm, in the spheres of influence of investors, in the muted corridors of parliaments, around the tables of scientific committees, in the editorial boards of the mainstream media, in countless business councils and, of course, everywhere in the open air where extractive activities directly threaten natural environments. To alter the way in which corporate power is exerted, all the front-line actors should collectively endorse a 'radical reformist' position and then translate it into practical action; their respective occupational roles would shape the manner of their intervention – be they lay employees of the oil and gas industry, investors, politicians, experts, journalists, NGO leaders or, of course, just civic-minded citizens.

By depicting Total as the *enemy*, these developments give a more explicit meaning to my analysis. What rigorously needs to be opposed here is the generic form of life articulated in this

specific firm – and, more widely, in the corporate environments of privately-owned businesses in the fossil fuel industry. The noxious effects of the type of alienation this environment continuously generates reverberate indeed far beyond the corporate realm: as I have argued at length, the activity of extracting and supplying fossil fuels literally takes over and shapes nearly all the 'downstream' human interactions, while accelerating climate change. From a theoretical standpoint, this suggests that a demanding critical theory should, in its attempt to produce a systematized account of capitalist societies, seek to integrate the actual power of socio-economic institutions by conducting a finely-tuned analysis of the different types of business firms involved (instead of subsuming them all under a single generic category). This approach should enable one to isolate certain patterns of capital accumulation (for example, those aiming at the extraction of free, disposable natural resources) in terms of their specific criticality with respect to the rest of the polity, which is precisely what I have tried to do in this dissertation by highlighting the pivotal role of a firm like Total in the socio-ecological metabolism of capitalist societies. In some sense, advocating that we recentre the social analysis on specific, insufficiently considered nodal points resonates with Marx's idea in *Capital*: his firm rejection of the land theory of value that the Physiocrats defended and his defence of a labour theory of value motivated him to shift his analytical focus from farmland to factories. For him, the forms of alienation that were appearing alongside the generalization of wage labour in early industrial capitalism were undoubtedly of the deepest 'density', and they had the greatest explanatory power over the course of history. Their persistence was indeed a precondition for the pursuit of accumulation through the creation of surplus value, and it is only through their resorption that socialism was meant to be achieved. The argument I put forward to justify the need for contemporary critical theory to differentiate between distinctive types of alienation and to focus on those that are both critically significant and underestimated is fundamentally different from the one that Marx developed. Throughout this dissertation, I have indeed argued that we can now identify 'bottleneck' human activities by interpreting the findings of Earth system scientists, thus without making any reference to an all-encompassing historical narrative. If the method

has changed, the idea nevertheless persists that critical theory should go over the social fabric with a fine-toothed comb and make it a point of honour to identify and describe the socio-economic activities that play a pivotal role in shaping the future of human societies. In the age of the Anthropocene, this is surely a pressing need.

3. Directions for future research

To date, I have identified three potential research axes for possible development to extend this research project. This outline is, of course, fragmentary, and undoubtedly leaves aside some fruitful perspectives that one could effectively explore: as such, it therefore remains fundamentally open-ended.

A natural continuation of the present doctoral work could consist of refining further the study of multinational oil and gas firms, which are (and will remain) a cornerstone of the fossil economy: as climate change intensifies, the activities of such firms will increasingly come under the spotlight. The impressive number of strategic reorganizations that Total has undertaken in the last few years no doubt confirms that there is mounting pressure from both public opinion and investors on the oil and gas industry – which in turn tries to keep ahead of its opponents. In such a fast-evolving setting, further fieldwork at Total would update our understanding of the firm's internal dynamics and fill any missing gaps in the present research: in this dissertation, I have indeed already pre-identified (but insufficiently discussed) some critical topics that might warrant exploration as such. One such topic concerns intra-firm inequality, which I suspect has great explanatory power over the firm's dynamics – but discussing this hypothesis further would unfortunately require access to non-disclosed data; another is that new developments in corporate law (and in other bodies of law) could also perhaps modify the firm's institutional trajectory. Conducting further research in these areas and defining more precisely whether the 'activation' of new checks and balances could restrain corporate power is, no doubt, of crucial

importance. Another lacuna in this research arises from the limitations of the fieldwork itself. In France, I conducted only a restricted number of interviews over a confined period (from September 2015 to May 2016): organizing new ones would undoubtedly enable me to compose new questionnaires that would be more in tune with the reflections I developed later during the writing process. Moreover, my knowledge of extractive zones remains fragmentary and limited to the Congo. Although I have yet to formalize the findings of this case study, there is little doubt that developing a comparative analysis with another subsidiary would enable to contrast its conclusions.

That said, I want to emphasize that pursuing the above-mentioned research trails would first and foremost refine our understanding of how the corporation functions, or in other words, how it manages throughout the production process to organize social cooperation among employees to ensure the continuous deployment of business-as-usual activities. It would also allow us to develop more comprehensive accounts of how moral identities are formed at the workplace in a firm like Total. Notwithstanding the fact that it would require negotiating further access to the field, I consider that developing such a research axis would add relatively little to the present study. Although further developments in this direction could challenge (and thus lead one to re-evaluate) some of the hypotheses defended here, I doubt indeed that they would greatly enhance my generic description of the moral universe of Total's employees, or my global appreciation of the social dynamics that shape the trajectory of the institution. I believe that even if the account I have developed in this thesis is no doubt an imperfect one, and thus open to improvement, it nonetheless maps out the fundamental tensions that block (if not undermine) the articulation of ethical life in the corporate realm. On the whole, there is little doubt that the intertwined processes of an unbridled financialization and an escalating global competition have significantly corroded the basic principles of a moral economy in the oil and gas industry, and thus accelerated a replication, at the individual level, of the tragic scenario that Arendt described as the 'banality of evil' – the evil in question, of course, being fundamentally different from the one the German philosopher envisaged. In this respect, my experience in

the field of witnessing the ambiguous manifestations of this blurred moral conundrum has been particularly draining, from both a moral and a spiritual point of view. I am therefore quite convinced that I will not continue working on Total, or on the oil and gas industry.

A more appealing avenue for future research could consist of evaluating the relevance of further developing the theoretical infrastructure of a still-speculative 'geo-sociology of the good life'. Since the trigger for the present doctoral work was an empirical object (Total), and its core incentive a sustained effort to grasp some core features of its multi-faceted, fluid reality, I have mobilized theoretical resources as a means (to sharpen descriptions and flesh out evaluative judgements) rather than an end. Laying the foundations of a 'geo-sociology of the good life' would probably necessitate having to invert this priority, and to engage in an in-depth study at the theoretical level in which one would have to clarify the input of different disciplines. From this perspective, one would need to mobilize empirical studies to challenge and/or refine the theoretical framework, and to ensure that its developments remained in tune with the observed phenomena. At this point, it is unclear what direction such an investigation should take. One promising trail might be to evaluate the possible convergences between the accounts of alienation of critical theorists (sociologists and philosophers) and of environmental philosophers (notably Hailwood, whose contribution I only discovered late in the writing). Another option might be to explore the potential of developing a comprehensive, sparse anthropological framework in line with the one outlined in this dissertation. Finally, engaging in the intellectual project of reinterpreting the history of modern ideas through a specific lens, which remains to be defined, could be another (albeit ambitious) way of drawing the contours of a demanding 'geo-sociology of the good life' – one that would allow one to pitch the predominant ideas of human realization against the structural and environmental conditions under which they are pursued. Although I lack the perspective (and literacy in the social sciences) to engage in such a wide-ranging research enterprise, I would enjoy developing my

thinking with a view to progressing in this direction in the months and/or years to come – but this would require that I receive appropriate guidance to orient myself.

Pursuing a less wide-ranging, but more grounded investigation could be another way of bringing continuity to this research. A core insight of this dissertation has been that the rediscovery of our terrestrial position in the Anthropocene comes with a call to develop a deeper 'sense of belonging'. To attain this involves us, as human beings, achieving collectively what Joas (2014: 92) called "socio-structurally induced expansion in the cognitive attribution of moral responsibility" in order to develop what I have called a *praxis* of dwelling. While studying the case of Total confronted me with an environment that was deeply hostile to such an enlargement of ethical horizons, it could be useful to study other, less constrained social contexts, in which concrete experiences of moral decentring effectively lead people to rearticulate their values. In his landmark works, Joas (2000, 2014) has indeed argued and produced evidence that we can explain our attachment to certain values by developing narratives that interweave the historical genesis of their emergence and dissemination (thus emphasizing their contingency) with a normative justification of their claim to universality – which would then paradoxically gain greater appeal from being historicized. Studying further the theoretical challenges posed by such a method, and importing it to analyse the socio-historic trajectories of types of values other than the "sacredness of the person" (Joas 2014) – such as values linked to the environment – could be another fruitful way of exploring some of the important insights that have guided this research project, but this time in a different empirical context and through another theoretical prism. This would imply analysing how, in specific situations, practices, values and institutions can achieve (or have achieved) fruitful integration, and thus can secure (or have secured) paths to greater human flourishing. Once again, the core challenge here would be to identify a relevant locus for such a study; in any case, to assess the interest of developing this axis further, and to set its key orientations, would entail preparatory work and in-depth discussions.

4. Closing remarks

For several decades now, Earth system scientists disseminated throughout the world have been studying, modeling and measuring a myriad of natural phenomena as diverse as the deep currents of the ocean, the evapotranspiration of tropical rainforests, the size and thickness of polar icecaps, the rainfall patterns in arid landscapes, the mechanisms of cloud formation along the tropics (among others): the prowess (still in the making) of interlinking and consolidating their findings has constituted one of the most bewildering achievements ever attained by the international scientific community. By gradually integrating what was once considered a complete chaos of confused and intermeshed processes into open-ended, fallible explanatory models, and achieving the mutual coupling of these models, it has thus revealed the contours of a frail, interconnected Earth. As this extraordinary picture started to emerge, though, scientists were concomitantly able to establish that only a few additional billion tons of greenhouse gases emitted into the atmosphere could irremediably unsettle the vulnerable, interlacing biophysical loops they had just described – and which had been, up until then, unquestionably held as immutable and immemorial. The concrete diagnosis that has emerged from these intertwined discoveries is sobering: as I have emphasized at length, there is indeed substantiated evidence that in affluent Western countries, Herculean efforts must be achieved *now* to avoid the fatal 'emissions overshoot' that would bring humanity beyond the limits of the finite planetary carbon budget.

While civil society organizations have had promising, if temporary, successes opposing initiatives such as the North Dakota pipeline (which despite protests was opened in May 2017) or gas fracking in European countries, the skeletal structure of the fossil economy still holds fast, and the seemingly implacable dynamics of extraction remain on track, propelled by a soaring demand in emerging countries. The fossil fuel industry will probably not need to be

asked twice to follow suit and will fine-tune its ecological modernization narrative along the way. Is this cause for discouragement? Surely. Is it strong enough reason to lay down weapons? Certainly not. By highlighting the multiple contingencies that have continually contributed to shaping Total's deeply structured universe, I have shown in this research that the cement that holds the institution together is, no less than anywhere else, friable.

That said, it is incumbent on us all to relate collectively to this institution *as if it were* effectively crumbling, for we need to hasten its demise – though without of course ceding to our fantasies. This probably requires us to articulate a 'sense of belonging' of the highest spiritual order – namely one that emerges not from external prescriptive moral demands, but from a rejuvenated sense of awe in the face of the *fragile* alterity that the natural world comes to mean to us as we allow ourselves to be altered by its wounded beauty. Despite all appearances, striving to redefine the contours of our practical participation in this world through such an attitude of 'pretending' is neither irrational nor wishful thinking. Rather, it does justice to the moderate, reasonable observation that William James (1895) once made:

> "Remember that optimism and pessimism are definitions of the world, and that our own reactions on the world, small as they are in bulk, are parts of it, and necessarily help to determine the definition. They may be the decisive elements in determining the definition. A large mass can have its unstable equilibrium overturned by the addition of a feather's weight."

Even in the case of the future being inevitable and exact, it would still lie upon us to join our capabilities and talents in social cooperation and, *in the intervals*, act joyfully so that we do not let it happen.

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Appendix 1

DATED January 25th 2015

(1) THE UNIVERSITY OF OXFORD

(2) TOTAL S.A

CR d1

THIS AGREEMENT dated January 25th 2015 is made **BETWEEN:**

(1) **THE CHANCELLOR MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD** whose administrative offices are at University Offices, Wellington Square, Oxford OX1 2JD, England ("the University"); and

(2) **TOTAL S.A.** a company incorporated under French law with registered number 542051180 and whose registered office address is 2 Place Jean Miller, La Defense 6, 92400 Courbevoie, France ("the Company").

WHEREAS:-

(A) The Student, as part of his DPhil studies at the University, is undertaking a research project entitled 'A shared responsibility in the face of climate change: the case for 'unburnable carbon' as described in Schedule 1(the "Research Project"); and

(B) Professor Cecile Renouard is a visiting researcher at the University's Smith School of Enterprise and the Environment and will collaborate with the Student to undertake the Research Project; and

(C) The Company has certain information and data relevant to the Research Project and is willing to provide a copy of such information to the University for the purpose of enabling the Student to complete the Research Project as part of his DPhil studies and submit a related thesis subject to the following terms and conditions.

NOW IT IS AGREED as follows:

1. Definitions

Unless defined elsewhere in this Agreement the following terms have the following meanings:

1.1 **"Academic Supervisor"** means Professor Gordon Clark

1.2 **"Company Representative"** means Gerard Moutet, Head of the Climate-Energy Department at the Direction of Sustainable Development and Environment at the Company

1.3 **"Information"** means any information, data and documentation which is disclosed by the Company (including by the Company's employees, investors or other stakeholders) to the University in connection with the Research Project;

1.4 **"Student"** means Pierre-Louis Choquet

1.5 **"Collaborator"** means Professor Cecile Renouard

2. The Information

2.1 The Information shall remain at all times the property of the Company. Where Information is marked as confidential where in written form or, if in oral form is communicated as confidential at the time of disclosure and confirmed as such within 10 days of such disclosure ("Confidential Information") except as permitted expressly by the terms of this Agreement, the University shall not disclose such Confidential Information to any third party.

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2.2 The University shall not acquire any rights to the Information disclosed to it under this Agreement, and shall not use it for any purpose other than for Research Project without the prior written consent of the Company.

2.3 The University shall use the same degree of care as it uses to protect its own confidential Information, but no less than reasonable care, to prevent the unauthorised use, dissemination or publication of Confidential Information.

2.4 The University shall disclose or otherwise make available any Confidential Information only to the Student, the Collaborator and those employees of the University, external examiners and external lecturers who need access to the Confidential Information for the performance of their work with respect to the Purpose, and who have been notified that the Information is confidential.

2.6 The University understands that the Information disclosed under this Agreement will be delivered "AS IS"; and the Company makes no warranty of any kind with respect to the accuracy of the Information which it discloses, or with respect to the suitability of such Information for the Purpose or for any other particular use.

3. The University's Rights

3.1 Nothing contained in this Agreement shall in any way restrict or impair the University's right to use, disclose or otherwise deal with any portion of Confidential Information which:

3.1.1 was known to the University before receipt from the Company, and was not received by the University under an obligation of confidentiality owed by the University to the Company;

3.1.2 is or becomes publicly known without the fault of the University;

3.1.3 is obtained by the University from a third party in circumstances where the University has no reason to believe that there has been a breach by the provider of the information of an obligation of confidentiality owed to the Company;

3.1.4 the University can establish by reasonable proof was substantially and independently developed by officers, employees or students of the University who had no knowledge of the Company's Information;

3.1.5 is approved for release in writing by an authorised representative of the Company; or

3.1.6 the University is specifically required to disclose by law or pursuant to the order of any court of competent jurisdiction provided that, in the case of a disclosure under the Freedom of Information Act, none of the exemptions in that Act applies to the Information.

4. Freedom of Information Act 2000

If the University receives a request under the Freedom of Information Act to disclose Confidential Information, it will notify and consult with the Company. The Company will respond within five days after receiving notice if the notice requests assistance in determining whether or not an exemption in the Act applies.

5. Thesis

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5.1 Nothing in this Agreement shall prevent or hinder the Student from submitting for a degree of the University a thesis completed by him with the aid of the Information, including any Confidential Information (the "Thesis"), the examination of such Thesis by any examiners appointed by the University or the deposit of such Thesis in accordance with the relevant procedures of the University.

5.2 The Academic Supervisor, the Student and the Company Representative shall meet at regular intervals (to be agreed by the Parties) to discuss the use of the Information and identify any Confidential Information which the University may wish to incorporate into the Research Project. The Company shall decide whether or not to allow the identified Confidential Information to be used in the Research Project. If this decision gives rise to a requirement to amend the description of the Research Project, such amendment shall be mutually agreed in principle between the Academic Supervisor, the Company Representative and the Student and forwarded to the contracting authorities of the University and the Company for authorisation. The Student shall follow the University's regulations for the submission of the Thesis for examination. In any event the Student shall submit a draft Thesis to the Academic Supervisor and the Company Representative at least thirty (30) days prior to the date for submission for examination. The Student may not, without the Company's express written consent, include in the Thesis any Confidential Information.

5.3 Each of the University and the Company shall inform the other of any changes to the Academic Supervisor or the Company Representative respectively.

6. Publications

6.1 Where the Company so wishes, the University shall acknowledge the provision of the Information by the Company in all publications relating to the Research Project.

6.2 Where the University wishes to submit for publication results of the Research Project (other than the Thesis which is governed by clause 5) in which the Company has an interest pursuant to this Agreement, the University will submit such results to the Company in writing not less than thirty (30) days in advance of submission for publication. The Company shall promptly notify the University if in the Company's reasonable opinion, the work contains any Confidential Information and the parties will work together in good faith to disguise or anonymise such Confidential Information.

7. Liabilities

7.1 The Company warrants that it has the right to disclose the Information to the University and that to the best of the Company's knowledge the Information disclosed does not infringe any third party intellectual property rights.

7.2 Each party to this Agreement undertakes to make no claim in connection with this Agreement or its subject matter against the Student or any employee, agent or appointee of the other (except for claims in relation to fraud or wilful misconduct). This undertaking is intended to give protection to individuals: it does not prejudice any right which a party might have to claim against the other. The benefit conferred by this clause is intended to be enforceable by the persons referred to in it.

7.3 The liability of either party to the other for any breach of this Agreement, for any negligence or arising in any other way out of the subject matter of this Agreement will not extend to any indirect damages or losses, or to any loss of profits, loss of revenue,

loss of business, loss of information, loss of contracts or opportunity, whether direct or indirect.

7.4 The maximum liability of the University to the Company under or otherwise in connection with this Agreement shall not exceed £20,000 (twenty thousand pounds). For the avoidance of doubt, nothing in this clause 7.3 shall be deemed to exclude or limit in any way the University's liability for intentional wrongdoing or the University's statutory liability in respect of death or personal injury caused to any person as a result of the University's negligence.

8. General

8.1 This Agreement is not transferable, and neither party may purport to assign it (in whole or in part) without the prior written consent of the other.

8.2 No one except a party to this Agreement has any right to prevent the amendment of this Agreement or its termination, and no one except a party may enforce any benefit conferred by this Agreement, unless this Agreement expressly provides otherwise.

8.3 Either party may at any time terminate the Purpose, by written notice to the other. Upon request of the Company to terminate the Purpose, the University shall immediately cease all use of the Information; and within eight (8) days thereafter shall destroy or return to the Company all such Information in its possession, sending written confirmation of despatch or destruction to the Company. The University may however retain for record purposes one copy of the Information in secure conditions in a law office or other non-technical files.

8.4 The University's duty to protect Confidential Information shall survive the termination of the Purpose and continue in full force and effect for the period of two years thereafter.

8.5 Neither the University nor the Company shall use the name, crest, logo or registered image of the other in a press release or promotional materials, without the prior written consent of the other

8.6 If the whole or any part of the Information becomes the subject of any further agreement between the parties, then the terms of this Agreement shall be superseded by that further agreement; but only in respect of such part of the Information as is the subject of such further agreement.

8.7 This Agreement shall be governed by English Law, and the parties submit to the exclusive jurisdiction of the English Courts for the resolution of any dispute which may arise out of this Agreement.

8.8 This Agreement may be executed in any number of counterparts, each of which when executed will constitute an original of this Agreement, but all counterparts will together constitute the same agreement. No counterpart will be effective until each Party has executed at least one counterpart.

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AS WITNESS the hands of authorised signatories for the parties on the date first mentioned above.

SIGNED for and on behalf of **THE CHANCELLOR MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD:**

Name: Eve Henshaw
Position: Senior Research Contracts Manager, Humanities & Social Sciences Research Services
Signature:
Date: 20/3/2015

SIGNED for and on behalf of **TOTAL S.A.:**

Name: Gerard Mauret
Position: Vice President Climate & Energy
Signature:
Date: 25/03/2015

TOTAL S.A.
2, place Jean Millier
La Défense 6
92400 COURBEVOIE

Acknowledged by the Student

Name: Pierre-Louis CHOQUET
Signature:
Date: 27/02/2015

Acknowledged by the Academic Supervisor

Name: GL CLARK
Signature:
Date: 24/2/2015

Acknowledged by the Collaborator

Name: Cécile RENOUARD
Signature: Cécile Renouard
Date: 23.02.2015

Appendix 2

1. Participant information sheet sent to prospective respondents before interviews.

2. Generic questionnaire structure.

Participant Information Sheet

Title of the research project: A shared responsibility in the face of climate change: the case for unburnable carbon

1. *What is the purpose of the study?*

This independently-funded research project results from an original collaboration between the University of Oxford (School of Geography and the Environment) and Total (Direction Energie-Climat), and it will lead to a doctoral dissertation (PhD).
The context of the research is the following: the last publications of the Intergovernmental Panel on Climate Change (IPCC) have confirmed the urgent necessity to lead a global effort in the reduction of greenhouse gas (GHG) emissions, in order to preserve the stability of the global climate system. In the past few years, there has been growing consensus among the scientific community that if the 2°C target was to be kept by 2050, it was then necessary to base the mitigation effort on a 'carbon-budget' approach. This approach suggests that a significant portion of fossil fuel reserves should be left in the soil. It has already triggered an important mobilization in Anglo-Saxon countries, raising the interest of civil society and investors – and unsurprisingly, the activities of international oil companies have been subject to criticism.
Given this context, this study aims to build a comprehensive understanding of how international oil companies (here, Total) can live up to their role in the challenge of curbing climate change, alongside with other actors (including states, investors, and other stakeholders). Another significant objective is to understand how professional practices of individuals can be better articulated to a genuine undertaking of responsibility towards a global common good, at a collective level.

2. *Why have I been invited to take part?*

Since this research project focuses on the responsibility borne by international oil companies in the 'unburnable carbon' nexus, the data used in the analysis will be mainly gathered through in-depth interviews with corporate executives of Total. The objective of this study is to rely on a sample of employees that will represent the diversity of the group, according to different criteria; level of seniority in the company (junior, middle, senior), type of business unit (oil and gas upstream, renewable, etc.), field of expertise (finance, project management, engineering, etc.) place of work (headquarters, overseas, etc.). As an employee of Total, you necessarily tick several of these boxes – and for this reason, your contribution to the research project would be most welcome.

3. *Do I have to participate? – What will taking part in the study involve?*

Participation is on a voluntary basis. If you are willing to contribute to the research project, your participation will involve a semi-structured interview, based on a flexible set of questions, which will be designed in order to match with your area of expertise. The duration of an interview will be around 1 – 1½ h, and you will be free to withdraw from the study at any stage, without any problem.

4. *How will my interview be used?*

Your interview will be recorded (audio) *if and only if* you give your oral consent when asked for it at the beginning of the interview. If your interview is recorded, it will be transcribed, and the data obtained will be kept confidential, as it will be subject to clauses detailed in the project MoU. If you do not wish to be recorded, the written notes taken during the interview will equally remain confidential. The data gathered in interviews will be fully anonymized by the principal researcher (Pierre-Louis Choquet) before being communicated, in order to ensure that personal views will not be identifiable to higher management in Total. The integrity for the respondents who have taken part to the research is therefore a key concern.

5. *Are there any potential risks in taking part?*

The present research project is subject to a MoU which has been signed early 2015 between the University of Oxford and Total – it is therefore endorsed by the top management. Within the group, the internal contact for this project is Gérard Moutet, V.P. Climate & Energy. The MoU ensures the confidentiality of the data gathered in the frame of the research project, and defines the mutual commitments of Total and of the University of Oxford for establishing a trustworthy cooperation. Moreover, the data gathered in each interview will be carefully anonymized, so as to prevent any risk for the employees taking part to the study. Therefore, taking part to the research project does not induce any significant risk.

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Questionnaire structure

This document outlines the questions that will constitute the core of the interviews. Given this first basis, the design of the questions will slightly differ, depending on the segment in which the respondents are positioned (the segmentation crosses two distinct criteria, i.e. activity and seniority – see below for details). Moreover, complementary questions will frequently be added, in order to take into account the specificity of the expertise held by each respondent.

1/ Segmentation of employees

1. Activity

- Upstream activities / Headquarters
- Upstream activities / Extraction areas
- 'Climate-friendly' business lines (Climate department, CCS, Solar, Biomass, etc.)
- Former employees

2. Seniority

- Junior staff
- Middle management
- Senior positions

2/ Core questions

1. What has been your career path at Total?
2. What do you concretely do at your workplace when you are "working"?
3. How has evolved your perception of the working environment (hierarchy – constraints – pressure – etc.) inside the company?
4. What is your point of view on climate change issues, and on the role that should be played private actors in order to curb it?
5. Correspondingly, what is your perception of the role that should be played by states in regulating global common goods?
6. How do you perceive the evolution of the discourse of the company on sustainability issues (and climate change) in the last years? To what extent do you think that this institutional discourse is transcribed in effective practices?
7. To what extent do you find the corporate discourse coherent with your personal values?
8. How do you position your own personal work with respect to the aggregate outcome of the activities of the company you are working for?
9. To what extent do you consider that there are places in the corporation that are spaces for deliberation and common discussion on sensitive issues? Do you think that there are margins for institutional transformation within the organization?
10. How do you assess the potential of IOC to take part to a genuine energy transition?
11. Outside of your family life, is your engagement in the corporation your first source of personal fulfillment (others could include: undertaking studies, getting involved in a charity or in politics, etc.)?
12. What are your principal motivations in your current job? In what respect do you find it fulfilling/satisfying?
13. What are the difficulties you encounter in your job? How have they evolved?