Conceptualizing Power in the Context of Climate Change: A Multi-Theoretical Perspective on Structure, Agency & Power Relations

Lorenz Stör

Institute for Multi-Level Governance & Development, Socioeconomics Department,
Vienna University of Economics and Business (WU), lorenz.stoer@posteo.de

Abstract: The predominantly positivist approach in economics towards the object of study is not able to grasp power and domination in its complex interaction of agency and structure. Also in ecological economics and its critique to economic growth, there is a lack of conceptualizations that are sensible to questions of power. The work reveals such deficits and offers a comprehensive theory overview. This overview is then contextualized along the political-economic facets of climate change.

The introductory chapter discusses fundamental aspects of power in the context of structure and agency. The common positivist approach in economics is complemented by a post-positivist approach in the following chapter. Critical realism serves as a philosophy of science to acknowledge and integrate structure and agency as forms of power. The third chapter provides an historical overview of selected theories of power. It depicts how the strategic and the episodic understanding of power by Machiavelli and Hobbes respectively, informed later power theories. Theorists such as Dahl, Bachrach & Baratz, Lukes, Gramsci, Laclau & Mouffe, Giddens, Foucault and Clegg are discussed. The aim is to highlight the relevance for a multiplicity of power concepts in economic research. The following chapter puts in context their respective positions on human agency and social structures as the source of power. The fifth chapter initiates an outlook for potential power research on future global challenges. The powers that play a role in the quest for solutions on the issue of climate change are systematically separated in the multiple levels of agency, mechanisms and structure. This serves as an exemplary case to depict the complexity but relevance of power on objects of research in ecological economics.

Keywords: Power, Structure, Agency, Climate Change, Hegemony, Structuration theory, Machiavelli, Hobbes, Dahl, Lukes, Gramsci, Giddens, Foucault, Hay, Jessop

Introduction

> "There is no more elemental concept than that of power"
>
> Anthony Giddens (1984: 283)

> "The notion of power should be abandoned"
>
> Bruno Latour (1986: 278)

These two diametrically opposing quotes exemplify the lively debate over the very concept of power in the social sciences that has been ongoing for centuries. Giddens remains of the conviction that power, as "the capacity to achieve outcomes" (Giddens, 1984: 257), is inherent to all social sciences and that it cannot be degraded to a second-order consideration. Quite contrary, for Latour (1986) power is a term that might summarize the consequences of an action but is unable to explain a process. He regards it as an empty term with no further use for the social sciences. Are these two positions unforgivingly in contrast to each other, or is it rather a matter of definition of what is exactly meant by power? Some examples from arts and literature on the different meanings of power may help to approach this question before turning to the academic debate as one part of the contribution at hand.

When the German band *Ton Steine Scherben* released their celebrated song *Keine Macht für Niemand* ("No Power for Nobody") in 1972, they coined a thereafter widely used anarchist slogan, expressing critique towards the state and authority. The slogan regards power as something negative that can be possessed by somebody or, in this case, should be possessed by nobody. However, power is often nothing possessive but unfolds in a relational situation, as Carl Sandburg famously wrote in 1936: "Sometime they'll give a war and nobody will come". The entire force and coercion connected to war fulminates into insignificance if the actors who need to activate such powers do not acquiesce to the game. At other times, power is neither something possessive nor a relation between actors, but unfolds in a structure that eludes itself from the access or even the imagination of an actor. In the novel *The Grapes of Wrath* by John Steinbeck (2006 [1936]), which deals with the hardships during the Great Depression in the U.S., one passage illustrates such a situation of structural power. A farmer desperately tries to find a person as the responsible source of his oppression. The tractor driver who is about to bulldoze the tenant's shack tells him: "It's not me. There's nothing I can do. I'll lose my job if I don't do it." He received orders from the bank, whose directors again received orders from 'the East'. "But where does it stop? Who can we shoot?" asks the farmer furiously, and the driver replies: "I don't know. Maybe there's nobody to shoot. Maybe the thing isn't men at all" (Steinbeck 2006: 38).

These examples give a foretaste of the multiple, often fuzzy but certainly differentiated meanings of power, which sometimes give way to ignorance or frustration, as might

have been the case for Latour. This work aims to step up to the challenge to describe the manifold aspects of power, discover its structural and agential aspects – and their implications for the philosophy of science to finally put power into the contemporary context of climate change as one of the most pressing challenges of our time. In line with Giddens, the work thereby treats power as a fundamental element of society. An understanding of the multiple aspects of the concept may indeed contribute to a better explanation of societal processes and phenomena. The work carries the aspiration to contribute to such an understanding in the case of climate change.

The first section introduces the general topic of power and discusses the role of structure and agency in shaping social phenomena. The subsequent section is concerned with the ontological and epistemological discussion of power. Here, the positivist epistemologies of neoclassical and Keynesian mainstream economic approaches are challenged, demonstrating how both lack a comprehensive understanding of social power relations. Next, post-positivist considerations of critical realism show how this philosophy of science serves as a useful framework for conceptualizing structural and agential perspectives on power to finally transcend the debate about the two. To accomplish this, a substantial historical overview of theories of power is outlined in the third section. The structure-agency debate serves as an appropriate entry point for categorization, as most theories implicitly or explicitly draw upon this distinction. Even its post-structural critics refer to this divide through its rejection or aspiration to go beyond. Several conceptualizations of power including those of Hobbes, Machiavelli, Dahl, Lukes, Gramsci, Laclau & Mouffe, Giddens, Foucault and Clegg are reviewed chronologically and set in context with each other along the structure-agency debate. The aim is to provide a multi-theoretical approach to power that can be applied to an array of empirical phenomena in order to understand them in more depth without neglecting their complexity. Directed by these objectives, the final section outlines the relevance of such a broad perspective on power using the contemporary example of climate change as a highly relevant driver for a socio-ecological transformation. The powers connected to climate change are discussed along Clegg's three circuits of power including several spatial levels and conceptual layers from the concrete to the abstract and from the agential to the structural. The analysis incorporates several power conceptualizations wherever appropriate to gain a truly multi-theoretical perspective of power on climate change. The concluding chapter considers the ambition of this work, its findings, and indicates potential future research.

1 Power, structure & agency

Power is a core element of society and its analysis deeply characterizes the social sciences. As Hay (2002: 168) states, "power is to political analysis what economy is to eco-

nomics." While many theorists of political economy might reject this view for seemingly renouncing power's significance as a core concept in economics, this simple phrase shows the extraordinary relevance that power's discussion plays in understanding society. However, the question of what constitutes power is a matter of on-going contestation, deeply rooted in the historical circumstances and ontological considerations of scientific inquiry.

The philosophical roots defining what power is or what it ought to be and how it functions can be traced back to ancient Greek philosophy, such as Aristotle's six-fold classification of governments. The analytical discussion on power became increasingly relevant for our current understanding of social science and social relations with the beginning of modernist reasoning. In particular, Niccolò Machiavelli (1469–1527) and Thomas Hobbes (1588–1679) laid the foundations for contemporary conceptualizations of power. The discussion was revived in the 20th century, including prominent thinkers such as Dahl, Bachrach and Baratz. It is featured in Lukes' 'faces of power' debate over a three-dimensional view of power, Gramsci's concept of hegemony, Giddens' structuration theory, Foucault's post-structuralist notions and Clegg's 'circuits of power,' which will all be discussed in this work.

Different conceptualizations of power often have fundamentally different views on its characteristics and qualities, including whether it is: analytical or normative, relational or possessive, negative or positive, repressive or productive, constraining ('power over') or enabling ('power to'), intentional or not or constituted through social structures or human agency. Such oppositional positions support the notion that power is an "essentially contested concept" (Lukes, 2005: 105). However, a theoretical overview and analysis of a selection of existing power theories will show that the understanding of power is less contested than Lukes suggests, and that the structure–agency debate can serve as a framework around which to organise the different conceptualizations. Social science has a long tradition in distinguishing between *structural* and *agential* factors of explanation for such phenomena.

Hay (2002) proves to be a useful source for helping define the meaning of this structure and agency dichotomy. He gives structure two meanings. First, *context,* which "refers to the setting within which social, political and economic events occur and acquire meaning" (Hay, 2002: 94). While the setting may include biophysical or social structures and exist irrespective of observation, the 'acquisition of meaning' incorporates an interpretive element. Second, it includes *regularity,* or structure, over time, which is exhibited by social institutions, such as rules, practices, routines, norms and conventions. This assumes that political, social or economic phenomena bear an element of order, making them theoretically more predictable. In a critical realist approach, structure consists of relations between social positions comprising active and passive powers that are set in motion as tendencies. Critical realism acknowledges that the actualization of such structures is contingent upon diverse factors.

If structures are not actualized, they remain latent, albeit existent (Sayer, 2000). Pure structuralism would imply full determinacy and disable every individual or social unit from the ability to make autonomous decisions or influence any process, i. e. depriving all agents of the power to make a difference. Structural realism and world systems theory are examples of such theories (Hay, 2002: 102). However, most approaches take the perspective that "structures do not determine action but they produce predictable patterns of action" (Hayward and Lukes, 2008: 15).

Agency means action or *conduct*. It is the "ability or capacity of an actor to act consciously and, in so doing, to attempt to realise his or her intentions" (Hay, 2002: 94). Agential factors are characterized by a sense of free will, choice, autonomy and conscious deliberation and have been highly important throughout the history of philosophy. When René Descartes (1596–1650) heralded the age of enlightenment with his famous statement 'cogito ergo sum' (I am thinking therefore I exist), elements of reasoning and rationality laid the basis for a whole liberal political and economic tradition that put the actor at the centre of its considerations. However, agency is not restricted to individual humans but extends to organized or collective actors who realize their capacity to act, e. g. trade unions calling for strikes or corporations setting prices. A broad definition of agency can also be problematic if the distinction from structure becomes blurry. Institutions, for example, are often confused with organizations but if they are understood as norms and rules, they have structural characteristics and cannot be regarded as a form of collective agent. Agency is the capacity to make a difference – the element that distinguishes the natural from the social world[1] and makes the social science struggle to explain, let alone predict, social phenomena. However, it is also the key to understanding why positivist approaches in social science, transferred directly from natural science, are exposed to failure.

If structuralism is one extreme, then the other is pure voluntarism – or intentionalism – where actors are able fully to realize their intentions. However, pure intentionalism would remove all historical contexts and institutions that constrain and influence the opportunities of an actor. This concentration on the present moment "can say nothing about the process of social and political change over time" (Hay, 2002: 112) and therefore, again, deprives the analysis of any explanatory power.

Other scholars claim that the differences between structures and agents are analytical rather than conceptual and that the evaluative element of "the specific research question that one is posing might naturally lead to a concentration upon either structure or agency" (Dowding, 2008: 33), which

---

[1] While physical laws usually adhere to structural regularities, insights from quantum physics such as Heisenberg's uncertainty principle or the "Schrödinger's cat" thought experiment where events may or may not occur or have both states at the same time. This raises questions about potential agential qualities of physical entities such as photons.

deprives the structure–agency discussion from being a part of the puzzle. The following review explains how structure and agency are in fact intertwined and some theoretical conceptualizations reject the ontological divide altogether. However, this framework serves as a useful reference point to put diverse theories into perspective.

2 The ontological and epistemological basis of power

The question of whether power stems from social structures or (human) agency is part of a long and ongoing academic debate. Some scholars have questioned the value of this debate as "sociologists are not smart enough to solve the problem or that the problem itself is spurious" (Fuller, 1998: 104 in Hay, 2002: 90). Nevertheless, regarding the structure-agency debate as a 'problem' for which there is a 'solution' to find does not appreciate the meaning of this conceptualization, as it implies that the issue is essentially empirical and can be solved over time by collecting evidence (Hay, 2002: 91). Detecting the mechanisms of power is not about finding the correct proportions of structure or agency within the social reality but depends on the context that needs to be explained. The true value of the structure-agency debate lies in the provision of a frame for social power theories. It is not a matter of empirical investigation but of ontological and epistemological prerequisites that determine to what extent structure and agency play a role. As Hay (2002) explains, "structure-agency is not so much a problem as a language by which ontological differences between contending accounts might be registered" (Hay, 2002: 91).

Beyond outlining the basis for making specific conceptualizations of power possible in the first place, it is also necessary to address the question of which ones are most appropriate. To avoid a level of eclecticism in the discussion, there is the need for a mode of analysis that corresponds to a consistent social ontology. Consistency entails the ability "to demonstrate how a common social ontology is applied in each case considered and how this reveals the relative primacy of structural or agential factors in a given situation" (Hay, 2002: 113). This chapter therefore concentrates on the discussion of a philosophy of science that provides the necessary and appropriate ontological and epistemological foundations for a meaningful conceptualization of power. A narrow conceptualization of power becomes particularly apparent within mainstream economics, based on positivist approaches. The following sub-section provides a short critique of neoclassical microeconomics and Keynesian macroeconomics as the main approaches in the current mainstream. This provides a backdrop against which the post-positivist alternative of a critical realist philosophy arose.

2.1 Power in mainstream economics

The microeconomic perspective of neoclassical economics only partially considers aspects of social power relations despite their extraordinary relevance for social science research. The assumptions of rational choice approaches based on the *homo economicus* (rational, utility-maximizing, egoistic, perfect preference substitution, etc.) considers power only as relative bargaining power based on game theoretical properties such as asymmetrical information or moral hazard within principal-agent relations. However, all social situations are based on the premise of voluntary exchange as the core aspect of economic interaction (Dowding, 2009). Addressing social power relations is regarded as unnecessary for further empirical analysis because it exhausts itself in the sovereignty of the consumer. Consumer sovereignty is the cornerstone of a neoclassical theory of power. In consumption, each person can choose and has the capacity to make a difference: buying one product instead of others. However, consumption as the only means of satisfying needs remains unquestioned. The agent is reduced to the consumer whose purchasing power is defined by budget constraints and concrete bargaining situations within a self-regulating "natural" market. Other forms of power are seen as artificially interfering with the market and are mostly unwanted, such as monopolies or oligopolies. The power of monopolies is considered problematic, as potential extra profits might lead to inefficient distributional effects among sovereign consumers. The role of institutions in shaping outcome and behaviour is also increasingly acknowledged in rational choice approaches but is incorporated into models as principal-agent issues rather than acknowledging institutions' structural ability to enable or constrain social actors or groups (Dowding, 2009: 41).

Apart from such analytical constraints, there are also logical flaws within the epistemological edifice of the microeconomic mainstream approach. The methodological individualist epistemology ostensibly only allows for an agential perspective per definition. However, agents under rational choice assumptions do not allow for contingency, as their characteristics are pre-defined. As Hay criticises, "any rational actor in a given context will always choose precisely the same course of action" (Hay, 2002: 53). Paradoxically, structure is then conceptualized through determined agents, which allows for a deductive methodological approach. The tools of such mainstream economic analysis reduce rational 'choice' to one rational 'option' and therefore defeat their own logic (Hay, 2002: 104). The will to make a difference turns out to be quite the opposite of the neoclassical calculus and the rational-choice assumptions are mistakenly considered agential or episodic. Both the analytical and epistemological constraints show how power is "analysed away" (Dowding, 2008: 32) in the neoclassical mainstream.

The second mainstream economic approach with a similar one-sided view on power is the macroeconomic Keynesian perspective. This methodological nationalist epistemology

puts a strong focus on "society as organized and limited by the nation-state" (Beck, 2008: 167) and thereby the role of the state as a major economic actor. Economic processes are considerably demand-driven, which is steered through interest rates and monetary policy by the central bank and fiscal policy through government expenditure. This makes power a question of state sovereignty rather than consumer sovereignty. The premises for such macroeconomic policies are implicitly rooted in the idea of social engineering, a term which was first coined by critical rationalist Karl R. Popper (1902–1994). For Popper, social engineering stands in diametrical opposition to historicism. For the social engineer,

> [I]t would be the factual information necessary for the construction or alteration of social institutions, in accordance with our wishes and aims. Such a science would have to tell us what steps we must take if we wish, for instance, to avoid depressions, or else to produce depressions; or if we wish to make the distribution of wealth more even, or less even. In other words, the social engineer conceives as the scientific basis of politics something like a *social technology*. (Popper, 1945: 17)

This rationalist and technocratic approach of planning and steering a society – spatially fixed by the nation state – nevertheless has a democratic component to it. Other than the pre-defined and therefore disempowering rational choice assumptions, it can be democratically enabling. In a publication almost coeval to Popper, the economist George J. Stinger argues in a commentary on alternatives to new welfare economics:

> For surely the primary requisite of a working social system is a consensus on ends. The individual members of the society simply must agree upon the major ends, which that society is to seek. If any large share of the population actively disagrees with the society's ends, and in particular if it believes that the system is unfair by that group's criteria, the social system will surely disintegrate, probably with violence. [...] At the level of economic policy, then, it is totally misleading to talk of ends as individual and random; they are fundamentally collective and organized. (Stinger, 1943: 358f)

The discipline to determine such ends "might be called, following J. M. Keynes, applied ethics" (Stinger, 1943: 359). Referring to the father of the more famous philosopher and economist John Maynard Keynes, this notion of applied ethics may have helped lay the foundations for the Keynesianism outlined above. Value judgements seem to play a role in the philosophical question of how to find consensus on specific ends. Nevertheless, the mechanism of social engineering is in clear line with a positivist research agenda, which is not surprising as Popper himself is the intellectual

father of critical rationalism, the most prominent 20th century current of positivism. Although this example provides greater considerations of societal power relations, the focus remains on the state (i. e. the social engineer), especially its central and national bodies, as the sovereign actor.

The two mainstream economic approaches exemplify the limitations of using positivist approaches to make sense of the relationship between structure, agency and power and reveal an uncritical process of knowledge production. Dynamic and disruptive instances of change and transformation are not explicable within such frameworks. Critical theory, and more specifically the philosophy of critical realism, provide an opportunity to integrate the relationship between structure and agency, between context and conduct and thereby remediates the mainstream economic mistake of underestimating power relations. One aim of critical realism is to "relate in research practice the concrete to the abstract and the abstract to the concrete" (Danermark et al., 2002: 109). It is therefore the intermediary of structure and agency, if they function as an analogy to the abstract and the concrete. The rejection of positivist approaches implies neither pure anti-positivism or interpretivism merely focussing on hermeneutics, nor a constructivist epistemology emphasizing the mere creation of social facts through discourse and meaning. The challenge is to conceptualize a post-positivist understanding of the world that acknowledges the existence of an objective reality, while at the same leaving room for the critical assumption that we as humans can never fully grasp such a reality without giving social phenomena meaning to make sense of the world. This challenge in social science is described as 'double hermeneutics':

> While natural scientists necessarily have to enter the hermeneutic circle of their scientific community, social scientists also have to enter that of those whom they study. In other words, natural science operates in a single hermeneutic while social science operates in a double hermeneutic. (Sayer, 2000: 17)

According to Dryzek (2013: 13), one potential way out of this dilemma is to acknowledge that "it is possible to subscribe to both a hermeneutic epistemology and a realist ontology."

2.2 Critical realism and power

Critical realism starts from the premise that the real world is 'stratified' into different layers. Other than the 'flat ontology' of other philosophies of sciences such as empirical realism (i. e. empiricism), which assumes that what we can observe is all that exists, a 'stratified ontology' allows for the possibility of a reality to exist without our ability to fully comprehend it with our knowledge (Sayer, 2000: 12). The intellectual challenge is therefore not to verify theories through empirical observations, but to constantly refine our

knowledge about the real world in a circular process and understand reality with adequate concepts. Observation is concept-dependent. Better observation depends on adequate concepts for grasping reality; for example, people entering member states of the European Union can be treated as either refugees or illegal migrants – with tremendous implications for the framing of the problem, actual actions by different actors and realized policies. In other words, "critical realism seeks to understand 'real' structures of society and the world, while acknowledging that any model or understanding of such structures will reflect only partial experience of them" (Forsyth, 2003: 15).

To make sense of this premise, critical realism draws on the epistemological distinction between *transitive* and *intransitive* dimensions of knowledge. The transitive dimension refers to the "knowledge domain in which the theoretical object is produced. The intransitive dimension refers to the real object, the structure, or mechanism which 'exists' and acts quite 'independently' of people" (Clegg, 1989: 119). Both forms of knowledge are produced during their interaction when using practices (scientific or non-scientific) to make sense of the world. This production of knowledge is regarded as fallible because it shows an inherent independence between the world on the one hand and our thoughts, concepts and theories about this world on the other hand. It depicts a major difference to positivist research agendas, which "take for granted their respective research objects" (Sum and Jessop, 2013: 6). The distinction between transitive and intransitive dimensions of knowledge is also referred to as 'thought objects' and 'real objects' respectively (Sayer, 1992: 47).

To conceptualize this further, critical realism differentiates between the *real,* the *actual* and the *empirical*. Sayer (2000) distinguishes two main elements of the real:

> First, the real is whatever exists, be it natural or social, regardless of whether it is an empirical object for us [...]. Secondly, the real is the realm of objects, their structures and powers. Whether they are physical, like minerals, or social, like bureaucracies, they have certain structures and causal powers, that is, capacities to behave in particular ways. (Sayer, 2000: 11)

This definition shows the relevance of critical realism for the purpose of this thesis because it indicates a conceptualization of structural powers beyond the agent-centred view. It is important to note that the actualization of powers is not necessarily activated but the activation is contingent upon diverse factors or actors. If powers are not actualized, they remain latent, albeit existent. Taking the simple example of a teacher and a class, the teacher carries the capacity to punish the class for non-complying behaviour. This capacity parallels to the real and may or may not be activated, dependent, for example, on the action of the class or the temperament of the teacher. The actual happens in case

those powers are activated, in our case when the punishment is realized. The empirical is then "defined as the domain of the experience" (Sayer, 2000: 12). It is the effects of such punishment that the class observes and experiences, be it in form of extra work or of bad grading. Our observability of the empirical is limited and in fact is fallible in several ways, as the existence of the underlying real is not dependent on it. First, it does not reveal its full inherent potentials. Students may also be treated differently; for example, they may be expelled from school. Second, the empirical observation does not guarantee that it is a causal effect from the assumed real and actual: bad grades for students might be caused by low performance instead of non-complying behaviour in class. This shows that the same result can be caused by reasonably different causal mechanisms. In the 'open systems' of the social science, this is even more apparent than in the 'closed systems' of natural science where regularities can be observed through controlled experiments (Sayer, 2000: 14f). Whether the causal powers that stem from the structures of the real objects are actualized depends on contingent conditions. Therefore, the causation is not a regular succession of events. In this sense, "[g]athering data on regularities, repeated occurrences, is therefore misguided" (Sayer, 2000: 14) because it cannot explain the reasons for those regularities nor identify the causal mechanisms on how they work. For the identification of such structures, conceptualizations and abstractions are important.

The critical realist position on the structure-agency debate is not a united one. Critical realist scholars are discordant on the question, whether structure and agency are analytically or ontologically separable. In her 'morphogenetic approach', Margaret Archer (1995) argues that structure and agency depict a dualism that is ontologically independent. Her aim is to "reveal the structured reality beneath the surface" (Hay, 2002: 122) on the critical realist quest for a 'deep ontology' in a world that "does not present itself to us as it really is" (ibid.). Temporality is the crucial aspect for this morphogenetic approach. Structures are seen as emergent entities, while agency is seen as an emergent property either reproducing or transforming structure instead of creating it. Therefore, structures pre-exist to agents, which make structure and agency analytically *and* ontologically separable, a position that is also defended in Archer's more recent writings (Archer, 2003).

In the strategic-relational approach outlined by critical realist Bob Jessop (2008), the distinction between structure and agency is purely analytical, not ontological. Both components are present in any given situation and cannot exist in isolation from each other. They must be seen as relational and dialectical, in other words, "not so much as flip-sides of the same coin, [but] as metals in the alloy from which the coin is forged" (Hay, 2002: 127). Speaking of structure and agency as theoretical abstractions is merely an analytical tool to make sense of their interaction in real social and political interaction. A new conceptual language draws the distinction between *strategic action* and *strategically*

selective context. According to Jessop, this distinction is more useful as it does not suggest an ontological divide. It leads from the abstract conceptual dualism of structure vs. agency to the concrete conceptual duality of strategic action and selective context (Hay, 2002: 128). Additionally, the distinction is more useful to work with, as it acknowledges the 'strategic selectivity' in social relations. Sum and Jessop (2013) divide those selectivities into four modes: structural, discursive, technological and agential.

Structural selectivity, or structurally-inscribed strategic selectivity, refers to the asymmetrical configuration of social forces that is reproduced through social practices over time. Discursive selectivity refers to the constraints and opportunities expressed through discourses. It goes beyond linguistic aspects and incudes sense-making or semiotic resources constraining what can be imagined. Discursive selectivity is also asymmetrical, as it defines who enunciates which message. In academia, for example, the discursive power – its constraints and opportunities – is different to the public media, urban subcultures or the EU administration. Technological selectivity addresses specific technologies of governmentality, with which social relations of production or the transformation of nature occur, and therefore implies material effects (Sum and Jessop, 2013: 214ff). For example, it is concerned with the rationality on how humans handle their society-nature relationships (*gesellschaftliche Naturverhältnisse*). The concept of society-nature relationships recognizes the existence of nature as a "material-substantial environment, but it is always already shaped by society and is managed and symbolised in spatio-temporally different forms [and its configuration] is constitutive of social and political domination" (Brand and Wissen, 2013: 690). Agential selectivities refer to the capabilities of agents to make a difference. Those capabilities are influenced by the other selectivities, as all of them need to be seen in combination with each other. These four modes of strategic selectivity allow for sense- and meaning-making to conceptualize the underlying real structures acknowledged by critical realists. The selectivities thereby aim to reduce complexity without being reductionist.

It is not the aim here to go further into the philosophical details of critical realism and the strategic-relational approach. However, its strategic selectivity is also of relevance for the structure of this work. The following section reviews several power theories in their historic context and with regard to their position on the structure-agency debate. Most of those theories can be seen in the context of one of the four modes developed by Sum and Jessop. Structural selectivity is important for Gramsci's thoughts on hegemony, while discursive and technological selectivity is relevant to the writings of Foucault and agential selectivity is at least partially prominent in all other conceptualizations. The multi-perceptivity reflected in the theories mirrors the concept dependency[2] of our observations. Contemporary global

policy challenges can thereby be analysed as is subsequently done in this thesis' illustrative case of climate change. This example shows how theories contextualize current aspects of social reality differently, thereby fostering specific types of structural, discursive, technological and agency selectivities.

3 Historical overview of power theories

The existing literature on power theories is extensive, therefore the following subsections can only discuss a selection of relevant approaches[3]. Placing them within the structure–agency context provides a pathway to conceptualize the approaches and put them in context vis-à-vis the others. For that purpose, the chapter mixes chronological and logical ordering to make sense of the development of power theories over time.

3.1 Hobbes & Machiavelli: The godfathers of power

Niccolò Machiavelli was a diplomat during the reign of the Medici in Florence and military turmoil as France and Spain fought for the control of Italy. He was eventually the victim of corruptive political circumstances and lived reclusively from the political arena after his career. In his famous treatise, *The Prince*, first published in Rome as *De Principatibus* (1532), Machiavelli (1985 [1532]) describes power as a set of strategies to achieve certain outcomes. For him the important question was '*what does power do*' (Clegg, 1989: 5)? Given Machiavelli's historic circumstances and own political experiences, he characterized power as decentralized, strategic and contingent. Power is not a resource that can be possessed, nor does it belong to a certain place or sovereign, but is rather evaluated upon the effectiveness of strategies that are deployed to achieve a greater scope for action (Clegg, 1989: 32). Some scholars regard Machiavelli's writings on power to be 'post-modern' (despite his works having preceded modernity), which helps explain the renewed appreciation for his ideas that arose in the 1970s.

Thomas Hobbes wrote the *Leviathan* in 1651 while living in France and employed as tutor by the then-exiled future King Charles II. He was essentially concerned with sovereignty and the question '*what is power?*' Based on his impressions of the English Civil War, Hobbes (1970 [1651]) regards humans as competitive, egoistic, rational and selfish beings, who can only escape from a state of devastating rivalry if they use their reason and agree to subordinate to

---

production and material effects but to understand, read or interpret what they mean. Although they have to be interpreted by starting from the researcher's own frames of meaning, by and large they exist regardless of researchers' interpretations of them." (Sayer, 1992: 6)

3 The author is aware that the discussion on power is much broader than what is depicted here. Just to name a few, Weber, Arendt, Parsons, the Frankfurt School, Bourdieu or Luhmann are all excluded. Not because they are less relevant, but because some of their considerations are either incorporated in the theories discussed or because their inclusion would have gone beyond the scope of this thesis.

---

2 "Social phenomena such as actions, texts and institutions are concept-dependent. We therefore have not only to explain their

an absolute sovereign state, the Leviathan. The argument undermined the religious justification for sovereignty and instead condoned either a monarchy or a commonwealth; the result was his expulsion from the royal court and his subsequent return to England where he lived under Cromwell's Commonwealth. Hobbes' mechanical perceptions of power are based on an actor-centred, causal and episodic understanding of human nature. Power consists of the abilities to acquire a certain good and is therefore itself instrumental (Hobbes, 1970: 79). These characteristics fit within the emerging modernist age of reason because they entailed an element of observability and measurability. According to Clegg (1989: 4), this meant, "Hobbes' conception was to be the intellectual victor" over Machiavelli's notion of power. Hobbes' ideas have informed theorists such as sociologist Max Weber and political scientist Robert A. Dahl. However, the two foundational traditions Machiavelli and Hobbes have become increasingly intertwined in recent times.

3.2 Lukes and the three-dimensional view of power

The Hobbesian mechanistic and causal understanding was challenged in the 'faces of power' debate outlined in Lukes' (2005 [1974]) 'three-dimensional view' on power. Lukes thereby contributed to an increasing acknowledgement of the complexity of power.

The writings of behavioural political scientist Robert A. Dahl in the 1960s represent a first dimension of power, which is a clear continuation of the Hobbesian tradition because he takes an intentional and active perception of power. As Dahl (1957: 202–203) states, "A has power over B to the extent that he can get B to do something that B would not otherwise do." The method of Dahl's (1961) studies puts a focus on the visibility and empirical measurability of power, resulting in a perception of a 'plurality' of equally powerful actors. As Lukes explains, "different actors and different interest groups prevail in different issue-areas, there is no overall 'ruling elite'[4] and power is distributed pluralistically" (Lukes, 2005: 5), which means evenly. Power is exercised in concrete situations and understood as *decision-making* in the political arena. This accessible, classical understanding remains influential as a common perception of what constitutes power today.

Peter Bachrach and Morton Baratz (1962) regarded this conception of power as too narrow, and added a second dimension where decision-making is intentionally limited to relatively non-controversial matters. They draw on the idea that "all forms of political organization have a bias in favour of the exploitation of some kinds of conflict and the suppression of others because organization is the mobilization of bias" (Schattschneider, 1960: 71). Power is then also a matter of non-decision-making and *agenda-setting*.

---

4   Hunter (1953) and Mills' (1956) elite theory expressed moral concern over the impossibility of ideal democracy. The 'faces of power' debate grew out of Dahl's critique of Hunter and Mill and his demand for empirical studies on the existence of such elites.

Bachrach and Baratz are interested not only in agenda issues that are actualized, but also in potential issues. Both of these dimensions still stress the existence of observable conflict, overt or covert. If there is no conflict, then consensus on the prevailing allocation of values is assumed (Lukes, 2005: 23).

This view is challenged by Lukes' 'third dimension' of power for three reasons. First, he criticizes the first and second dimensions' behaviourist and methodological individualist viewpoint that fails to take into account the "socially structured and culturally patterned behaviour of groups, and practices of institutions" (Lukes, 2005: 26). Second, he criticizes the limited focus on observable conflicts. Lukes acknowledges that "A may exercise power over B by getting him to do what he does not want to do, but he also exercises power over him by influencing, shaping or determining his very wants" (Lukes, 2005: 27). This adds the element of *preference-shaping* to the powers of decision-making and agenda-setting, which reveals Lukes' concern about the latent and hidden aspects of power. The third element of criticism is closely linked to the second and rejects the assumption that any form of grievances in the social or political process is necessary to allow power to unfold. In fact, the existence of latent conflicts allows for a very subtle form of domination in which 'perceived interests' obscure the 'real interests' of the dominated and acquiescence is fulfilled without their awareness. But how do we find out about our 'real interests' if they are dominated without our awareness? The answer cannot be found in behaviourist accounts but rather through dialectical approaches. Depending on the framework or methods applied, 'real interests' can therefore be material (if a materialist explanation is applied), the individual's best interest (if a rational choice framework is applied), and so on (Lukes, 2005: 148). This reduces the interest of the subject to the ideological framework applied and therefore exposes it to moral relativism. According to Clegg (1989: 93), Lukes' argument could have been considerably strengthened if he had applied the Habermasian idea of the 'ideal speech situation' to find out about the 'real interests' instead of making the question of power one of moral philosophy. Lukes instead refers to hegemonic approaches where subordinate classes have a 'false consciousness' that enables consent to the ruling class (Lukes, 2005: 144f).

The reason why Lukes speaks of a three-dimensional view is that he regards these views as a subset of a specific concept of power. The three views are not mutually exclusive but rather gain depth by complementing each other, as the 'dimension' metaphor already suggests. They all build upon one concept "according to which A exercises power over B when A affects B in a manner contrary to B's interests" (Lukes, 2005: 30). This is a clear actor-centred conception of power, although Lukes' own third dimension – paralleling hegemony – suggests that structural factors also play a role in obscuring 'real interests'. The fact that Lukes' views are manoeuvring within only one concept is also addressed by Clegg who writes, "even a writer like Lukes, who has

done so much to further our understanding of power through his three-dimensional model, still regards the dimension as layers of a single conceptual structure" (Clegg, 1989: 37). While this sounds somewhat reproachful, Lukes himself never denied the possibility of conceptualizing power otherwise but rather in similarly valuable terms. This became quite evident in a dialogue between Hayward and Lukes (2008) on the issues around power, structure and agency, in which he defended his actor-centred approach based on moral responsibility from a more structural notion.

3.3 Gramsci, Laclau & Mouffe and hegemony

During his imprisonment by Mussolini's fascist Italian regime in the 1920s and 1930s, Antonio Gramsci (1971) developed an extensive analysis of the political economy, published as *Prison Notebooks*. He prominently elaborated on the idea of hegemony, "which constitutes a system of dominant ideas that receive consent from the relatively powerless or subaltern groups" (Haugaard, 2009: 239) in a society. Hegemonic power is perceived as an asymmetrical acceptance of mutual interdependence of the dominant and the dominated. It consists of material and ideological consensus, which leads to compliance with this domination – a self-subjugation. However, these asymmetrical social power relations go largely unrecognized by the dominated. Their consciousness, emotions and actions are shaped by the ideology of the dominant, which is hegemonic when it connects to the 'common sense' of the people and thereby allows integrating subaltern classes into (the asymmetrically structured) civil society.

The concept of hegemony is particularly noteworthy in the structure–agency context. On the one hand, hegemony is a source of domination, which recalls the three-dimensional view of 'power over' an actor. On the other hand, it is based upon the consent of the dominated, which acknowledges an empowering 'power to' element. Hegemony therefore carried the dualism between 'power to' and 'power over' long before it was discovered as a useful conceptual distinction in the 1970s (Haugaard, 2006: 50). Gramsci is directly referring to the strategic character of power in Machiavelli's writings when employing this "dyadic opposition [of] force and consent, violence and persuasion" (Fontana, 2006: 28). However, this dualism carries a theoretical tension, as conflictual and consensual understandings of power seem to be in opposition to each other. Revealing this dualism lays ground for potential synergies in the structure–agency debate. Gramsci's considerations acknowledge, "transformations in the social group or social structure are contingent upon the nature and degree of integration and disintegration, mobilization and fragmentation" (Fontana, 2006: 31). This contingency leaves extensive room for political agents as historical subjects in the formation of hegemony, with hegemony itself constituting a social structure. Gramsci's writings were later used in an unorthodox attempt to rescue Marxism from its structural and deterministic interpreta-

tions.

Ernesto Laclau and Chantal Mouffe further the concept of hegemony by including discourses in formation of hegemony. In their post-structural approach, they dismiss large parts of the Marxists tradition as ideologically essentialist (Laclau and Mouffe, 1985). Haugaard (2006: 49) interprets this attempt as follows: "Hegemony is maintained through the capacity of a discourse formation to unite people into a shared mode of interpretation that reinforces particular relations of domination." Laclau and Mouffe shift the focus from ideology as the basis for hegemony to the acquisition of meaning through discourses that constitute hegemony. The aim is not to transcend hegemony but instead install a counter-hegemony to shift social power relations by radicalizing existing discourses. Taking liberal democracy as an example of a hegemonic discourse, its inherent notion of equality is reduced to political equality within a representative democracy and its liberal notion is reduced to economic liberty in its current neoliberal occurrence. Radicalizing this would mean to expand equality to the personal and economic sphere and thereby achieve a "different hegemonic social order" (Haugaard, 2006: 49) while still remaining within the logic of liberal democracy. Laclau and Mouffe "see power as existing neither in specific individuals (as Lukes does) nor in concrete practices (as Foucault does) but in the way in which agents and practices are articulated in a particular fixed ensemble of representations" (Clegg, 1989: 183). As discussed above, such representations are meanings articulated through discourses. Power is neither expressed by agents, nor by structures but is semiotic through a process of sense- and meaning-making.

3.4 Giddens' structuration theory

The aim of 'structuration theory,' as developed by Anthony Giddens (1984) in *The Constitution of Society,* is to transcend the dualism of structure and agency through what he calls the 'duality of structure.' This regards both as complementary and therefore rejects a divide. As Dowding (2008: 29) argues, "structure is both the medium through which action is made possible and structure is reproduced through social practice itself." In other words, structure and social action (i. e. human agency) create and reproduce each other in the course of 'structuration' – a structure-shaping, continuing process of action. Structure is therefore enabling and constraining at the same time (Giddens, 1984: 25). Giddens defines power as the capacity to achieve outcomes. Rather than impeding freedom or emancipation power is "their very medium" (Giddens, 1984: 257). Language, for example, is a structure that constrains the possibilities of what can be said through a given set of grammar and meaningful sentences, but it only exists through the active speaking and writing of subjects that enable their communication. The structure is thereby simultaneously being reproduced and gradually transformed. Another example concerns green lifestyles that increase the amount of cyclists in urban areas. A shift in

the modal split demands cycling infrastructure, which create new structures of mobility. Streets for cars and sideways for pedestrians are accompanied by cycling lanes or areas in which several modes of transportation equally coexist. Such structures will in turn facilitate the imagination and the act of cycling in urban areas, which in turn creates new structures. Giddens demonstrated that neither structure nor agency alone explains how social relations are formed and the simple examples given here show that his considerations appear to be an appealing conceptualization of our day-to-day reality.

Clegg (1989) argues, that despite all efforts, the structure-agency duality "remains tightly coupled to the individualist and voluntarist side of dualism" (Clegg, 1989: 140). It follows that in structuration theory, power is essentially defined in terms of agency, which has its basis in its ontological presuppositions. Meanwhile, Haugaard (2009) explains that in Giddens' account of reality, "social structures do not exist externally to social action but are reproduced in the moment of social action" (Haugaard, 2009: 245). Reality is therefore deprived of the opportunity to consist of an objective structure. Other than the elements studied by the natural sciences, which have no conception of themselves (e. g. atoms), the thought objects in social science acquire meaning by those describing them (i. e. agents, in this case, humans). This interpretative element in social science is described as 'double hermeneutics' (Giddens, 1984: 284). Giddens discusses the radically discrepant hermeneutic traditions between natural and social sciences and acknowledges the ontological aspect in this discussion. He states,

> [I]f interpretative sociologies are founded, as it were, upon an imperialism of the subject, functionalism and structuralism propose an imperialism of the social object. One of my principal ambitions in the formulation of structuration theory is to put an end to each of these empire-building endeavours. (Giddens, 1984: 2)

For Clegg, however, this endeavour was not addressed sufficiently. A later redefined conceptualization of the 'duality of structure' by Stone (2009) attempts to balance the acknowledgement of objective external social structures with the reproduction of internal structures through agents.

A second criticism is rooted in methodology rather than ontology. Dowding (2008) argues that even if the structure-agency divide is repealed analytically by the duality argument, the true value lies in its conceptual division. If scholars do not break up "the social world into manageable pieces, [. . .] we cannot distinguish the explicandum from the explicans" (Dowding 2008, 29). This necessity remains in dynamic models as described by Giddens. The conceptual division thus loses its explanatory value and therefore is not useful despite its appropriateness.

3.5 Foucault and the post-structuralist response

The post-structuralist contributions by Michel Foucault in the 1970s challenged hitherto established theories and went beyond the scope of structure–agency conceptualizations of power. His approach, which focussed on discursive practices, "admits of no rational, unified human being, nor class nor gendered subject, which is the locus or source of the expression of identity" (Clegg, 1989: 151). Structure and agency themselves are "constructed through power strategies that are operating at the level of discourse" (Torfing, 2009: 112). Identities are therefore not given with regard to mechanistic agency conceptualizations, but are produced by discourses and are part of discourse formations and dispositivs[5]. Such identities are always seen as contingent and relational with respect to dominant forms of power and to dominant power techniques. They "have a historically specific character and are the object of analysis" (Clegg, 1989: 152). This evokes the Machiavellian notion of power where it is therefore neither identified as 'power over' nor as 'power to' but rather as a set of 'power strategies' that form and regulate relational identities of social actors. If actors do not have the capacity to act freely and take part in such identity shaping (e. g. because of state repression), Foucault considers this as domination, not as power. Power thus has a productive but also a regulative and disciplinary force that "is everywhere; not because it embraces everything but because it comes from everywhere" (Foucault, 1978: 93).

In his seminal work *Discipline and Punish* (1995 [1977]), Foucault depicts how sovereign power of the feudal state made room for disciplinary techniques and normalizing practices with the transition to a modern liberal society, that enabled "subtle attempts to mobilize and shape the freedom of individual actors and target groups on the basis of institutionalized goals, standards and norms" (Torfing, 2009: 113). Such disciplinary practices are disseminated and institutionalized through schools, the army, prisons, hospitals, psychiatric institutions or factories. They act as a form of internalized knowledge, so in turn, Foucault regards knowledge and power to be internally related in power / knowledge-complexes and that knowledge and its production relate to specific forms and techniques of power. The 'Panopticon' – conceptualized by Jeremy Bentham – exemplifies the emergence of such disciplinary practices. The Panopticon is a building with an architectural shape that allows a watchman to observe inmates of an institution without them knowing whether they are being watched or not. However, the mere chance of being observed has a normalizing effect on the individual. "The surveillance is permanent in its effects, even if it is discontinuous in its action [so] that the perfection of

---

5   A dispositiv entails the heterogenic entity of everything imaginable, said or unsaid, such as discourses, institutions, regulations, laws, administrative measurements, scientific statements and philosophical and moral tenets of an era. The dispositiv itself depicts the interconnection of those elements and is thereby always inscribed in power relations (Agamben, 2008).

power should tend to render its actual exercise unnecessary" (Foucault, 1995: 201). While prisons indeed exist that imitate the architecture of the Panopticon, Foucault extends it conceptually to the 'ideal type' of all modern disciplinary institutions, illustrating the functioning of modern power relations.

As a post-structuralist, Foucault evades being placed in the structure–agency context. Still, there is a strong urge in the literature to make sense of such new insights by putting them in context with their theoretical and historical surroundings. In this attempt, Foucault's conceptualization of power is also discussed as a fourth dimension of power (Haugaard, 2012) adding to Lukes' three-dimensional view. This is misleading because it does not properly credit the novel thinking that accompanied post-structural thinking on an ontological level. While the three-dimensional view shares the conceptual agency perspective, post-structuralism plays on its own conceptual level and cannot be regarded as a mere additional view. This opened up a new era of possibilities for sociological and political thinking in general and for conceptualizing power in particular.

3.6 Clegg on the circuits of power

Steward Clegg's (1989) framework of the 'circuits of power' attempts to integrate many of the conceptualizations of power. One central aspect in his considerations is the view that organization is "essential to the achievement of effective agency" (Clegg, 1989: 17). Agency is not ontologically restricted to humans but also refers to organizations as collective forms of decision-making (Clegg, 1989: 187). In an attempt that is among others essentially inspired by Foucault, Clegg carefully balances episodic agency types, dispositional types and domination types of power with each other. Clegg regards his analysis as post-modern because it stresses the relational quality of power in the conditions of the modern state. He outlines three respective 'circuits of power,' which are distinct but nevertheless intertwined with each other, namely: episodic relating to agency, social integration involving dispositional power and system integration involving facilitative power.

First, while acknowledging the role of the episodic agency concept, Clegg wants to avoid its conceptual over-extension. This straightforward game of A's power attempts over B and B's resistance to A is clearly a part of the realities of power. However, it should not be regarded as the power phenomena *per se* (Clegg, 1989: 217), which is why Clegg opens up the prospect of the circuit being transcended by two further underlying circuits.

Second, going beyond this first circuit, he acknowledges that power is relational and cannot be possessed. What can be controlled, however, are the organizationally fixed 'nodal points' or 'obligatory passage points'. Those points make the rules of practice through which all traffic must pass and thereby constitute and reproduce power. 'Achieving' power therefore consists of the ability for effective organi-

zation. A valuable power analysis should not start from agency itself but from the social relations that constitute effective agency (Clegg, 1989: 207). For example, concepts of episodic agency may tell us something about the causal power relating to climate change and environmental degradation by an increasing resource use through agent-based unsustainable consumption patterns, but they do not tell us anything about what constitutes the dependency between resource use and environmental degradation. For that, it is necessary to know the constitutive nature of the relational field of those aspects. The question is on what basis the power of increased resource use is fixed, that routinizes its capacity to exert influence on climate and environment. These aspects constitute the second circuit of dispositional power, which Clegg calls the circuit of social integration. The understanding in "terms of relations of meaning and membership" (Clegg, 1989: 224) is clearly influenced, but not restricted to post-structural debates.

Third, a comprehensive power analysis also needs to include material conditions, which are found in the third circuit of system integration. Episodic circuits of power that are fixed through 'obligatory passage points' in the second circuit are theoretically open to agential challenge and transformation. Practically, however, those power relations often endure. Clegg finds the reason why the dominated frequently consent to their subordination is "because they lack collective organization to do otherwise, because they are embedded within collective and distributive power organizations controlled by others" (Clegg, 1989: 221). This process is described as 'organizational outflanking' and can occur in different ways. First, the organizationally outflanked remain so in the case of absence of knowledge about the ways of power. They do not only lack knowledge about the 'rules of the game', but might also not even recognize the game.[6] Second, knowledge about how organizational outflanking can be countered might very well exist. What perpetuates the existing outflanking is the knowledge about potential costs to do so. Third, outflanking endures if the knowledge how to overcome outflanking is useless under existing conditions (Clegg, 189: 220ff), as the outflanked cannot increase their freedom to manoeuvre. Those three conditions of organizational outflanking are the reason why radical social change is rare. The stabilized configurations of how humans organize their living and working conditions pressure agents to reproduce them (Clegg, 1989: 226). The techniques of domination in the third circuit of system integration concern conditions of empowerment and disempowerment, which is why Clegg speaks of a facilitative conception of power in this circuit.

---

[6] This aspect of organizational outflanking shows parallels to the sense-making aspects of the discursive selectivity in the strategic-relational approach. It also comes closest to Lukes' explanation of subordination through the disclosure of the agent's 'real interests'. However, Clegg aims to avoid the fallacy of moral relativism he himself criticizes with Lukes by putting emphasis on the role of effective organization.

Clegg applies his post-modern circuits of power to what he considers as "the key nodal points of power in modernity: the state, the organization and the market" (Clegg, 1989: 240). The analysis is post-modern because it stresses the relational quality of power in the conditions of the modern state in the 19th century. In later contributions, Clegg at al. (2006) discuss the future of power inter alia in terms of the digital Panopticon in which,

> [O]rdinary organizations have capabilities for power that would have been but a dream for a Honecker or a Ford, running a state or a production plant. The trajectory of power has spiralled out from a political economy of the body, has transcended the moral economy of the soul, and now is lodged everywhere and nowhere in a multiplicity of scanning and simulation. (Clegg at al., 2006: 371)

4 Power theories in context

The 'circuit of power' framework shows the complexity and multiplicity of power conceptualizations. All theories outlined have their truthfulness because they bear specific historical characteristics and are manifestations of constantly changing societal circumstances. *Figure 1* depicts an overview of the theories presented in this chapter. The figure attempts to order the theories along structure–agency lines, as far as possible. Such simplifications always suffer under a certain degree of reductionism and should only be regarded as generalizations, which help to make sense of structure and agency conceptualizations of power. Approaches such as structuration theory that reject this categorization or that reframe the debate, such as those of Foucault and Clegg, are depicted in dotted lines.

Although it was once a vibrant and prominent element of social science research, the discussion and theorizing about power has waned recently. While Clegg concludes his work by stating, "perhaps this 'forgetting' of power may yet be the fate of our times" (Clegg, 1989: 275), his valuable contributions and the on-going societal challenges, such as climate change, can serve as an incentive to reconsider power issues as a highly relevant topic for future research. Reviewing the power literature shows that simple conceptualizations of understanding social power relations do not adequately reflect social complexity as "the complexity of the phenomenon is mirrored in its representations" (Clegg, 1989: 215). Therefore, a multi-facetted, multi-theoretical approach to power is necessary to match reality. To facilitate this, *table 1* provides an overview of the main aspects of each power theory discussed and summarizes their essential characteristics.
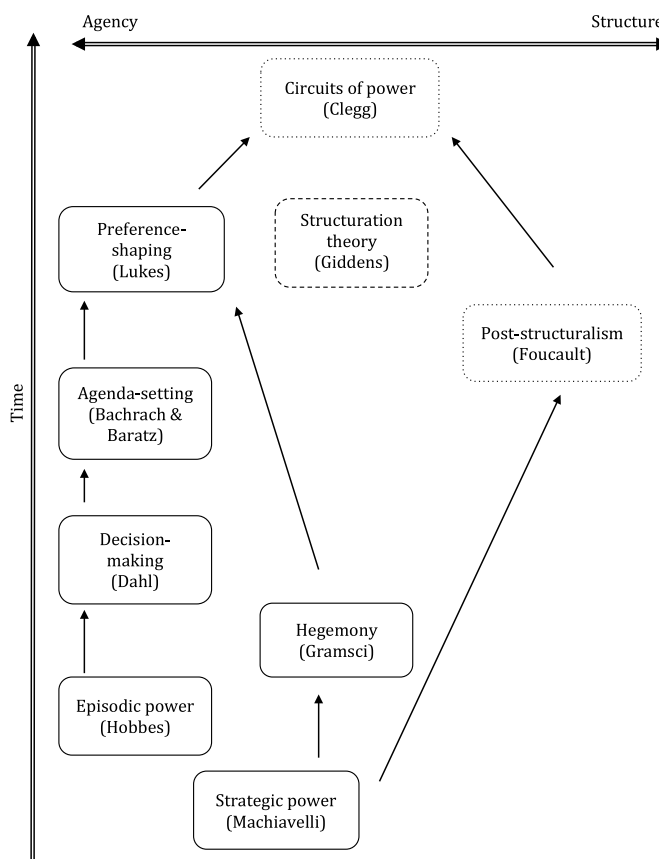

Figure 1: Power theories in the structure-agency context

5 Tentative outline of future power research

Accepting the concept dependency of all observation demands the researcher to aim for a multiple perspective approach. The following section provides a tentative outline of future power research by discussing climate change as one apparent contemporary global policy challenge in the context of the multiple perspectives on power. The focus on the issue of climate change is given priority as it plays a significant role in the context of a socio-ecological transformation, which is the focal point of the critical research on hand. Contextualizing climate change within the multiple layers of power is a heuristic attempt to mediate between the structural circumstances and the actor-centred capabilities for change within the mechanisms of a contemporarily given political and economic framework.

5.1 On the 'realities' of climate change

The 2-degree Celsius goal of average global temperature rise compared to pre-industrial times proposed by the Intergovernmental Panel on Climate Change (IPCC) has been acknowledged in the Copenhagen Accord in 2009 (Unfccc.int, 2009) and is up to now widely accepted as a reference point in the scientific and policy debate on the effects of climate change. This is a matter of power itself on how the objectivity of numbers influences the public's consensus on the

manageability of risks. However, the number is widely considered as a useful reference point for conveying a message on the dangers of climate change. The following section will therefore not concentrate on the discursive power that shaped the 2-degree goal, but narrow the matter down more specifically to the powers that enable or constrain the implementation of such goals.

To stay within these temperature limits, an increasing number of publications have suggested that a large percentage of fossil fuel reserves[7] need to be kept in the ground unburned. Values are hard to determine and highly depend on the assumptions that underlie their basic assessment. Radical projections of climate activists state the necessity of an 80% abatement of fossil fuel reserves in order to stay within the 2-degree (McKibben, 2012). Modest projections published in the journal *Nature* state "greenhouse gas emissions contained in present estimates of global fossil fuel reserves are around three times higher" (McGlade and Ekins, 2014: 187) than what would be possible to burn until 2050 for a 50% chance to stay within the 2-degree limit. This suggests that 66% of fossil fuel reserves need to be kept in the ground measured on the basis of their greenhouse gas emissions potential, not on the basis their absolute quantity[8]. The model already includes emissions reductions through Carbon Capture and Storage (CCS) technology[9] and does not take into account on-going tapping of new fossil fuel reserves such as fracking. However, technological innovations towards such unconventional fossil fuel production make the tapping of resources in the future and its potential transformation into an ever-increasing stock of reserves highly likely. A statement published on Earth Day in April 2015 by the Earth League – a consortium of renowned climate scientists including Johan Rockström and Nicolas Stern – claimed that at least three-quarters of all known fossil fuel reserves need to be left in the ground in order to maintain the "remaining global carbon budget" (Earthstatement.org, 2015) for a 2-degree scenario. This campaign aims to inform the United Nations Framework Convention on Climate Change's (UN-FCCC) twenty-first session of the Conference of the Parties (COP21), taking place December 2015 in Paris.

Although these three projections deviate from each other substantially, the common message carries clear implications. Leaving such large ratios of fossil fuels in the ground will lead to a major disruption of the current economic system if it is not radically transformed accordingly. Capitalistic economies and their accumulation regimes are based on highly fossil fuel-centric production and consumption patterns, which leaves large-scale decoupling of economic growth and green house gas emissions as yet unfulfilled (Jackson, 2009). This implies the necessity of a radical transformation of the socio-ecological system in order to meet the projections outlined above. However, most fossil fuel resources already belong to a comparatively small amount of corporations[10] and states, which would in this case lose approximately 20 trillion USD of economic benefits (McKibben, 2012).

Financial markets treat their expected revenues from fossil fuels as valuable assets for the future. The Carbon Tracker Initiative has addressed this issue by looking at carbon emissions from a financial perspective. Their reports show that "just the reserves listed on the world's stock markets in the next 40 years would be enough to take us beyond 2°C of global warming" (Carbon Tracker Initiative, 2011: 9). Financial markets build up a carbon bubble, which is likely to burst in case current climate goals are being implemented.

5.2 First circuit: civil society, state authority & climate negotiations

The context outlined above implies several aspects for the multi-layered conflicts and mechanisms of climate change. The multiple dimensions can be illustrated based on Clegg's circuits of power. The first circuit concentrates on the realm of events and struggles among involved actors. Those events are the usual targets of scientific research as they are the observable and often measurable manifestations of any issue. In the case of climate change, several power episodes are subscribed to the first circuit of power, which take place on multiple levels as vertical structures of a territory. They may involve civil society actors at a local level, the state authority at a national level or UN climate negotiations at an international level.

The struggle of civil actors at the local level is often linked to debates around climate justice. The theoretical and intellectual edifice of climate and environmental justice is found within political ecology (Forsyth, 2003) but manifests in specific events, whether in the struggle of "threatened communities that are often rendered powerless by institutions and ignored by the media" (Ejolt.org, 2014) or due to the lack of institutionalized forms of exercising influence. To articulate their interests against this form of organizational outflanking, such communities increasingly draw on acts of civil disobedience, defined as a "public, nonviolent, conscientious yet political act contrary to law usually done with the aim of bringing about a change in the law or policies of the government" (Rawls, 1971: 364). This is heavily driven by the moral consciousness of the individual actor, but predominantly unfolds its empowering elements in a communal act. As Hannah Arendt puts it, power is the "human ability not just to act, but to act in concert." (Arendt, 1970: 44). An

---

[7]   The distinction between reserves and resources is crucial here. "Reserves are a subset of resources that are defined to be recoverable under current economic conditions and have a specific probability of being produced" (McGlade and Ekins, 2014: 188).

[8]   This allows for deviating numbers for specific types of fossil fuel resources such as coal, gas & oil.

[9]   Although the authors acknowledge that "CCS has a relatively modest effect on the overall levels of fossil fuel that can be produced before 2050 in a 2°C scenario" (McGlade and Ekins, 2015: 190).

[10]   Currently four out of the world's ten biggest corporations (by their gross revenue) are extracting fossil fuels (Fortune.com, 2014).

	Concept	View	Characteristics	Statement / Main concern
Machiavelli	Agency	Strategic view	Decentralized, contingent	What does power do?
Hobbes	Agency	Episodic view	Mechanical, causal, absolute	What is power?
Dahl	Agency	1st dimension: decision-making	Pluralistic, overt	A has power over B to the extent that s/he can get B to do something that B would not otherwise do
Bachrach & Baratz	Agency	2nd dimension: agenda-setting	Exclude unwanted interests, covert	Power is about the mobilization of bias
Lukes	Agency	3rd dimension: preference-shaping	Obscuring 'real interest', latent	A exercises power by influencing, shaping or determining B's very wants
Gramsci	Structure & Agency	Hegemony	Domination & consensus	Domination of one social class over others, consent and integration of civil society
Giddens	Structuration	Duality of structure	Rejecting the structure-agency dualism, reproducing, enabling and constraining	Power as recursive and reciprocal process
Foucault	Post-structural	Power is productive and regulative	Discursive practices & dispositivs, power/knowledge, discipline & bio-power	Power analysed in terms of strategies, its specific techniques and functioning
Clegg	Post-modern	Organizational view	1) Circuit of agency: episodic, causal 2) Circuit of social integration: dispositional 3) Circuit of system integration: facilitative	A's power over B & B's resistance, Obligatory passage points, Organizational outflanking

Table 1: Key elements of the power theories

example for such an act of civil disobedience in the name of climate justice happened in August 2015 in the Rhineland, Germany. A group of climate activists organized a blockade of a coal pit to obstruct the exploitation of lignite. Their aim was to tackle the causes of climate change at its root – the extraction of fossil fuel resources, in particular coal, which is the biggest source of greenhouse gas emissions worldwide (Darby, 2015). Such an act of civil disobedience by one or a group of actors exercises power by challenging state authority and thereby compels such authority to react through the use of coercive measures such as police force in order to prohibit unlawful behaviour. The state is largely considered as the only apparatus holding the legitimation to apply physical force, although such "coercion is a state's ultimate sanction [. . .] to secure compliance" (Jessop, 2009: 373). More commonly used practices to achieve compliance are disciplining mechanisms, for example through bureaucratic procedures. Acts of civil disobedience therefore put the state authority in a position that is usually avoided and thereby reveal their potential points of weakness. This situation clearly depicts episodic power relations expressed in the Hobbesian under-

standing of power on both sides. However, what is actually defended in this case is the right of private cooperations to make profits through resource extraction, secured by state authority. The underlying institutionalized mechanism is addressed as part of the second circuit of power regarding climate change.

Another contemporary power episode relevant to the national and international context are the large numbers of refugees, who have recently reached and crossed the national borders of European Union countries. One of the multiple and complex reasons for the increasing numbers of migrants seeking refuge in Europe and other parts of the world is rooted in the effects of climate change. The causes for the outbreak of the Syrian civil war are partially due to severe droughts the occurred between 2006 and 2011 and have led the agricultural sector close to collapse, which contributed to political disruption to the extent of civil war breaking out (Sinai, 2015). Although this example depicts a selective disruption, the reasons for such migration movements in the future are expected to be part of major transformations of socio-ecological circumstances. According to estimations

by the *Stern Report* and *Friends of the Earth*, some 200 million people will be displaced by 2050 due to environmental change (Oliver-Smith, 2014). Such projections already indicate the crisis and conflict potential of environmental change (Welzer, 2012), especially if future environmental migrants are not regarded as eligible for refugee status. The coercive power of enforced nation borders by state authority against the will of migrants is then an apparent result of climate change-induced events.

While the impacts of climate change often manifest in local situations, the episodic power struggles also become apparent in international climate negotiations or transnational epistemic communities such as in the scientific work of the IPCC. The COP21 in Paris is part of a global governance strategy to mitigate and adapt to climate change. Such strategies, however, are increasingly under criticism as they fail to provide the necessary binding commitments and results.

On the one hand, this a matter of straightforward lack of bargaining power of the regions most affected by climate change, in contrast to the industrialized nations that are primarily responsible for global emissions. Sea level rise as one of many effects of on-going climate change will threaten large regions and populations to their existence. This threat has led the Alliance of Small Island States (AOSIS) to push for ambitious emissions reduction goals for many years (Spash, 2002). Due to the lack of bargaining power vis-à-vis large emitters such as the U.S. who have not yet agreed to binding commitments, AOSIS states will face severe consequences. Some affected governments have lost confidence in global governance strategies to the extent that island states such as Kiribati are buying new land elsewhere (Caramel, 2014). While this land-buying model might work for the 100,000 citizens of Kiribati, it is not feasible for the millions of people in other regions such as Bangladesh, who are similarly affected by sea level rise. In November 2014, the U.S.-China joint presidential statement on climate change as the two main emitters of emissions worldwide aimed for a bilateral cooperation in the abatement of emissions. This shift of strategic selectivity from multilateral back to bilateral agreements depicts a trend, not only on the issue of climate change, but also for international trade agreements (Raza, 2015). Although the bilateral talks between the U.S and China include specific emissions reduction targets and mechanisms such as cap-and-trade programs (Nelson and Mauldin 2015), they do not include binding targets. Many observers, however, regard this agreement with cautious optimism in the context of future multilateral climate negotiations.

On the other hand, specific discursive strategies and selectivities inscribed in the climate negotiations contribute to ineffective abatement. The Kyoto-protocol's geographical approach with a focus on the "emissions generated from *production* activities within a country's territory" (Helm, 2008: 220) instead of focussing on consumption, gave way to a dominant logic of efficiency through technological progress as the key to abatement. High efficiency countries with a strong service sector such as Sweden (often treated as role-model for emissions reduction by researchers and policy makers) rely on emission-intensive production sectors abroad to maintain their living standards. However, the emissions and resource consumption embedded in trade are not attributed to the final consumers in UNFCCC calculations. This is taken into account by research on the carbon footprint of nations using multiregional input-output (MIRO) models (Hertwich and Peters, 2009) but has not yet become prominent in policy negotiation criteria. Additionally, this discursive strategy allows for the agreement on emissions reduction goals instead of recognizing the absolute limits of burnable fossil fuels as outlined above. It contributes to a sense-making of climate change as a policy issue that is not treated as substantially different to any other contemporary policy issue, thereby failing to recognize the deep structural socio-economic changes necessary to effectively abate climate change.

5.3 Second circuit: state, (financial) markets and regulation

The rule of practice within which such episodic power is embedded goes far beyond the nation-state containers of power and sovereignty. In the examples above, it is not only the public order of the state that is enforced by coercion. State police in conflict situations and state authorities in negotiation situations also secure property rights and yet-unrealized financial assets of multi-national cooperations. Such unrealized financial assets are largely inscribed in the cooperation's market value and distributed along global (financial) markets. Markets can be regarded at the 'obligatory passage point,' or the basis on which the episodic powers of the first circuit is fixed. Those markets form the rules and practices of how natural resources are commodified and financialized for the rent-seeking members of the market, often at the expense of climate change. While the power episodes of the first circuit are best described by specific events involving the power of actors, the second and third circuits are concerned with the power fields in which such events are embedded and acquire meaning.

To illustrate this process, it is worthwhile to describe the shift of the power field from the state to the market by different accumulation regimes within capitalism. A regulation theory perspective is useful not only because it claims to consider structure and agency equally and synthesize them in its analysis, but also because some scholars of regulation theory make a strong effort to incorporate society-nature relationships into their considerations of the political economy, which are highly relevant when talking about climate change (Raza, 2003). The traditional Fordist accumulation regime of mass production and consumption had its spatial foundation in the nation state, while Keynesian economic policies provided a mode of regulation with the state acting as the sovereign power container representing the 'obliga-

tory passage point' of the mid-20th century. After decades of stability typified by the compromise between capital and labour, the Fordist accumulation regime came into crisis in the 1970s. It was then replaced by a post-Fordist accumulation regime, which used the market as the new dominant form of regulation. The financialized accumulation that goes along with this shift relies on the continuous valorization of natural resources to stabilize the new accumulation regime (Becker, 2009).

With respect to climate change, this shift becomes relevant in commodification and financialization mechanisms that are increasingly found in the objectives of a green growth economy and are heavily present in the tools of climate negotiations. In line with neoclassical assumptions and its ignorance towards a comprehensive account of power relationships, climate change is commonly regarded as market failure that can be eliminated through the internalization of external costs, such as pollution (Stern, 2006). The Kyoto-protocol, for example, introduced flexible mechanisms such as clean development mechanisms (CDM) and joint implementation (JI). This allows carbon-intensive nations to offset emissions to less developed nations through buying their 'rights to pollute' or investing directly in emissions reduction projects towards a low-carbon industrial development. The commodification is thereby not restricted to natural resources, but also expands to emissions. This is demonstrated in the third flexible mechanism, namely the set-up of carbon markets such as the European Union emissions trading scheme (EU ETS).

Despite the hope for efficient allocation of pollution certificates through market mechanisms, the first two phases of the EU ETS proved ineffective in terms of their capacity to abate carbon emissions. The alternative to tax emissions instead of trading with pollution permits was initially discussed but quickly abandoned, since "Kyoto's targets have been framed as part of an economic discourse where priority is given to creating gains from trade, extending the role of markets and protecting the profits of potentially vulnerable polluters" (Spash, 2010: 170). It was shown that the EU ETS not only did poorly in fulfilling its goal of combatting climate change but also turned out to provide significant windfall profits for polluting industries that took part in the scheme, due to an almost free allocation of tradable permits (Spash, 2010). The later adaption and improvement of the EU ETS in its third phase since 2013 does not alter the underlying market logic of such flexible mechanisms. This logic was similarly extended to other environmental areas such as ecosystems and biodiversity. The United Nation's Environments Programme (UNEP) initiated "The Economics of Ecosystems and Biodiversity" (TEEB) programme with the aim of mainstreaming the economics of nature and thereby "making nature's values visible" (teebweb.org, 2015) using the cost-benefit logic that was likewise used in the *Stern Report*. Cap-and-trade systems are no longer restricted to emissions, but are now also used "to offset a company's negative impact on threatened species and habitats" (Spash,

2011: 142).

Such developments illustrate how any mode of regulation is connected to specific society-nature relationships in which resources are constructed in a certain way and secured by a specific political and legal framework. "Resources are not, they become," as institutional economists already pointed out in the 1950s (Gregori, 1987). The current mode of regulation through markets is characterized by the hegemonic acceptance of the domination of nature through an ever-extending commodification of resources and emissions. Markets become the 'obligatory passage points' for the valorization of nature and the handling of climate change. Such hegemonies are useful, if not necessary to stabilize an accumulation regime. Beyond the episodic and agential power relations of climate conflicts and negotiations, these are clearly the structural powers that frame the issue of climate change.

Although the market represents the dominant form of regulation in this case, the state remains essential. An adequate definition of the state in this context can be found in the strategic-relational approach. Jessop sees the state as a social relation that is characterized by strategic selectivities within spatial and temporal context: "Rather than speaking of *the* power of the state, one should speak about the potential power*s* (or state capacities), in the plural, that are inscribed in the state as institutional ensemble" (Jessop, 2009: 379). Whenever an accumulation regime and its mode of regulation co-evolve and thereby stabilize, a 'spatio-temporal fix' occurs (Jessop, 2013). However, regulation is a conflictual process that is prone to crisis as an inherent characteristic of capitalism. Crisis may open up the opportunity for a new type of regime – a regime that goes beyond the imperative of accumulation in capitalism towards a different mode of production and consumption.

Regulation theory can provide a basis to understand the market as an 'obligatory passage point' with regard to climate change. A different way to understand the power mechanisms that unfold more specifically through *financial* markets can be found through the perspective of cosmopolitan realism, or Machiavellianism as described by Beck (2005). According to him, this perspective "deals with the way in which the national and international forms of 'legitimate domination' (Max Weber) are being dissolved and its rules rewritten in the globalized power game of mobile capital, states and social movements" (Beck, 2005: xiii). Beck draws on the logics of social action in world politics to emphasize this perspective. The 'logic of consequentialism' is characterized by rational actors driven by utility-maximizing action while the 'logic of appropriateness' is often conceptualized in sociological institutionalism and describes the institutionally framed, rule-guided behaviour of actors and organizations such as states, markets and the civil society (Risse, 2000). In times of globalization, those logics are complemented by the 'logic of rule change', where the "relationship between institutions and organizations are turned around" (Beck, 2005: 3). Financial markets break out of

their institutional mode of regulation and are not obliged to follow the norms and rules of appropriateness. Capital rather "acquires a form of legal sovereignty" (Beck, 2005: 119) and legitimation, facilitated by global governance organizations such as the IMF, World Bank and WTO. Systems of arbitration and international trade agreements are examples of some manifestations of such increasing sovereignties of capital vis-à-vis the state. "Capital strategies" (Beck, 2005: 122) thereby dispense the spatial-temporal fix of the nation state and leave the state authority often helpless with the rather traditional task to defend property rights wherever demanded by such strategies.

This establishes financial markets as more specific 'obligatory passage points' through which power is constituted and reproduced by effective organization. However, the power of such passage points is relational and counter-power strategies thereby consist of equally effective organization, if the 'playing field' of the financial market is principally accepted. The disintegration of carbon intensive investments, such as shares from resource extracting cooperations, can be a leverage point for transforming the 'obligatory passage points'. Such disintegration again happens within the agency circuit. A prominent contemporary example of this endeavour is the constantly growing 'divestment' initiative that is gaining increasing attention predominantly among universities, churches and public sector investments (Klein, 2014). This campaign is on the one hand concerned about the stranded assets of a potential carbon bubble, which would evolve in major disruption or collapse of the existing financial system. On the other hand, the campaign aims at emissions reduction by divestment from heavy emissions industries and appeals to the moral responsibility of investing actors. Arguing about impending financial losses and at the same time questioning the public acceptance of fossil fuel investments, the divestment campaign rolls back the logics of social action. The 'logic of rule change' transforms back to the 'logic of consequentialism' to avoid the burst of a carbon bubble and the 'logic of appropriateness' to appeal to moral responsibilities. Divestment thereby aims to occupy the financial markets as 'obligatory passage points' with a counter-strategic effective organization.

An alternative reading on the power of capital consists of an exit strategy rather than an attempt to counter-power financial markets within their own logic, as divestment does. By accepting financial markets as one 'obligatory passage point' through which power constituted, the neoliberal hegemonic field within which such markets can operate is strengthened. This is a rather dialectical issue but reveals the importance of discursive power in constituting hegemony, as stressed by Laclau and Mouffe. Rather than divesting from fossil fuels and operating within the logic of financial markets, the real alternative consists of building different financial institutions all together as new passage points for capital. This promotes a set of different infrastructures, which constitute a novel power field that works more towards the containment of climate change and the implementation of a socio-ecological transformation in general. However, such transformations are particularly hindered by systemic structures, which are a matter of the third circuit of power.

5.4 Third circuit: organizational outflanking, governmentality and the growth dispositiv

The installation of new 'obligatory passage points' described in the preceding chapter underlies a specific transformation of governmentality, which is understood as "an intertwining of political rationalities and technologies of government" (Henman, 2011: 289). Foucault used the concept of governmentality as a contextual triangle of sovereignty, discipline and government targeting the population, as he analyzed the shift from state rulers' interest in geographical territory throughout previous centuries towards the 20th century forms of government rationalities (Foucault, 2005). The neoliberal governmentality figures prominently here and has been used to describe and analyze neoliberalism as the political ideology of marketization tendencies. This advancement of governmentality acknowledges that neoliberalism does not exhaust itself in the rhetoric of minimal state government, but rather that "neoliberalism is government by other means. It operates 'at a distance' [using] experts, market mechanisms, and individual choice, rather than through coercive state regulations and rules" (Henman, 2011: 291). This does not render the state irrelevant but demonstrates the importance of a contemporary state theory, such as provided by Jessop (2008).

During the shift of accumulation regimes from Fordism to post-Fordism, the necessity to deal with the increasing issues of environmental and climate change gave room for a specific form of 'green governmentality', which Luke (1999) discusses in an American context. With reference to Jessop's strategic-relational approach, specific discursive selectivities are used to serve the technological selectivities inscribed in such a shift. According to Luke (1999):

> To preserve the political economy of high-technology production, many offices of the American state must function as 'environmental protection agencies', inasmuch as they continue to fuse a politics of national security with an economics of continual growth, to sustain existing industrial ecologies of mass consumption with the wise use of nature through private property rights. (1999: 151)

As mentioned earlier, all these aspects of economic growth, industrial ecologies, mass consumption and private property rights have the strong potential to stand in the way of effective climate change abatement and thereby unfold powers and conflicts on agential and structural levels. Paralleling the commodification of emissions trading and biodiversity described above, a green governmentality also pervades further areas such as biotechnology. As Luke

observes, "a postmodern condition is perhaps reached when the life of all species is now wagered in all of humanity's economic and political strategies" (Luke, 1999: 150).

The shifts of passage points and transformations of governmentality are accompanied by the 'organizational outflanking' of societal entities, such as individuals, groups but also discourses or institutional mechanisms. The consideration of outflanking links back to the example of financial markets and provides a starting point to understand the systemic structures that underlie different accumulation regimes. One reason why incremental strategies of counter-power, such as divestment strategies, are pursued *within* the passage point of the financial market is partially rooted in the material conditions of economic growth. Establishing alternative financial institutions in a more radical act of change is rare, as the foundational basis for such a strategic move barely exists – alternative financial institutions are organizationally outflanked through the necessity of economic growth that is inherent to all accumulation regimes. Brand (2014: 296) suggests that while there has long been an extensive discussion of the dominating character of capitalism, the necessity for economic growth is widely consensual in nearly all systems of production and consumption. Social forces become hegemonic by manoeuvring within the consensually accepted paradigm of economic growth on which the 'imperial modes of living' of the Global North rely upon (Brand and Wissen, 2013).

The more recent acknowledgement of economic growth as a core driver rather than a solution to climate change fits within the degrowth movement (Kallis et al., 2012). However, degrowth remains a discursive niche and is far from being capable of establishing hegemonic powers. The coercive and disciplining measures of growth-based capitalism unfolds on all three types of outflanking and thereby link back to several conceptualizations of power. First, the organizationally outflanked casualties of climate change do not recognize its connection to economic growth, perpetuated through financial markets. Rather, a specific set of discursive selectivity or sense-making constructs an imaginary of growth. A "decolonization of the imaginary" (Latouche, 2014) is necessary to enable the imagination of a social system without economic growth and thereby unfold the possibilities for counter-power strategies. Second, knowledge about the interconnection between economic growth and climate change might exist but the costs to treat it as a problem of the many in the future are outflanked by the benefits of economic growth for the few today. The agential selectivities on power show how privileged access to resources enables the 'good life for a few' instead of 'the good life for all'. The third aspect of outflanking concerns cases where the organizationally outflanked are not given room to manoeuvre, whether they are communities that suffer under the effects of climate change or low-income classes that are forced to reproduce the conditions in which they are situated. A full-time job in a growth economy is seemingly necessary to earn a living, contribute to a growth-dependent

social security system and thereby perpetuate specific living and working patterns. The respective form of governmentality here is not only constituted by the 'obligatory passage points' of (financial) markets, but also by "state power [that] is capitalist to the extent that it creates, maintains, or restores the conditions required for capital accumulation" (Jessop, 2009: 378).

Fossil fuel-based capitalism, with its inherent character of economic growth, depicts the deep structural order of Fordist and post-Fordist accumulation regimes and has persistently outflanked any alternatives that may provide an effective strategy for climate change abatement. The concept of the dispositiv was central to Foucault during his considerations on governmentality and can productively address the issue at hand. Summarizing the systemic structures of the third circuit as a *growth dispositiv* helps to also understand the deeply embedded power relations connected to climate change.

Conclusion

This explorative and predominantly conceptual work aimed to contribute to the research and discussion on power in the social sciences. It has outlined the theoretical foundations of power and hinted towards their empirical relevance for contemporary policy challenges. The ontological and epistemological discussion on power showed that taking the issue of power in society seriously demands a multi-theoretical analysis of power in social science. This discussion also provided for the post-positivist reflections that are useful to frame the field in a multi-theoretical manner. The tentative outline for future power research indicated the possible benefits of this approach in the case of climate change. This explorative part discussed a selection of agential power relations on multiple geographical levels from the local to the global as well as the structural aspects of power connected to climate change. Such structural aspects include the shift from the state to the market as the predominant mode of regulation in post-Fordist accumulation regimes, the green governmentality accompanying such a shift, and the growth dispositiv that provides the systemic structures for institutional mechanisms such as the commodification of nature, resources and emissions. This structural power field is not directly visible in conflicts, struggles, negotiations, innovations or catastrophes connected to climate change, but is equally relevant for a meaningful understanding and explanation of such visible phenomena. Although a critical social research agenda aims to describe *and* transform society through its inquiry, a thorough understanding of the problems is the precondition to do so.

This work does not claim to provide a comprehensive analysis of power relations. It has given interested readers and the author the opportunity to discover the possibilities in the field and has to be understood as a plea for more concrete power research on empirical areas. This work may

also be seen as a theoretical toolkit, a quarry on power that serves as inspiration and contributes to knowledge but also highlights the concept dependency of all empirical research. The author has only touched upon the benefits of such a toolkit in one specific empirical field, but hopes to inspire further research that criticizes and improves the work to make the research on power fit for the challenges of the 21st century. Power might increasingly continue to be at the core of societal issues in a globalized, yet fragmented world of multiple crises and opportunities.

Literature

Agamben, G. (2008). *Was ist ein Dispositiv?*. Zürich: Diaphenes.

Archer, M. (1995). *Realist Social Theory: The Morphogenetic Approach*. Cambridge: Cambridge University Press.

– (2003). *Structure, Agency and the Internal Conversation*. Cambridge: Cambridge University Press.

Arendt, H. (1970). *On Violence*. London: Allen Lane.

Bachrach, P. and Baratz, M. S. (1970). *Power and Poverty: Theory and Practice*. New York: Oxford University Press.

Beck, U. (2005). *Power in the Global Age: A New Global Political Economy*. Cambridge: Polity Press.

– (2008). *World at Risk*. Cambridge: Polity Press.

Becker, J. (2009). Regulationstheorie. In: J. Becker et al., eds., *Heterodoxe Ökonomie*. Marburg: Metropolis Verlag, pp. 89–116.

Brand, U. and Wissen, M. (2013). Crisis and Continuity of Capitalist Society-Nature Relationships: The Imperial Mode of Living and the Limits to Environmental Governance. *Review of International Political Economy,* 20(4), pp. 687–711.

Brand, U. (2014). Kapitalistisches Wachstum und soziale Herrschaft – Motive, Argumente und Schwächen aktueller Wachstumskritik. *PROKLA Zeitschrift für kritische Wissenschaft,* 175(2), pp. 289–306.

Caramel, L. (2014). Besieged by the Rising Tides of Climate Change, Kiribati buys Land in Fiji. The Guardian, [online]. Available at: http://www.theguardian.com/environment/2014/jul/01/kiribati-climate-change-fiji-vanua-levu [Accessed 20 Sep. 2015].

Clegg, S. (1989) *Frameworks of Power*. London: Sage Publications.

Clegg, S., Courpasson, D. and Phillips, N. (2006). *Power and Organizations*. London: Sage Publications.

Dahl, R. (1961). *Who Governs? Democracy and Power in an American City*. New Haven, CT: Yale University Press.

Darby, M. (2015). Activists to halt Diggers at RWE Coalfields in Germany. The Guardian, [online]. Available at: http://www.theguardian.com/environment/2015/aug/14/activists-halt-diggers-rwe-coalfields-germany [Accessed 20 Sep. 2015].

Dowding, K. (2008). Agency and Structure: Interpreting Power Relationships. *Journal of Power,* 1(1), pp. 21–36.

– (2009). Rational Choice Approaches. In: S. Clegg and M. Haugaard, eds., *The SAGE Handbook of Power*. London: Sage Publications, pp. 40–53.

Earthstatement.org, (2015). Earth Statement. [online]. Available at: http://earthstatement.org/statement/ [Accessed 28 Apr. 2015].

Ejolt.org, (2014). Environmental Justice Organisations, Liabilities and Trade: Mapping Environmental Justice. [online]. Available at: http://www.ejolt.org/maps/ [Accessed 28 Apr. 2015].

Fontana, B. (2006). State and Society: The Concept of Hegemony in Gramsci. In: M. Haugaard and Lentner, eds., *Hegemony and Power: Consensus and Coercion in Contemporary Politics*. Lanham: Lexington Books, pp. 23–44.

Forsyth, T. (2003). *Critical Political Ecology: The Politics of Environmental Science*. London: Routledge.

Fortune.com, (2014). The Fortune Global 500. [online]. Available at: http://fortune.com/fortune500/ [Accessed 28 Apr. 2015].

Foucault, M. (1978). *The History of Sexuality, Vol. 1*. New York: Pantheon Books.

– (1995 [1977]). *Discipline and Punish: The Birth of the Prison*. 2nd ed. New York: Vintage Books.

– (2005). *Analytik der Macht*. Frankfurt am Main: Suhrkamp Verlag.

Giddens, A. (1984). *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity Press.

Gramsci, A. (1971). *Selections from the Prison Notebooks*. London: Lawrence and Wishart.

Gregori, T. (1987). Resources Are Not; They Become: An Institutional Theory. *Journal of Economic Issues*, 21(3), pp. 1241–1263.

Haugaard, M. (2006). Power and Hegemony in Social Theory. In: M. Haugaard and Lentner, eds., *Hegemony and Power: Consensus and Coercion in Contemporary Politics*. Lanham: Lexington Books, pp. 45–63.

– (2009). Power and Hegemony. In: S. Clegg and M. Haugaard, eds., *The SAGE Handbook of Power*. London: Sage Publications, pp. 239–255.

– (2010). Power: A 'Family Resemblance' Concept. *European Journal of Cultural Studies,* 13(4), pp. 419–438.

– (2012). Rethinking the Four Dimensions of Power: Domination and Empowerment. *Journal of Political Power,* 5(1), pp. 33–54.

Hay, C. (2002). *Political Analysis: A Critical Introduction*. Hampshire: Palgrave McMillan.

Helm, D. (2008). Climate-Change Policy: Why has so Little been Achieved?. *Oxford Review of Economic Policy*, 24(2), pp. 211–238.

Henman, P. (2011). Governmentality. In: K. Dowding, ed., *The Encyclopedia of Power*. London: Sage Publications, pp. 288–291.

Hertwich, E. and Peters, G. (2009). Carbon Footprint of Nations: A Global, Trade-linked Analysis. *Environmental Science & Technology*, 43(16), pp. 6414–6420.

Hobbes, T. (1970 [1651]). *Leviathan*. Stuttgart: Reclam.

Hunter, F. (1953). *Community Power Structure*. Chapel Hill: University of North Carolina Press.

Jackson, T. (2009). *Prosperity without Growth: Economics for a Finite Planet*. London: Earthscan.

Jessop, B. (2008). *State Power: A Strategic-Relational Approach*. Cambridge: Polity Press.

– (2009). The State and Power. In: S. Clegg and M. Haugaard, eds., *The SAGE Handbook of Power*. London: Sage Publications, pp. 367–382.

– (2013). Revisiting the Regulation Approach: Critical Reflections on the Contradictions, Dilemmas, Fixes and Crisis Dynamics of Growth Regimes. *Capital & Class*, 37(1), pp. 5–24.

Kallis, G., Kerschner, C. and Martínez-Alier, J. (2012). The Economics of Degrowth. *Ecological Economics,* 84, pp. 172–180.

Klein, N. (2014). *This Changes Everything: Capitalism vs. Climate*. New York: Simon & Schuster.

Laclau, E. and Mouffe, C. (1985). *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*. London: Verso.

Latouche, S. (2014). Decolonization of Imaginary. In: G. D'Alisa, F. Demaria, and G. Kallis, eds., *Degrowth: A Vocabulary for a New Era*. London: Routledge, pp. 117–120.

Latour, B. (1986). The Powers of Association. In: J. Law, ed., *Power, Action and Belief. A New Sociology of Knowledge?*. London: Routledge & Kegan Paul, pp. 264–281.

Luke, T. (1999). Environmentality as Green Governmentality. In: É. Darier, ed., *Discourses of the Environment*. Oxford: Blackwell Publishers, pp. 121–151.

Lukes, S. (2005 [1974]). *Power: A Radical View*. 2nd ed. Hampshire: Palgrave McMillan.

Machiavelli, N. (1998 [1532]). *The Prince*. 2nd ed. Chicago: University of Chicago Press.

McGlade, C. and Ekins, P. (2015). The Geographical Distribution of Fossil Fuels Unused when Limiting Global Warming to 2°C. *Nature,* 517, pp. 187–190.

McKibben, B. (2012). Global Warming's Terrifying New Math. Rolling Stone, [online]. Available at: http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719 [Accessed 28 Apr. 2015].

Mills, C. (1956). *The Power Elite*. Oxford: Oxford University Press.

Nelson, C. and Mauldin, W. (2015). U.S., China to Announce Steps to Fight Climate Change. The Wall Street Journal, [online]. Available at: http://www.wsj.com/articles/u-s-china-to-announce-new-steps-to-fight-climate-change-1443144860 [Accessed 20 Sep. 2015].

Oliver-Smith, A. (2014). Environmental Migration: Nature, Society and Population Movement. In: S. Lockie, D. Sonnenfeld and D. Fisher, eds., *International Handbook of Social and Environmental Change*. London: Routledge, pp. 142–153.

Popper, K. (1945). *The Open Society and Its Enemies. Volume I: The Spell of Plato*. London: Routledge.

Raza, W. (2003). Politische Ökonomie und Natur im Kapitalismus: Skizze einer regulationstheoretischen Konzeptualisierung. In: U. Brand and W. Raza, eds., *Fit für den Postfordismus?: theoretisch-politische Perspektiven des Regulationsansatzes*. Münster: Westfälisches Dampfboot, pp. 158–174.

– (2015). Politics of Scale and Strategic Selectivity in the Liberalisation of Public Services – the Role of Trade in Services. *New Political Economy*, 3467, pp. 1–16.

Risse, T. (2000). "Let's Argue!": Communicative Action in World Politics. *International Organization,* 54(1), pp. 1–39.

Sayer, A. (2000). *Realism and Social Science*. London: Sage Publications.

Schattschneider, E. (1960). *The Semi-Sovereign People: A Realist's View of Democracy in America*. New York: Holt, Rhinehart & Winston.

Sinai, A. (2015). Verwüstung: Wie der Klimawandel Konflikte anheizt. *Le Monde diplomatique,* p. 1.

Spash, C. (2002). *Greenhouse Economics*. London: Routledge.

– (2010). The Brave New World of Carbon Trading. *New Political Economy*, 15(2), pp. 169–195.

– (2011). Terrible Economics, Ecosystems and Banking. *Environmental Values*, 20(2), pp. 141–145.

Steinbeck, J. (2006 [1936]). *The Grapes of Wrath*. London: Penguin Books.

Stern, N. (2006) *The Stern Review on the Economics of Climate Change*. Cambridge: Cambridge University Press.

Stinger, G. (1943). The New Welfare Economics. *The American Economic Review*, 33(2), pp. 355–359.

Stone, R. (2009). Power and Structuration Theory. In: S. Clegg and M. Haugaard, eds., *The SAGE Handbook of Power*. London: Sage Publications, pp. 89–107.

Sum, N. and Jessop, B. (2013). *Towards a Cultural Political Economy*. Northampton: Edward Elgar.

Teebweb.org, (2015). The Economics of Ecosystems and Biodiversity. [online]. Available at: http://www.teebweb.org [Accessed 20 Sep. 2015].

Torfing, J. (2009). Power and Discourse: Towards an Anti-Foundationalist Concept of Power. In: S. Clegg and M. Haugaard, eds., *The SAGE Handbook of Power*. London: Sage Publications, pp. 108–124.

Unfccc.int, (2009). UNFCCC Report of the Conference of the Parties on its Fifteenth Session, held in Copenhagen from 7 to 19 December 2015. In: United Nations Framework Convention on Climate Change [online]. Copenhagen: United Nations, pp. 1–43. Available at: http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf [Accessed 28 Apr. 2015].

Welzer, H. (2012). *Climate wars: Why People Will be Killed in the Twenty-first Century*. Cambridge: Polity Press.