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Value Pluralism and the Sociomateriality of Participatory Urban Development

Master Thesis

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Abbreviations

CBPP	Commons-Based Peer Production
CNC	Computer Numerical Control
DEG	Digital Era Governance
DGML	Design Global Manufacture Local
DLT	Distributed Ledger Technology
EMO	Ethical-Modular Organization
FOSS	Free and Open Source Software
IAD	Institutional Analysis and Development
NPM	New Public Management
PPP	Public-Private Partnership
RVB	Rijksvastgoedbedrijf
SMT	Structurational Model of Technology
TNC	Transnational Corporation

1 Introduction

From the moment computing became more widespread in the second half of the 20th century, scholars have been attempting to theorize what changes the new 'information society' would bring (i.e. Karvalics, 2007;…). Although there was widespread agreement that computing, data processing, and the knowledge-based skills that it requires would become increasingly relevant economically, disagreement soon emerged along ideological lines, which persisted – if not grew – as the debate and technologies to which it pertained progressed. In other words, the means of the information society were not in question, but the ends to which this these means are directed are highly contested. This disagreement ranged from semantic issues like the naming of the phenomenon to more explicitly ideological questions of to which end new technological capabilities should be leveraged, what ought to be the ideal vision of society at the heart of our technical endeavours?

The dispute over the ends of the information society is perhaps best epitomized by the 1996 essay 'The Californian Ideology' (Barbrook & Cameron, 1996/2015) which captures and criticizes the techno-optimistic spirit of the years of the dot-com bubble and subsequent crash during the turn of the 21st century. Although both sides of the discussion recognize the democratizing and empowering potential of information and communication technologies (ICTs), the essay asks whether libertarian or communitarian principles are best suited to fulfil this promise. It argues that the libertarian Californian ideology of 'dot-com capitalism' fails to recognize the communitarian principles (which they provocatively dub 'cyber-communism') that have been at the core of the internet and its development from the start (Barbrook & Cameron, 2015).

The years since the 2008 financial crisis have again reinvigorated this debate, but its scope has expanded from ICTs to the question of the sustainability of the entire global political economy, both in socio-economic and ecological terms. Evidencing this realization of the necessity of political economic – and therefore ideological – change, are the calls for systemic change at both ends of the grossly simplifying, yet useful in broad categorizations, left-right political spectrum.

On the left, socio-economic inequality is again increasingly seen as exceeding justifiable levels, given statistical backing from scholars such as Thomas Pikkety (2020), and once again brought to the fore in the US by politicians like Bernie Sanders, respectively calling for socialism of a 'participatory' and 'democratic' kind. On the right, an 'oikophobia', or the 'fear of ourselves', that manifests itself in globalization and mass-migration and their resulting economic and demographic changes, is seen as the prime ill of our age, with increasing nationalism and 'strong' leaders as the only remedy. In the centre, we find the

politicians currently ruling many western states who are commonly described as (but just as often personally reject the moniker) moderate ‘neoliberals’, who offer no critique of the existing state of affairs that calls for anything beyond ‘tinkering around the edges’.

However, no matter the specific inclination of the individual, unprecedented shifts in the structure of the economy were predicted and observed as a result of the information age, which would surely have political consequences. The ideological structure of the political economy, however, has not shifted significantly in the west since the rise of new public management (NPM) which is often associated with ‘neoliberal’ policies such as privatization, agencification and deregulation (Hood, 1991). Since this development happened in conjunction with the rise and widespread dissemination of ICTs, this could be seen as the triumph of the ‘dot-com capitalists’. However, the increasingly pessimistic discourse surrounding the internet, filled with stories of fake news, privacy and security breaches, and the new forms of political interference that they allow, make it unlikely that any of the ideologues of the turn of the millennium who preached democratization and empowerment would now reign triumphant, despite the many successes the internet did have in this area. This brings us to the first goal that frames this research, which is to better understand the dynamics that underlie the ‘ideological disappointment’ that is experienced at this stage of the information age.

But caution is advised when dealing with contemporary political issues and ideologies. The analysis of current affairs, and the proposed changes that come with it, often vary along ideological lines. These various analyses and propositions which we see in public discourse are testament to what has been called ‘the fact of pluralism’ by political theorists. To introduce yet another broad and simplifying political dichotomy, the assortment of viewpoints can be divided into those who claim to know our ills and their corresponding remedies, and those who admit ignorance of a coherent set of problems and accompanying solutions. To the former, who may be called ideological/moral optimists, all that is needed is for them to gain- or stay in power, and they will (continue to) implement their redemptive set of policies. The predicament of the latter, who, depending on which side of this dichotomy we find ourselves, may be called ideological/moral pessimists or -realists, is a bit more complicated. Mainly since such a position would require research and experimentation to further the knowledge on which we may act politically. This dissertation intends to understand the moral realist’s view, providing a practically-oriented theoretical framework that may help in the peaceful and constructive pursuit of a more sustainable political-economic order.

To better allow the ideological pessimist/realist to advance their search, the thesis will theorize ideological dialectics in terms of structuration and the commons. The commons,

in the context of this research, will be conceptualized as the set of institutional and technological factors that are subject to ideological structuration. Furthermore, the (inevitable) interference of personal preferences of the researcher will be mitigated by attempting to study these processes from a pluralist perspective. As such, we arrive at the following research problem and questions:

Research Problem:

Given the increased recognition of the need for change, often accompanied by the admission of ignorance of the nature of this change – a position I call moral realism – how can we progress ideologically whilst considering rapid technological development accepting the fact and morality of pluralism?

Research Questions:

What are the institutional and technological factors in ideological reproduction and change?

How can this prevent the inertia to which moral realism is inclined?

To answer these questions, we will develop a two-part theoretical framework that draws on a plurality of theories of technology, institutions, and ethics. In section 2 we will first conceptualize ideology, technology, and the moral realist position, drawing heavily from Berlin (1990) and his notion of progress. Subsequently, I present a discussion on the sociomateriality of technology and its interplay with institutions in structuration processes (i.e. Orlikowski, 1992), as well as frameworks for the analysis of institutional development (Ostrom, 1990), and its use in identifying ideological value systems. Section 3 applies earlier theories to further develop our framework, by first looking at the new affordances of the digital revolution and their appropriation by incumbent and insurgent ideologies, and concludes with a possible strategy for moral realist ideological experimentation.

After the construction of this theoretical lens, an exploratory case study of a participatory urban development experiment will be conducted. It is taken as an instance of practical ideological action to demonstrate the institutional and technological arrangements which can be made to experiment with different political economies while heeding Berlin's warning. A variety of examples will already have been discussed, global and local, digital and physical, but in this section particular attention will be paid to the bridging of these opposing sides. Global and digital phenomena will be linked to local and physical phenomena, and where better to observe this than in the governance of localities, where the management of the local, physical environment is severely impacted by regional,

global and digital phenomena. The choice for this lowest and decentralized level of government is also because it is at this level where much experimentation takes place, and where political economic innovations, may they be only seed forms, are often given their first physical face. Furthermore, local level innovations may thus serve as early windows into possible futures, yield evidence of their practical feasibility at small scales and lessons for future and perhaps larger scale projects, and not least spark the imagination of those interested in new ways of living.

Finally, particular attention will be paid throughout to the technological dimension of ideological reproduction and change. Typically, studies on the impact of technology analyse cases in which technology is an explicit and important driver. While this is useful to determine the effects of technology-in-use on organisations, it leaves unaddressed the impacts of technological developments on society as a whole, which is usually the scope of discourse on ideological effects of technologies. Instead, this study takes the opposite approach by studying an instance of ideological action in which technology is not the driving force. However, this does not mean that there is no influence whatsoever since technology has become so omnipresent through its permeation of daily life. If one accepts that an ideological revolution is only complete once its principles, products, and effects permeate all aspects of everyday life, the predicted techno-ideological revolution is only true once it also profoundly affects non-technological endeavours. The hope is that through studying the technological factors in a case in which technology is far from a primary driver, we may gain insight into why this techno-driven revolution has not materialized.

2 Conceptualizing Ideology and Technology

The dissertation's theoretical framework (sections 2 & 3) will discuss the scholarly background for the study of values, ideologies, and their role in the development of institutions and technology, which are subsequently applied to a case of participatory urban development (section 5). The first section will discuss Berlin's pluralist and pragmatist account of ideology and how it serves as a relatively impartial basis for research with considerable normative content. Subsequently, theories of technological and institutional development will be discussed, with a focus on structuration and the commons. This will provide the basis of the conceptual framework that will facilitate a pluralist account will be given of contemporary ideological thought, particularly as it relates to ongoing technological developments (section 3).

2.1 Ideology: A Cautionary Tale

2.1.1 Berlin's Pursuit of the Ideal

Writing at the end of the 20th century, a century remembered for its genocide, world wars, and the constant ideological sparring of the cold war, Isaiah Berlin wrote 'The Pursuit of the Ideal' in an attempt to guide us down a more productive path in the future. In the essay, he discusses, among other things, the implications of epistemological and ethical aspects of ideological thought and action. In this work, Berlin (1990) advances a modest view of ideological thought which intends to promote a more peaceful, and ultimately more stable dialectic than that which we have seen in the 1900s and throughout history. In short, he argues for a pluralist understanding of the political landscape, theoretically rejects the possibility of an 'ultimate' answer to our political strife, and gives the practical warning that believing the contrary may inadvertently lead one down a road of violence, with the mirage perceived at its end fading upon approach. A simple maxim emerges from this view, which Berlin admits as little inspiring, but instrumental to maintaining peace in the ideological battle over values, which is to engage in trade-offs that preserve the precarious balance of society.

In what follows, Berlin's argument will be presented in greater detail, followed by a brief discussion of its implications for historical and political development and progress, as well as the study of (normative) ideas.

In the aforementioned essay Berlin, known for his work on the history of ideas, shares what he came to believe about the central issues in the study of the values and ends which various philosophies and ideologies embody. He begins by stating the two factors that, in his view, have predominantly shaped the tumultuous history of the century at the end of

which he is writing. First, he names techno-scientific development which, although he does not address its specifics any further, is nonetheless recognized as a critical working part in his field of study. This relationship will be further explored later in this section. Second, he names the ideological and political revolutions which affected nearly all of humanity through the many forms of tyranny and bigotry that they produced and promoted in communist and fascist regimes. He argues that the role of applied ethical thought (and thus political philosophy) in shaping these two developments is paramount, setting out to critically evaluate the epistemological and metaphysical grounds that are at the heart of it.

First, efforts towards the betterment of society, towards the realization of seemingly undisputed values such as love, truth, dignity, freedom, justice, and security, are argued to share a Platonic ideal. Namely, that all genuine questions have one true solution, that all such answers must be mutually compatible, and that these answers are in principle knowable through a dependable system of discovery. Even thinkers such as Hegel and Marx, who rejected the idea of timeless and universal truths in favour of a historicist, dialectical view, Berlin states, believed in a final triumph of reason that would bring about 'universal harmonious cooperation' and therewith the beginning of true history (or, in Fukuyamaist terms, the end of history) (Berlin, 1990, p. 6-7; Fukuyama, 1992). The essay argues against this view, which he calls 'metaphysical optimism'. But if it is not valid, he asks, if we cannot employ reason to find essential goals and values, to envision a better society which we can subsequently pursue, then what meaning does our perception of historical progress retain? Could it be all but a random and meaningless succession of events? A real moral relativist would answer that question affirmatively, but Berlin's position is not of that kind, as we shall see.

This view that true ends and true answers to our problems must be knowable and ultimately compatible takes two 'crippling' blows as Berlin encountered authors such as Machiavelli, Vico, and Herder. First, he cites Machiavelli, who, in pursuit of reviving the old Roman virtues, argued that they are undermined by Christian morality. This argument showed Berlin that what to different cultures are ultimate ends may not necessarily be compatible and that we are left to choose between them based on our personal preference. Second, he cites Vico and Herder, who, in comparing the plurality of cultures across time and space, showed that their cultural artefacts could not be properly understood using the values of another age or place, for they, as seen above, are not necessarily compatible with one another. And although the latter two authors are sometimes accused of promoting moral relativism, Berlin argues that this is not the case. All that is claimed, he argues, is that different cultures can only be truly understood by their own values, but those are not necessarily the values by which we do and should evaluate them.

This is what Berlin understands to be a pluralist conception of values, which he distinguishes from other meta-ethical notions of values as ends in themselves by three main characteristics: 1) values are objective; 2) values are plural; 3) values are not necessarily compatible. The first states that values exist objectively in the sense that they can be measured to be held or not by individuals. Second is the observation that throughout time and space, a plurality of values exist, and often even coinhabit the same time or place. Third is the observation that even some ultimate ends are mutually exclusive. Noteworthy is that multiple conflicting values can objectively be found, even within the world-view of a single individual. Berlin illustrates this with examples of the incompatible values of justice and mercy, or liberty and equality, which are objectively held by many simultaneously. The above may be considered Berlin's account of the fact of pluralism and its implications.

If one accepts these statements, even if only the third, any situation in which all ultimate ends coexist should be unattainable. It is not only due to the trade-offs in values that we must necessarily make in practice that envisioning a perfect state is unhelpful as a guide for practical action; doing so may even be dangerous. As Berlin puts it: "Utopias have their value – nothing so wonderfully expands the imaginative horizons of human potentialities – but as guides to conduct they can prove literally fatal." (Berlin, 1990, p. 15). In other words, when one believes their actions to be in the pursuit of a perfect society, atrocities resulting from those actions may easily be justified their necessity in putting a permanent end to all suffering. Although this is a well-known example to argue against utilitarianism, Berlin argues that when properly taking uncertainty into account, it may actually prove beneficial in deciding the balance of such trade-offs of values in various specific situations. As such, he arrives at the following maxim which we should always aim to uphold:

"The best that can be done, as a general rule, is to maintain a precarious equilibrium that will prevent the occurrence of desperate situations, of intolerable choices – that is the first requirement for a decent society; one that we can always strive for, in the light of the limited range of our knowledge, and even of our imperfect understanding of individuals and societies. A certain humility in these matters is very necessary." (Berlin, 1990, p. 17-18)

This maxim sees peace and stability as the equilibrium which humanity ought to preserve. However, the inevitability of social and political disagreement – given the conflict even over the balance of values that are, in principle, shared across the political spectrum – places this equilibrium under constant threat of destabilization, and in constant need of

repair. Furthermore, its underlying tenets reframe political disagreements, especially those within liberal democracies, not so much as conflicts over which values we ought to pursue, but over the ideal balance in a given situation of incompatible, yet universally shared values. The humility that this requires, the shared values between political opponents that it recognizes, and the relative impartiality with regards to the precise balance of values (albeit within minimal boundaries) it exudes, make it a particularly depolarizing background assumption to our current political disagreements, heated as they may be. One does not need to agree politically to agree on this maxim, only a minimal shared set of values is necessary, as well as a mutual rejection of the utopia as a realistic goal, and the resulting commitment to participate in the constant repair of the equilibrium.

If this position is the alternative to what Berlin called 'metaphysical' – but may also be described as moral- or ideological 'optimism' – then the above maxim which recognizes the facts of pluralism and uncertainty may be dubbed its 'pessimist', or if one agrees with it, 'realist' counterpart. It is this view, which I will refer to as moral- or ideological realism, whose implications for technological and institutional development in setting this dissertation aims to explore, in particular using a case of participatory local governance. Before moving to its implications for socio-technical development, I will discuss the moral realist position will in more detail, focusing primarily on its conception of ideology and progress.

2.1.2 What Constitutes Ideological Progress

This research aims to shed light on the socio-technical factors of ideological dialectics and apply the lessons of moral realism. Given that today, we arguably live in the most peaceful era in human history, and ought to wish to prolong it, it would serve us well to take seriously Berlin's maxim, and the epistemology and pluralist ethics that underpin it. His view on ideology and the constant repair of an unstable equilibrium which it demands will, therefore, serve as a guide in this thesis and frame the research's aim to explore how we can still hope to make progress while humbly acknowledging this uncertainty. After briefly defining how I understand ideology, it will be discussed what the moral realist and pluralist positions imply for a conception of (moral/ideological) progress.

This paper defines ideology as a collection of normative principles for the coordination between individuals (often at the level of society, but also at smaller scales). Ideology is often associated with idealism, and colloquial usage implies that when an expression is ideological, it is idealistic and unrealistic, ignoring relevant facts in pursuit of their aspirations. At first glance, such usage may indicate that Berlin's warning against using utopian mirages as guides for conduct has successfully penetrated the public's consciousness. And to a certain extent, it does. However, Berlin did not warn against ideologies per se, but against making too colourful promises about the society that the application of their principles will bring about. Ideologies, therefore are not necessarily idealistic in the sense of being unrealistic (though they arguably often are), but they are idealistic in the sense that they contain a set of ideals, morals, or values, that are apparent from its principles. Their value or danger then lies not in its idealism per se, but in the specifics of those ideals, which, according to the maxim, ought to be realistically achievable without upsetting the equilibrium beyond repair, avoiding those "desperate situations [and] intolerable choices" (Berlin, 1990, p. 18) that shook the world in the 20th century.

Before moving on to the implications of Berlin's pluralism and moral realism, an epistemological note on ideology may be relevant. The empirical study of ideology, beyond text analysis, is difficult given that the expression and enaction of the principles contained in ideologies might differ. What a politician or piece of propaganda promises or alludes to, is not necessarily what the associated party will make happen. And the fact that such discrepancies might be intentional or unintentional further complicates this issue. Not to speak of the poor and contested conceptual delineation – perhaps as a result of the former – that troubles daily and, possibly to a lesser degree, academic discourse on the historical, comparative, normative, and organizational-technical and bureaucratic aspects of ideology.

To start by dispelling the potential counterargument that the maxim may seemingly favour the status quo, leading to apathy or indifference, and dismiss any radical action as dangerous or immoral, even though it might be an existential necessity due to a politically or environmentally unsustainable situation. However, since it is relatively politically impartial, this would not be the right conclusion to draw from it. Besides the minimally required set of values which, according to Berlin, all societies need to survive, the previously mentioned impartiality to the precise balance of values achieved on top of this minimum prevents him from making any specific claims on what this balance ought to be in any given situation. Although this makes his view particularly helpful in mitigating the polarizing effect of political disagreement in liberal democracies, and makes it a suitable starting point for scholars who wish to engage with normativity as neutrally as possible, it is – as he recognizes – not particularly inspiring. It could be particularly uninspiring for those who are not content with the particular equilibrium in which we find ourselves presently, for it could imply that any action towards a goal that deviates from the status quo would upset this balance and thus be immoral or dangerous. However, this implication, I argue, is not necessarily correct. Since Berlin views the destabilization and subsequent repair of the equilibrium as an inevitable, recurring part of the political process, it is not necessarily dangerous to try to shift the equilibrium. He merely asks to ensure that the promises of the newly envisioned equilibrium be sufficiently realistic as to not reach a tipping point in trying to shift away from the current balance.

Any notion of ideological progress that flows from Berlin's pluralist maxim is therefore not specific but process-oriented and relativistic within reasonable boundaries. Even though he disagrees with meta-ethical moral relativism, this is of no concern here, since, as we shall see, it is only relativistic to a certain extent. Plus, we have seen that acknowledging that different value systems exist and that they can only be truly understood from within, does not mean that we cannot evaluate and disagree with them based on our own values. On the contrary, Berlin's refusal to include his own preferred balance of values makes the view's aforementioned benefits even stronger, since an actor with any political background (given that they share the minimal set of values) would not be deterred from accepting the maxim on the basis that it was invented by someone whose politics they did not share. Since the ultimate goal is merely to preserve an unstable equilibrium, this view is agnostic with regards the direction this equilibrium shifts in, as long as those shifts do not result in its complete (albeit temporary) disintegration. It therefore provides politically diverse actors with a common framework in which to pursue their own goals, and what counts as progress for one, be a regression for another. Still, it will be an acceptable regression at worst as long as it is within the boundaries of this frame.

When we accept such a minimally relativistic concept of ideological progress, it becomes not only what personal dispositions tell us to want. Instead, it also becomes something that happens to an ideologically motivated actor when they enact practical solutions to the problems they see without upsetting the equilibrium beyond immediate repair. Thus, ideological progress may be realized as long as this tipping point is not reached while shifting the balance. No matter whether the decision to act was made by authority, majority, compromise, or enacted by the state, the market, or (coordinated) individual action. Note again that this is not meta-ethical relativism, which would claim simply that there are different moral values, which are true to each that holds them, and that any attempt at moral persuasion would miss the point at the receiving end of critique. In pluralism, these different modes of action can still be criticized based on other belief systems, allowing conceptual room for political discussion or moral persuasion. Whatever balance is reached within its arbitrary, yet widely accepted confines of minimally necessary values should nonetheless be recognized to generally count as progress for those responsible for their execution.

As such, this paper aims to be similarly agnostic to the ideologies with which it deals, and develop a framework that ideologically diverse actors can use to explore socio-technical arrangements that may further their conceptions of progress. It does, however, not consider those forms of action that are not committed to Berlin's quite minimal maxim, such as violent, destructive, and otherwise overly destabilizing actions. Although they may at times be permissible in desperate situations, that is beyond the scope of this paper. Only the concept of progress in those less despairing situations that are the norm in many parts of the world today I will consider. Beyond this restriction, any successful ideologically motivated action will be seen as progress, regardless of the personal views of the author. Whenever such personal views do (inevitably) become relevant, I will try to demarcate this as clearly as possible.

2.1.3 Incumbent Isotopia, Insurgent Heterotopia

In this section, I wish to introduce some terminology which will aid in our discussion of ideology and its systematization. In particular, it may bring to the fore some concepts that are of relevance to practically any ideology, and allow us to more precisely formulate the moral realist position from which Berlin's maxim stems. First is heterotopia, simply meaning 'different place', which can, therefore, be opposed by the second concept of isotopia, or 'same place'. Related are the concepts of utopia and dystopia ('no place' and 'bad place' respectively), which are examples of heterotopias that are, unlike other heterotopias, necessarily fictional, yet often contain realistic satirical elements (Belin, 1990).

The concept of heterotopia was initially developed by Foucault (1967/1984), who used it to describe physical spaces of escape and contradiction. In the context of critical urban development studies, Lefebvre (1970/2003) proposed a slightly different conceptualization, being the first to oppose it to the isotopia systematically. Furthermore, the work of Harvey (2000; 2012) features both interpretations of the concept. Although the various elaborations of the concept will be of help later in the thesis, from here onwards, we treat them according to their meaning in ideological terms, with the isotopia being the situation produced by the currently incumbent ideologies, and heterotopia being the insurgent ideological imaginary.

These concepts, in their most literal interpretations, are crucial, though not often explicit, in ideological discourse. Ideologies vary in their analysis and evaluation of the status quo – or isotopia – and the envisioned different situation they wish to bring about – or heterotopia. Ideologies also differ in terms of power, meaning that an ideology can be either incumbent or insurgent. Respectively, this means that the ideology in question can either be already predominantly embedded in the current state of affairs, or status quo, or aims to change the status quo to better represent its moral principles. In other words, proponents of the incumbent ideology are mostly content with the isotopia, and with to prolong and strengthen it, whilst proponents of an insurgent ideology wish to bring about a heterotopia that is contingent on their evaluation of the isotopia. As such, every ideology – whether it is incumbent or insurgent – has their respective conceptions of the isotopia, and insurgents have a contingent vision of a heterotopia which they want to establish in parallel to it, replace it in its entirety, or a combination of both.

Besides naming some of the factors by which ideologies can be distinguished from one another, the above terms also allow us to formulate the above moral-, or ideological realist position more succinctly. This realism would then simply postulate that ideological insurgents ought not to pursue a fictional or unattainable heterotopia.

Note that this conception is not as strict as it could be since it only conceives of iso- and heterotopias with respect to their difference in ideological terms. After all, every moment is different to the previous, but to have any practical use, some qualifier by which situations are distinguished from one another needs to be introduced, which, in this case, are the moral principles that are represented in a given situation. With this distinguishing factor in mind, the above terminology is summarized in table 1 below.

Table 1 - Insurgent and Incumbent Visions

Current State:	Evaluative Criteria/Moral principles belonging to:	Pursued Future State:
Isotopia	Incumbent Ideology	Isotopia
Isotopia	Insurgent Ideology	Heterotopia

The above is the most specific conception of heterotopia that is discussed in this paper and is sufficient for the following sections. However, as we shall see later in this theoretical review, the original conceptions of these terms may point towards practicable solutions for moral realists that allow them to move forward despite their lack of a concrete political programme. Since they embrace uncertainty, admitting a certain level of ignorance regarding the best ways to bring society forward, a more experimental and flexible approach to ideological progress suits them better, which may be aided by the conception of heterotopia as originally envisioned by Foucault (1967/1984), and its subsequent adaptations by Lefebvre (1970/2003) and Harvey (2000; 2012).

2.2 Technology, Institutions, and Values

As mentioned above, Berlin (1990) considered techno-scientific developments to be among the two defining features of the 20th century condition, in conjunction with the great ideological shifts that took place. Although his work discussed above does not consider the relationship between the two factors in detail, it is implicit, or it can at the very least be assumed, that they are not independent of one another. To better grasp the relationship between technology and ideology, it is first needed to conceptualize technology itself. Subsequently, its role in ideology can be imagined. However, ideologies are value systems that often act as both evaluative and prescriptive principles for the structure of the largest-scale institutions and organizations that make up society. It is, therefore, first required to understand the institutional and organizational role of technology before we can move to the technological factors in the institutional evaluations and prescriptions made by ideologies and their constitutive principles.

In what follows, several aspects of the relationship between technology and ideology will be discussed, starting with a general discussion on the appropriate scope of the concept of technology and its role in social life, followed by the more specific organizational- and

institutional role of technology, and ending with the role of values in the resulting picture of the mutual constitution of technology and institutions. The first section discusses scholarly views on the general characteristics of technology, with a focus on overcoming the oversimplifications apparent in the dichotomies of technological- or social determinism, and techno-utopian or -dystopian views. The second part will explore the of the role of technology in organizational and institutional development through structuration theory. Finally, we will discuss the role of values in the resulting socio-technical picture of institutional and technological development.

2.2.1 The Scope of Technology and its Role in Society

The scope of the concept of technology has seen various degrees of generality in scientific discourse (Orlikowski, 1992). In attempting to restructure the concept of technology more accurately, both in its scope and the conception of its role in organizations, Orlikowski (1992) reviewed the various conceptualizations used in the scientific literature. The least generalized conception of technology is that of 'hardware', with technology merely constituting the various machines and instruments people use in their daily activities. On the other end of the spectrum, we have a conceptualization that includes 'social technologies', generalizing the scope of technology beyond hardware to include various processes that rely on applied knowledge, even if such processes only consists of human action without the mediation of hardware. She concludes that, although such broad conceptions of technology might have their value in allowing technology to be a crucial factor in any organization, it is at the cost of clear conceptual boundaries, and results in measurement difficulties. Furthermore, Orlikowski (1992) claims they overlook essential factors in the ways technology mediates human action.

Given that Orlikowski's (1992) work on the mediating aspects of technology is instrumental in later parts of this paper, I choose to adopt her proposal to limit the scope of technology to material artefacts, including both hardware and the software that may run on it. As we shall see later in this section, this conception could be formulated more accurately, but for now, this will do. Limiting the scope as such allows for consistency throughout the paper, and – as we shall see later – aids the more accurate conceptualization of technology's mediating role in various endeavours whilst maintaining the capacity for talking of technology in context, as a separate analytical category.

Moving to the role that technology occupies in society, different views exist with regards to its role in historical development, and the normative implications that stem from it. These different views can be categorized between two broad dichotomies: that of technological- or social determinism, and techno-utopianism or -dystopianism. We shall

see that the latter opposition has declined in relevance due to a more nuanced understanding of the former (Dai & Hao, 2018).

Starting with the former opposition, reviewed by Dai and Hao (2018), technological utopians or -optimists, stress the positive effects of technologies, whilst technological dystopians or -pessimists emphasise the negatives. They argue that the opposition between the two positions is not necessarily symmetrical, but instead changes between different times and places with different understandings and situated uses of technology, which cause either its negative or positive effects of more heavily felt and emphasized (Dai & Hao, 2018). Furthermore, they argue that the symmetrical opposition between the two positions relies on a flawed understanding of technology in which it is viewed as a monolithic entity with a unidirectional effect on society, with both the utopian and dystopian views treating technology in an overly deterministic fashion (Dai & Hao, 2018). Finally, they note that developments in the understanding of the former dichotomy have led to a decline in popularity of a symmetric dialectical opposition between techno-utopian and -dystopian views in favour of emphasizing the ratio between situated benefits and disadvantages.

A similar claim is made by Russo (2018), who also argued that utopian and dystopian conceptions of technology are forms of determinism that overlook important nuances in assessing the role of technology in society. However, in contrast to Dai and Hao (2018), who proposed a way of viewing the variable emphasis on benefits and disadvantages in situated discourse as more or less dystopian or utopian, allowing for a more nuanced categorization of attitudes towards technology over time, Russo (2018) proposes to do away with the notions of technological utopias and -dystopias altogether. Instead, Russo (2018) proposes approaching technology from the perspective of the philosophy of information, in which the distinction between humans and technology, and notions such as online and offline, is blurred. This, Russo (2018) argues, results in a different ontology and epistemology of technology, that allows for a more nuanced understanding of the ethical dimension of technology than that provided by utopian and dystopian narratives. The informational approach to the ethics of technology will be revisited at a later stage, as the developments in the ontology and epistemology of technology that allowed for this more nuanced ethics will be examined in more detail.

The aforementioned developments in the academic understanding of the role of technology have taken place relatively recently. Pinch and Bijker's (1984) landmark paper emphasizes the social aspects inherent in the development of new technologies using the example of various social movements involved in the development of the bicycle, showing how their dialectics produced the bike as we know it today. This paper

marks the shift from a deterministic treatment of technology to a more widespread constructivist understanding of the technological development process. Two key concepts in constructivism are *interpretative flexibility*, meaning that a given technology can be evaluated in drastically different ways by different social groups, and the *closure mechanisms* by which the appropriate course of action – the eventual stabilization of the artefact – is negotiated by rhetorically, or through a redefinition of the problem, neutralizing some views on the artefact in favour of others (Pinch & Bijker, 1984). These concepts, together with an appreciation of the wider socio-political context of the artefact, allowed for a more nuanced understanding of the factors that determine the role of technology in society – one in which the technological artefact is subject to social negotiations (Pinch & Bijker, 1984). Not to forget the importance of allowing conceptual room for human responsibility over the effects of technology, which is more easily ignored from a techno-determinist perspective.

However, whilst the acknowledgement of the social component in technological development, called technological constructivism, is perfectly valid, one should be cautious of this becoming a social determinist conception of technology that may overlook some genuine and often crucial material constraints. This was noted by Barley (1988), who warned against viewing technology either as a purely physical object or a purely social product, with the former at risk of leading to technological determinism, and the latter at risk of favouring social determinism.

Orlikowski and Scott (2008) reviewed various streams of literature to find their respective conceptions of technology. They found that in an emerging stream of research, a balance had been struck between technological determinism and constructivism. This research, most prominently the sociological research using Actor Network Theory (ANT) of Latour (1988), had developed a different ontology which Orlikowski and Scott (2008) dubbed *sociomateriality*. The portmanteau indicates a view on technology in which the human actor and technological object mutually constitute one another, with the associated respective social and material worlds containing agencies that are so pervasively intertwined that they can no longer be conceptualized – and studied – separately. In this conception, technology is neither the single decisive material factor in our social lives nor is it merely the willing material servant that bends to our social desires. Rather, it is a bit of both, and neither material nor social factors can be understood except through their relation and constitution of one another in practice. Humans can only be fully understood when we consider our relations to technology and vice versa. In sociomateriality, humans and technology are both actors with agency. Actors, to which the adjectives of social and material can no longer be respectively applied like above, for each is both simultaneously.

Note that this does not necessarily require a change in the scope of technology, as defined above, for it is only a change with regards to its role. However, a small amendment in the terminology used above will make this clearer. Instead of technology as purely material artefacts, we may consider it as a diverse range of sociomaterial artefacts, still consisting of various material configurations of software and hardware, but explicitly recognizing the social factors that affected the particulars of any given material configuration. As such, technology becomes not a discrete entity, but an analytical distinction that can be made when studying the phenomenon of sociomateriality that is comprised of both human and technological actors. Whilst this analytical boundary allows us to talk of both agencies from the perspective of the other (Orlikowki, 1992), it should not be confused with an ontological distinction that would treat them as existing independently of one another. The ontology of humans and technologies can instead be said to be constituted by the fluid relations and boundaries between them, which are *performative* – enacted in practice (Orlikowski & Scott, 2008).

2.2.2 Technology and Institutions

As seen above, the sociomateriality of technology is revealed in practice. Such performativity can be seen as occurring both informally, in daily, private, life, as well as formally within organizations, both public and private institutions. Besides revealing the relations and boundaries between humans and technologies, performativity can be said to be a prime mechanism by which institutions of all kinds are produced, reproduced, or changed. However, performativity, or enactment/agency, is only one – albeit crucial – step in the (re)production and change of institutions, which, is both preceded and followed by other events in an iterative cycle through which such structures develop. At least, this is the lesson of structuration theory (Stones, 2005). To better understand technology as it relates to institutions, a discussion of structuration theory and its applications to technology may be warranted. Therefore, the theory of structuration will be introduced, particularly its 'strong' variant as developed by Stones (2005). Subsequently, Orlikowski's (1992) structurational model of technology will be discussed. Finally, it will be argued that their epistemological and ontological views are complementary to the conceptualization of technology in the above section.

Structuration theory, originally developed by Giddens (1979; 1984), aimed to include in a single framework the subjective and objective dimensions of social reality. The framework describes structuration as a process by which agents (often, but – as we shall see – not necessarily humans) interact with structural features of institutions. The scope of action that agents enjoy is both constrained and enabled by structures, which are, in turn, (re)produced and/or changed by the action of agents. Stones (2005), attempts to

neutralize various objections stemming from the academic discourse surrounding structuration theory, takes its central tenets, and modifies them slightly into what he calls ‘strong’ structuration. The precise critiques and adjustments to the theory that were made in response are beyond the scope of this paper, but what is of interest at present is Stones’(2005) representation of the cyclical structuration process, as seen below:

Table 2 – Quadripartite Cycle of Structuration (Stones, 2005, p.85)

<table>
<tr><td>Structure</td><td colspan="3">Agent</td><td>Structure</td></tr>
<tr><td>1</td><td colspan="2">2</td><td>3</td><td>4</td></tr>
<tr><td rowspan="3">External Structures</td><td colspan="2">Internal Structures</td><td rowspan="3">Active Agency</td><td rowspan="3">Outcomes</td></tr>
<tr><td>2a</td><td>2b</td></tr>
<tr><td>conjuncturally-specific knowledge of external structures</td><td>general-dispositions or habitus</td></tr>
</table>

The above should be seen as a cycle that takes place in situated practice. First, the external structures (1) comprise the conditions of action, or all those structural elements that both enable and constrain action in any given situation. While these exist objectively, any agent will have to interpret them subjectively (2), which is impacted by their knowledge of the action conditions that are relevant in context (2a), as well as other traits they possess such as skills or worldviews (2b). Note that at this stage, an agent’s ideology may come into play. Then, on the basis of this agent- and context-specific analysis, agency will be exercised, action will be taken, or performativity takes place (3). Finally, this action will have an effect (4), through which existing structures are either reproduced or changed, or new structures emerge. These outcomes then subsequently impact the new conditions of action, and so on and so forth.

The equal treatment of structure and agency as a duality – as opposed to a dualism in which the two are dialectically opposed – in which structure is both the medium and outcome of actions, provides a lens through which structural developments in society can be viewed. The asynchronous and iterative playing out of this cycle for numerous situated agents over large time spans can be imagined to contribute substantially to emergent gradual and revolutionary changes that we observe in our social (or rather, sociomaterial) reality. Furthermore, it can relate to the developmental process of anything that can be described as structural, be it cultures, cities, organizations, or technologies.

With the general idea of structuration theory exposed, we can now turn to its application to the role of technology in institutions by Orlikowski (1992). In her first premise of a

structurational model of technology, she restates the above notion of duality (as in Stones, 2005) to apply to technology. As such, the duality of technology means that it is both a medium and outcome of action, and is thus at once physically and socially constructed, foreshadowing the notion of sociomateriality. The second premise is borrowed from Pinch and Bijker (1984), stating that there exists interpretive flexibility with regards to technology on the part of its users. The users of a given technology thus have, within the boundaries of the material affordances granted by humans' engineering capabilities, a level of freedom, or "flexibility in the design, use, and interpretation of technology" (Orlikowski, 1992, p. 409). These premises are at the basis of what Orlikowski (1992) calls the Structurational Model of Technology (SMT), which is shown below (figure 1).

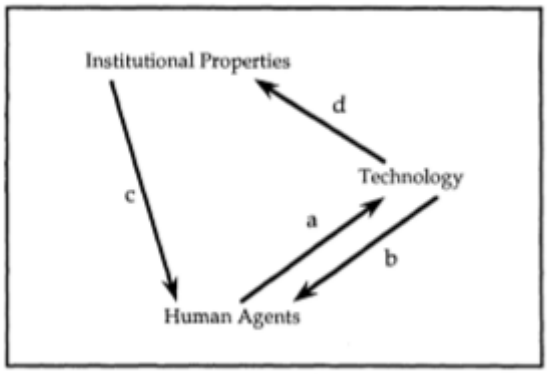

Figure 1 - Structurational Model of Technology (Orlikowski, 1992, p. 410)

Orlikowki (1992) identifies three actors in SMT, first of which are human agents, second are technologies, and third are institutions, and provides descriptions of their relationships, which are paraphrased below. Human agents and technology relate to one another in two ways; first in that technologies are the product human actions like design and modification (a); second in that technologies mediate human actions through their particular affordances and constraints (b). Human actors are also influenced by institutional properties, which place conditions on their interaction with technology through professional norms, organizational objectives and principles, and available resources (c). Furthermore, the interaction with technology has institutional consequences, altering their properties through reinforcing or altering existing institutional structures by which meaning, power, and legitimacy are derived (d).

When we consider all the above, we can thus state that technologies and institutions develop in tandem through repetitive cycles of structuration. However, this is not to say that institutional and technological structuration always affect one another. After all, it is not difficult to imagine cycles of organizational change that are not preceded by

technological change, say, when a new director is hired after their predecessor switched jobs. Similarly, one can imagine cycles of technical change without immediate institutional consequences in, for example, the developmental stages of a new software product. This idea is represented in the below figure, which shows both an institutional and technological structuration cycle, the numbers of which correspond to the steps of the quadripartite structuration cycle (table 2) envisioned by Stones (2005), and their relationships as described by Orlikowski (1992).

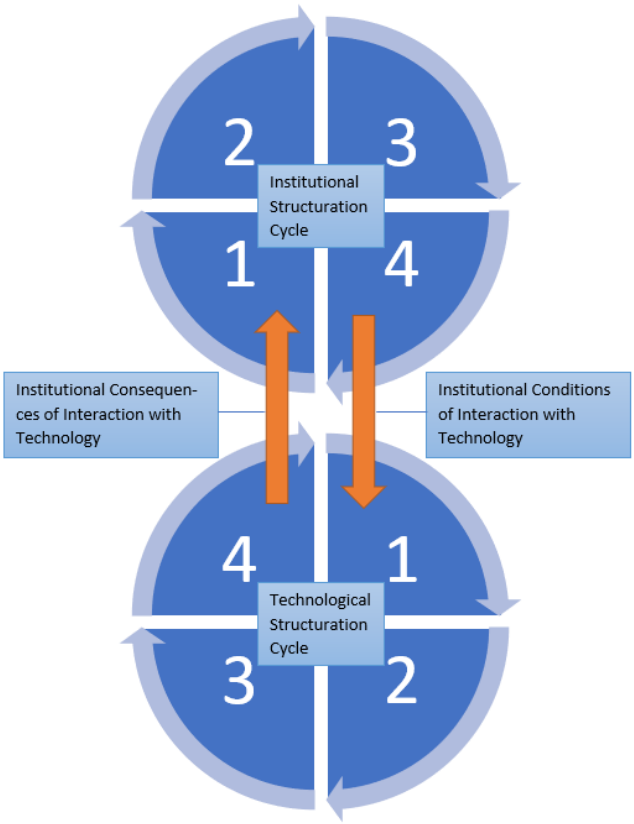

Figure 2 - Co-Structuration of Institutions and Technology

Conceptualizing the co-development of technology and institutions in terms of the occasional influence between otherwise independently developing entities, not only allows for a more complete picture of their relationship, but also attempts to marry Orlikowski's (1992) SMT with the later development of 'strong' structuration by Stones (2005). This allows for a theoretical expansion of SMT (Orlikowski, 1992) that takes into account the details of situated action described by Stones'(2005). Looking at the figure, we see that specific technologies (the outcome of technological structuration), when they have institutional consequences, become part of the external structure that institutional actors subsequently internalize in their situated actions. Furthermore, when

institutional changes (the outcome of institutional structuration) affect the conditions of interaction with technology, due to, for example, a decision to re-engineer processes or update organizational principles and objectives, those new conditions become part of the external structure that is subsequently internalized by the developers of the relevant technologies.

SMT will thus provide the framework by which the role of technology in institutions and organizations will be analysed. Now that we have elaborated the scope of technology and its role in society's institutions, we will have to account for the role of values in the latter to formulate a more comprehensive framework analysing the technological aspects of ideology. Although we can already identify, using Stones' (2005) concept of general-dispositions that is part of the internal structure (2b in table 2), at which point values or ideologies come to play a part in the co-development of institutions and technologies, we have not yet theoretically described the structure of such value systems and how they specifically relate to the various aspects of institutions and their development. The following sub-section sets out to fulfil the latter task, drawing mainly from theories of institutions, the commons, and other efforts to determine the role of values in their development.

2.2.3 Normative Aspects of Institutions and the Commons

While in the first two parts of this section, we have explored the concept of technology and theorized its role in the social/institutional context, we now turn to describe this wider context. While the moment that values enter into the developmental process of these related concepts has already been identified, we have yet to introduce the theoretical framework to understand what is subject to those values. Elinor Ostrom (2005), whose Institutional Analysis and Development (IAD) framework I will use for this purpose, in the same book, made a terminological point about the generality of theory that nicely captures this shift in perspective.

Ostrom (2005) asserts that the difference between a framework, theory, and model, is one of generality – decreasing in this case. Where a framework identifies the parts and their relations in a field of study, a theory will tell us which of these parts and relations are relevant in a given case, and a model attempts to display the particular observed configurations of these variables that (Ostrom, 2005). (She points out that the terms are often used interchangeably, which is why their usage is, probably, also not consistent with her description in this thesis.) As such, we now shift from the theory level of technology and institutions – which tells us to pay equal attention to social and material factors in their processes of structuration – to the level of the framework. First, the IAD framework (shown below) and its connection with Ostrom's (2005) further work on the commons

will be briefly introduced, after which I assess its compatibility with the previously discussed theory will.

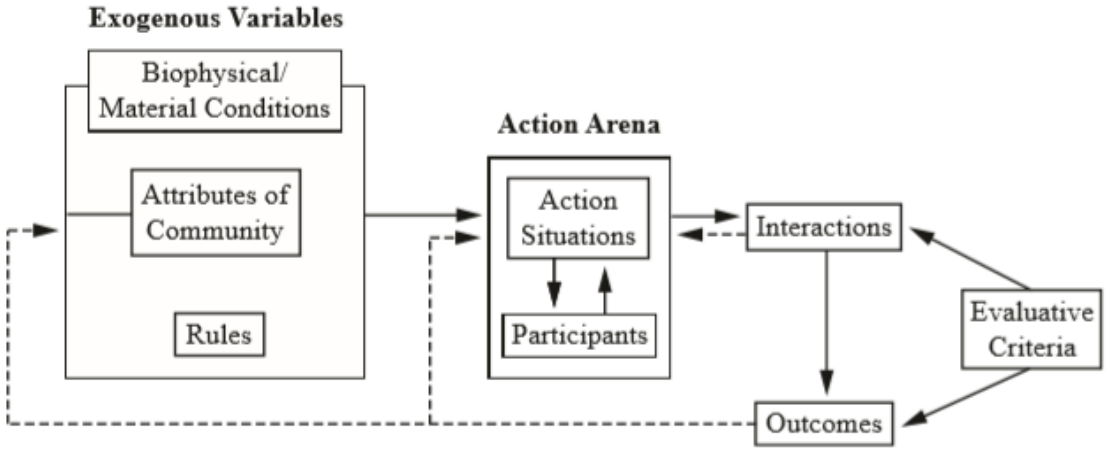

Figure 3 - Institutional Analysis and Development Framework (Ostrom, 2005, p. 15)

Understood within the context of Elinor Ostrom's research (i.e. Ostrom, 1990), which focused on the governance of the commons the IAD framework is an attempt to represent the institutions that evolved to govern this broad category of goods, and particularly to display the parts of which they are composed and their mutual relations. In other words, the IAD framework is a representation of the "complex adaptive systems" we call institutions by their constituent relations of "nested subassemblies of part-whole units" called holons (Ostrom, 2005, p. 11). For example, the action arena holon is composed of action situations and participants holons. Ostrom (2005) explains that often the combinations of part-holons are not descriptive of the composite-holons, implying that the latter express some emergent properties or otherwise include new variables. We now turn to briefly summarize the framework, paraphrasing from Ostrom's (2005) book *Understanding Institutional Diversity*, in which she discusses the IAD framework at length.

The prime unit of analysis in the IAD framework is the *action arena*, a holon which exists at many levels, from the home to intergovernmental bodies and in institutions at all intermediate levels of scale. This holon is composed of *action situations* and its *participants*, with the former described as the "social space where participants with diverse preferences interact" (Ostrom, 2005, p. 14), consisting of the various positions, accompanying privileges, action-outcome-linkages, the costs and benefits assigned to those potential outcomes, and the relevant available information. The structure of this action arena is affected by exogenous variables, consisting of formal and informal *rules*

that define the allowed set of actions, general *community attributes* such as size, composition, and the extent of homogeneity of various kinds, and the *biophysical/material conditions*, which includes technology, that determine the affordances and constraints on action. Finally, the action arena, shaped by exogenous variables, produces a set of interactions, resulting in outcomes that subsequently feed back into the new action arena, and may, in the longer term, even affect exogenous variables. The frameworks also represents evaluative criteria by which observers may judge the institutional performance, expressed through the patterns of interactions and outcomes that it produces.

The IAD framework seems ideally suited to study the living, evolving institutional contexts in which the dynamics described by the above theories of technological development take place. Before moving to the discussion of values in this context, the compatibility of the previously described theories with the IAD framework will be addressed. First of all, although it is unclear whether Ostrom subscribes to the same ontology, the inclusion of both social and material factors in her framework, and the lack of an obvious overemphasis of one over the other, makes it largely consistent with the notion of sociomateriality. Furthermore, even though technology falls under the holon of material conditions, the frameworks leaves room for the effects of social interactions on exogenous variables, and thus does not explicitly preclude the notion of artefacts that are simultaneously material and social.

Secondly, although both structuration theory and IAD make claims to describing the developmental process of institutions, I argue they are complementary in that they explain similar processes, but with a slightly different focus. Structuration theory attempts to describe the development of structures – i.e. relatively stable patterns of human behaviour – through the systematic analysis of the interplay between structure and agency (Stones, 2005). In contrast, the IAD is more specifically focused on institutional and policy analysis and can is applicable at different levels of scale, from the individual, operational level (which is the main focus of structuration theory), to the increasingly large scales of the collective choice and constitutional levels (Ostrom, 2005). The complementarity of both approaches through the addition of the IAD framework's focus on policy and various analytical levels to structuration theory's systematic distinction between structure and agency has already been argued before (Rütten and Gelius, 2011). As such, we can again imagine the asynchronous movement of all participants in the institution through their structuration cycles as they analyse their changing environment, and act accordingly at the operational level. At larger-scale levels of analysis, this process will, over time, alter or reproduce the institution as seen through the IAD framework at the collective choice and constitutional levels.

At the operational level, Stones'(2005) four parts of the structuration cycle can be mapped to the IAD framework quite nicely. External structures (1) would be analogous to the exogenous variables and action arena holons. Internal structures (2) would be limited to the participants holon, which overlaps with the external structures since structuration is focused on the single situated individual, relegating other participants to the external structure, whilst the IAD considers all participants at once. Furthermore, active agency (3) would be found in the interactions holon, and both approaches have the above three factors result in outcomes (4). The IAD distinguishes itself more by also representing the evaluative criteria and the holons to which an institutional analyst or other observers can apply them. However, as we shall see below, evaluative critera may relate to more than just the interactions and coutcomes holons, as various normative systems may have different evaluative criteria for each holon.

With the addition of the evaluative criteria of an observer, we have thus far identified two moments in which values enter the institutional and technological development process; first, through the dispositions of situated individuals; second, through the criteria by which observers or participants assess performance. It is, however, possible to identify more instances of values/normativity in nearly every other holon of the IAD framework, as shown by Milchram et. al. (2019). They discuss three conceptions of values, as found in moral philosophy and ethics of technology, sociology and social psychology, and institutional economics. The first conceives of values as criteria for assessing the ethical goodness of actions, and normative principles worth striving for, which are also embedded in- and/or arise as a consequence of technological design and use (Pojman, 1997; Milchram et. al., 2019). In the second, values are simply seen as "principles that influence human behaviour" (Rokeach, 1973; Milchram et. al., 2019, p. 3742). The third includes the previous conception, but expands it to include those values that institutions are designed to achieve through formal rules and procedures (Milchram et. al., 2019), or inadvertently support through their actions.

To position the types of normativity described above in the holons of the IAD framework, we start with those in which the role of values has already been identified previously. The values of participants, or those that form their general-dispositional internal structures (2b), are described by Milchram et. al. (2019, p. 3743) as "personality characteristics", as per the sociological and social psychology definitions. The evaluative criteria are described as "goal-oriented assessment criteria", corresponding to the moral philosophy conception of values (Milchram et. al., 2019, p.3743). Moving to the exogenous variables, the normativity of biophysical/material conditions lies in the values that are "embedded in technologies" (Milchram et. al., 2019, 3743). Similarly, values are also embedded in the rules holon, as per the institutional economics conception, and can be found in the

community attributes as the moral-philosophical “shared normative principles” (Milchram et. al., 2019, p. 3743). Finally, values can be found in the outcomes of interactions, a holon which Milchram et. al (2019) divide into operational and institutional outcomes. Operational outcomes express normativity through “technology design goals”, and institutions do, as per the institutional economics conception, by their “policy design goals” (Milchram et. al., 3743).

This shows that conceptualizing the role of values in technological development is far from straightforward, possible being affected by values of various kinds and sources, which, through the co-development of institutions and technology are in constant feedback with one another, not to speak of the wider discussions of politics and morality that take place in society that do not neatly fit in any of the previously discussed theory. However, we now have a framework by which we can determine the places that values stem from, and how they are expressed. As such Ostrom’s (2005) original IAD framework is better suited for the analysis of living and evolving empirical institutional action arenas, and Milchram et. al.’s (2019) value-laden version of the framework is better suited for identifying the evaluative criteria that different ideologies may use, allowing one to categorize their value systems in their relation to the various holons of the framework. This should provide us with sufficient conceptual tools to start discussing the actual content of such values, as expressed by the various ideologies that have had prominent voices throughout the ongoing digital revolution.

3 The 21st Century Pursuit of the Ideal

In this chapter, the currently prominent ideologies will be discussed according to the above theories, and the content of their values described by discussing what each of these normative systems would pursue in terms of the value-laden IAD framework (Ostrom, 2005; Milchram et. al., 2019). Remember that we take technologies to be sociomaterial, meaning that within the changing confines of their material affordances and constraints, they can be flexibly interpreted by various social groups, used and modified accordingly, and thus given social, and often normative content. It may, therefore, be useful to start by delineating some of the manifold ways in which the information age/society, digital revolution, or simply the last 70 or so years, have expanded the affordances of technology, to understand the new technical capabilities with which these new ideologies have co-developed.

3.1 The New Affordances of the Information Age

The profound changes in computational and communication capabilities are too numerous to summarize exhaustively, perhaps in general, but especially within the scope of this paper, so only the new (aggregate) affordances that have relevance to political organization and morality will be discussed. This necessarily entails some subjective choices of omission, inclusion, and aggregation on the part of the author. However, this subjective framing may be mitigated by restricting the analysis to the identification of technological affordances that are, in themselves, objective, empirically identifiable realities of the current digital age. Before moving on, a brief note on the theoretical consistency of this approach may dispel some possible criticisms.

One might object that starting this analysis by identifying the material affordances of technology constitutes a deprivation of technological development from its inherent social component. However, I argue it is more of an analytical shift to the present outcomes of the technological structuration processes of the digital revolution, which thus have social considerations embedded in their material instantiation. While this inevitably glosses over the complex and constant feedback between structure and agency, as well as the various social and material factors that made up the digital revolution so far, it is a practical necessity that serves simply to limit the paper's scope – one has to pick somewhere to start an analysis. I argue it is justified, and consistent with the previously discussed theory, on the basis that the outcomes of these sociomaterial processes are what ultimately inspired their subsequent interpretation and adaptation by the social groups that express the ideologies that are prominent today and described in this chapter.

The advances in computing of the second half of the 20th century have received much scholarly attention from myriad perspectives, highlighting technical achievements, as well as social, and economic ramifications. These changes have been studied at scales ranging from the microenvironments of individual organizations to the macro perspectives of civilization theory, and various terms (i.e. information society, knowledge society) have attempted to aggregate these developments to capture the essence of the new type of society that they are producing (Karvalics, 2007). This new social and economic reality brought about by the digital revolution has also been dubbed the 'network society' after the increased networking of previously separate information society components through the internet (Castells, 1996).

The profound changes in the functioning of the global socio-economic state of affairs as a result of advances in computation and networking are of such a scale that it has often been compared to the industrial revolution of the turn of the 19th century. Carlota Perez (2002; 2010) calls such revolutions techno-economic paradigm shifts, arguing that the most recent of these Schumpeterian waves was initiated by the introduction of the Intel microprocessor in 1971, which marks the starting point of the what she calls the 'age of information and telecommunications'. Of particular interest to this chapter, though, are the affordances that came specifically with the internet and the network society it brought about, as these are the most recent developments of the current techno-economic paradigm. As such, it is this network society that we live in today that is the isotopia to which contemporary ideologies relate – favourably or otherwise.

3.1.1 Many-to-Many Communication and the Networked Commons

Perhaps the most radical new affordance of the internet was the possibility of many-to-many communication (Castells, 2009). Whereas the earlier modes of communication were one-to-one (as in most daily exchanges), and later one-to-many (with mass media such as newspapers or television), many-to-one (as in petitions or letters of an action group to a public official), the internet supports the four modes simultaneously (Pfister, 2011). This capacity for many-to-many communication allows people to "sustain large-scale, interlinked, synchronous, and asynchronous contact" (Pfister, 2011, p. 219). This brings to mind online message boards, hyperlinks, chat rooms, and, perhaps most revolutionary, crowdsourced projects like Wikipedia or free and open source software (FOSS). Especially this capability of asynchronous contact allowed people to submit text or code, which can then subsequently be corrected or expanded by anyone who comes across it. Although contributions in such projects, dubbed 'commons-based peer production' (CBPP) (Benkler, 2002; 2006) are more complicated than this to mitigate the obvious issue of the intentional sabotage of others' work, also called 'griefing'. This

capacity working together across space and time – through many-to-many, near-instant, communication – to produce a quality product is one of the most far-reaching new affordances of technology and the internet in particular.

Before going into the extended consequences of CBPP, mentioning some more well-known applications of the new affordances will grant us a more comprehensive picture. Perhaps the most widespread of the affordances granted by many-to-many communication is that of social media and user-generated content in particular. We see this in applications such as Facebook and YouTube. Although not directly stemming from many-to-many communication, search engines like Google have also played an instrumental role in making accessible the vast wealth of information that quickly started populating the internet from the beginning. This made it possible to access specialized knowledge on a large variety of subjects with a single query, something which previously required a library visit or encyclopaedia consultation.

The capacity granted by many-to-many communication to work together with geographically and temporally distributed agents, or, commons-based peer production, is argued by Benkler (2002; 2006) to constitute a new form of production that is in many ways distinct from the capitalist mode of production. If one takes this as a fact, any remotely Marxian interpretation would surely see that such a development of new models of production would have significant ideological ramifications. Without going into too much detail, its normative and ideological relevance may become clearer when we illustrate some of the general characteristics of commons-based peer production.

First of all, what makes such peer-produced products also ‘commons-based’ is their use of distinct licencing practices that regulate the use of the commons that are produced in this fashion (Benkler, 2006). This may mean that the work is either unconditionally placed in the public domain, or uses a variety of ‘copyleft’ strategies aimed at preventing enclosure, ensuring reciprocity, and thus attempting to legally guarantee that its use and modification is never at the expense of the commons, but required to expand it when applicable (Benkler, 2006). This use of licencing to promote the expansion of open-access products stands in stark contrast with traditional copyright licencing that aims to do the exact opposite, namely to safeguard the excludability of certain products.

Secondly, as argued by O’Neil (2015), CBPP is further distinguished by the modularity of their organizational practices (and often the products as well), and the ethical logic that underlies participation in such projects. Therefore, he proposes to refer to organizations that rely on such practices as ‘ethical-modular organizations’ (EMO) (O’Neil, 2015). EMOs are said to follow an ethical logic in that participation is based on “voluntary associations [..] [that] are motivated by self-fulfilment which is validated by a

community" (O'Neil, 2015, p. 1628; Arvidsson, 2008). The modularity of EMOs lies in both their design ("decomposable blocks sharing a common interface" (O'Neil, 2015, p. 1627)) and their political economy, as they employ modular forms of governance that follow a similar ethical logic (O'Neil, 2015). O'Neil (2015, p. 1628) describes this modular governance as the "[communal] control [of] labour", relating it mostly to how work is socialized by renouncing exclusive property rights. While this is a crucial point, the modularity of EMO governance may also consist of the ability of its voluntary workers to 'fork' the peer-produced product into two or more independent, diverging developmental paths with different properties, yet within the legal bounds of the product's given licence.

Finally – and as we shall see in the next section, testament to the ideological heterogeneity of EMOs, despite- or perhaps due to their ethical quality – are the more recent developments in distributed ledger technologies (DLT) that resulted in digital- or 'cryptocurrencies' such as Bitcoin or Ethereum. Whilst any ledger that occupies, or is replicated across several storage devices is already technically a distributed ledger, recent innovations that leveraged cryptographic and economic/game theoretical techniques allowed for the application of DLTs for more sophisticated purposes. The first working, large-scale example of such a system was that of the chronologically ordered, economically incentivized, and cryptographically secured chain of data-blocks (transaction data in this case), or, 'blockchain' that supports Bitcoin (Nakamoto, 2008). This and subsequent innovations in DLTs (some even foregoing the blockchain model altogether) are allowing the further extension of the internet's previously mentioned affordance of temporally and geographically distributed collaboration to the reasonably secure maintenance of a ledger by (to variable degrees, depending on the particular DLT application) unknown and potentially malicious actors.

Concluding with the affordances stemming directly from many-to-many communication – social networking and user-generated content, easy information access, commons-based peer production, ethical-modular organizations, and advanced distributed ledger keeping – we may now turn towards the second category of new affordances.

3.1.2 Big, Open, and Linked Data Analytics

Although the production of big, open, and linked data (BOLD) (note that my use of this term does not imply that all data is all of these things at once, it may also have any combination, or none, of the data qualifiers), may still result from the new affordance of many-to-many communication, it is distinguished from the previously discussed affordances in that BOLD is not an affordance per se. For data to become useful – and thus an affordance – it needs to be processed and applied, which is done through analytics.

And the affordance of BOLD analytics does not necessarily express the many-to-many character in the same way that the previous examples did, for the analytics are often done by- and for a single party. In this way, it is often an example of many-to-one communication, in that the data generated by many-to-many communication is reduced to be intelligible and useful to a single party for a specialized purpose. Even the often-used example for peer-production, SETI@home, which essentially crowdsourced computing power to analyse astronomical data, could be better described as a many-to-many-to-one form of communication. Although we can imagine situations in which BOLD analytics maintains the many-to-many character, as is the case in open data platforms, the fact that it is not necessarily so warrants it to be discussed as the second category of affordances.

The availability of big open and linked data, and the capacity to analyse it for specific purposes has granted significant new affordances of which the ethical and political implications are already apparent. Many of these implications are related to privacy and transparency concerns, especially due to the massive linking of data to individuals. This allows for targeted advertising (as is the business model of Facebook), which can serve both commercial and political interests. Cambridge Analytica and its influential role in the 2016 US presidential election are case in point. The leaked intelligence agency documents by Edward Snowden have also shown that the abundance of data and analytical capabilities are critical tools for large-scale international surveillance programmes that evoked worldwide privacy concerns. On the other side, the same new affordances are also seen as key tools in supporting transparency and are argued to also allow more thorough checks on power that may foster trust in institutions that ware lost, in part, due to the above revelations.

This tension in BOLD analytics that allows it to be both a tool for checks on power and for unchecked power, has been explored in more detail by Janssen and van den Hoven (2015). They observe that BOLD analytics can both facilitate greater transparency that allows more insight in the functioning of government, but can also be used at the cost of privacy and thus become a tool for oppression and control. Janssen and van den Hoven (2015) conclude that transparency and privacy are both valuable ideals, but are inter-related with one another as well as other variables, and neither of them can practically be achieved in full, nor should we wish to do so. What they argue we can and should do with this new affordance, is to make architectural arrangements in both intangible responsibilities and governance practices, as well as embedded in the IT systems of government agencies that allow for privacy-by-design and transparency-by-design. The former can be done by using information silos that prevent the undue access to information yet allow for its sharing according to the protocols defined by law). The latter

refers to the automatic release of the information of an agency's operations that is necessary for oversight (Janssen and van den Hoven, 2015). The specific arrangements that are made to accomplish this, however, should be adapted to the specific context, taking into account legal, cultural, and other factors that will make each effort to implement transparency and privacy by design different.

3.2 Information Age Ideologies, Old and New

Now that we have identified some of the newest, normatively relevant affordances brought in the last few decades, we can turn towards describing the prominent ideologies of today, and how they have flexibly interpreted those affordances to fit their value-laden, prescriptive, views on institutions. We discuss three ideological currents that can be observed today. First we discuss the incumbent ideology, one whose name is contested, but is often described as a neoliberal capitalism. Second, we discuss two insurgent ideologies, one of which libertarian, the other communitarian, and their divergent critiques of- and contingent alternatives, or heterotopias, to the isotopia produced largely by the incumbent ideology.

Note that this section will necessarily make some simplifications, as each of these three streams will have many (more or less subtle) variations in different countries or more dispersed groups, which will have to be partially glossed over, but some common themes may nonetheless be identified. The previously discussed position of those who reject the incumbent ideology, but express the moral realist view that its successor is still unknown, may be given more context in this section by identifying the insurgent ideologies that may be seed forms of the eventual replacement. Whether, and if so, which insurgent ideology will or should become dominant in the future is not the aim of this paper, instead it seeks simply to understand what views they contribute to the search for a new equilibrium, and thus in what direction they would like to see the current equilibrium (which is increasingly perceived as unstable) to shift.

3.2.1 The Incumbent Ideology and its Increasingly Precarious Equilibrium

It is tricky to make any claims about what ideology is the current condition of the human species, after all, countries differ from each other in this respect, and are each individually changing as well. However, from a political economy perspective it is not controversial to say that the international economic condition is one of capitalism. Although different states internally have different models of capitalism which rarely fit neatly into a predetermined set of theoretical categories (Crouch, 2005), they nonetheless participate

in- and reciprocally influence international market conditions which can only be described as capitalist. Now, it has been repeatedly attempted to critique and dismiss capitalism as a whole. This is not what will be attempted here, first of all because there is no single capitalism to critique, nor does there exist a pure capitalism in the sense that there has always been significant involvement of the state in its markets (Mazzucato, 2013).

Instead, it is merely acknowledged that we find ourselves, historically, in a state of capitalism, of which its variable incarnations have produced many of the significant increases in welfare over the last centuries, but can also be held responsible for the increasingly serious social, environmental, and economic troubles that we are currently experiencing. To not get caught up in the epistemological minefield of trying to define a singular incumbent ideology, we may instead attempt to describe some empirical developments and the values that they imply to get an idea of the principles by which the incumbent ideology operates. This will be done with a focus on some critical interpretations of these developments to understand why it is increasingly perceived as unstable, and thus perceived to require a significant change that many of the discussed authors wisely choose not to define too precisely.

A persistent dynamic of our socio-economic condition, and one that is often cited in the critique of the ideology that justifies it, is that of increasing inequality. Influential recent documentations of this dynamic are found in the work of Thomas Pikkety (2014; 2020). Pikkety (2014) statistically demonstrated that, with the exception of the mid-20th century, inequality has been steadily rising, attributing the increasing wealth gap to a feature of the economic system (that stems from taxation practices) that makes returns on capital greater than the rate of economic growth. His more recent book (Pikkety, 2020) shows how various ideologies have justified economic inequality throughout history, and sees ideology as an important factor not only in the justification of economic conditions, but also in their creation. For example, Pikkety (2020) sees the more egalitarian ideological landscape of the decades following the second world war to be explanatory of the significant decrease in inequality that can be observed in that period. The proposed relationship between ideology and the tendencies to inequality of their adaptations to capitalist economies is given further strength by the fact that the subsequent rise of inequality from the 80s onwards coincided with the ideological shift to neoliberalism for which Ronald Reagan and Margaret Thatcher often serve as embodiments, but extended far beyond the US and UK (Pikkety, 2020).

Another dynamic that exacerbates the tendencies to inequality in our current economy, both in terms of wealth and power, was recently explored by Benkler (2019). He

hypothesized that, from a political economy perspective, “technology interacts with institutions and ideology to shape power and behavior in markets” (Benkler, 2019, p. 5). And whilst noting that the social and material context that produces power relations is constantly debated and negotiated by market actors, regulators, and activists, he claims that the years following neoliberal reforms have seen increasing disparities in power relations, in part due to power-seeking behaviour in technical change.

This behaviour, in short, sees an actor leveraging their power to influence future power relations in their favour, either through regulatory means, but often through technical means as well. This may entail lobbying and technical changes that increase horizontal power over competitors, or vertical power over suppliers, vendors of complementary products, workers, and consumers. Such power-seeking is argued to often lead to technological arrangements that are not technically necessary, but instead serve to create bottlenecks (Benkler, 2019). Such bottlenecks may consist, for example, in the use of software that only allows official repair shops to replace parts, or rejects third-party replacement parts, despite being technically compatible, something which has been observed in technologies ranging from smartphones to agricultural and household equipment.

Indicative of these tendencies in our current economic system are the results of network analyses of ownership and control among transnational corporations (TNC) (Vitali et. al., 2011). They found that share ownership, and the influence that it brings, is in fact highly centralized, with a fraction (0.61%) of their sample (43060 TNCs) holding 80% of control in the network. Vitali et. al., (2011) also warn that such centralization in share ownership, mainly in financial firms, may contribute to systemic risk, which could only be exacerbated by the tendencies toward such economic centralization through technological and political means (Benkler, 2019), and also help to explain the rise in inequality that we see today (Pikkety, 2014; 2020).

This ideological shift to neoliberalism coincided with administrative and bureaucratic reforms that came to be known as new public management (NPM), an umbrella term that was unpicked by Hood (1991). Whilst ‘neoliberalism’ refers to the ideology that prescribed laissez-faire, economic liberalist policies that put much trust in the self-regulating capabilities of the private sector, NPM is the specific administrative reform agenda that was largely inspired by private sector management practices. As Hood (1991) notes, NPM is linked with shifts toward decreasing the size (in terms of spending, staffing, and regulation) of government, (partial) privatization and agencification of public sector services, and automatization using IT.

The administrative reform agenda has more recently shifted towards what Margetts and Dunleavy (2013) call digital-era governance (DEG), which, as they explain, reverses some of the NPM trends by reintegrating public services into more holistic, user-oriented services. This was made possible in part by the redesign of public administration to more thoroughly account for the possibilities offered by IT, also called digitalization (Margetts & Dunleavy, 2013). DEG, however, was arguably not as ideological as NPM was, with most of these recent changes being justified not based on normative-, but rather on instrumental arguments that focused more on gaining efficiency. Examples of such instrumentally-justified DEG changes are the breaking of organizational silos, centralizing online identification and service access points (one-stop-shops) (Margetts & Dunleavy, 2013), and other considerations like interoperability.

The public sector ideological shifts of neoliberalism were not only followed by public administration reforms like NPM and DEG, as these changes happened in parallel to some private sector developments which now permeate our daily lives much more significantly than the former. We may briefly summarize these concomitant developments by the rise of the internet through the turn of the millennium, the dot-com boom and bust, and the subsequent rise of private-sector internet giants like Facebook and Google. The simultaneous shift towards neoliberal policy- and administrative reform agendas in the public sector and boom of capitalist entrepreneurship in the technology – and more specifically – the internet sector has given rise to the now pervasive novel forms of enterprise that the above firms embody.

Now, attempting to derive from these political-economic tendencies the values of this multifaceted ideology in terms of the value-laden IAD framework, is of course as normative an exercise as the values it claims to describe, as they are dependent on the particular analysis of the isotopy, which is often ideologically structured. However, sticking with the above critical descriptions of the isotopia of today, we may arrive at the following. The community attributes as an external variable express high value heterogeneity, which explains the constant struggle over the power balance between private, public, and commons interests. The ethics of technology, both in terms of the biophysical/material conditions and the technology design goals, are at least in part power- and rent-seeking on behalf of company stakeholders (Benkler, 2019). From this critical perspective, the other holons of the IAD framework, such as evaluative criteria, policy design goals, and rules, would also be laden with values that pursue these ends, which flow from the fact that it would be these values that are held by those participants who currently enjoy the highest capacity to influence outcomes. The above considerations make the currently incumbent ideology, regardless of its contested name and regional variations, less oriented towards concerns for the long-term sustainability of the

commons, and may thus, as we are experiencing today, be counterproductive when it comes to environmental concerns and equity in socio-economic relations.

3.2.2 The Insurgent Ideologies and their Heterotopias

These above issues have invariably made their way into electoral politics, and in that sense, we can look at the increasingly powerful party-political movements that we have seen recently in the greens on the one side, and the nationalists on the other, to describe insurgent ideologies. However, outside the realm of formal institutional politics, the insurgent ideologies in civil society, especially those concerning the appropriation of new technical affordances, look quite different. Since the focus of this paper is on the socio-technical developments in ideology, and the aforementioned informal insurgents are most actively trying to change the ideological landscape through appropriating new affordances (see section 3.1), it is these insurgents that will be discussed here. This is not to diminish the importance of electoral politics or to say that there is no technological component in this action arena, it is merely a matter of scope, where the present focus lies less on the use of governmental institutions- than technological development as the chosen vehicle for ideological change. Neither is this to imply an either-or dichotomy between the two instruments for change since they often coincide as we have seen in the discussion of NPM and DEG, but rather a focus on those efforts in which the instruments of technology weigh heavier than- or precede the formal-institutional ones.

A good starting point to unravel how the new affordances (section 3.1) are flexibly interpreted by the various ideological frames with which they co-develop is a mid-90s essay on ‘The Californian Ideology’ (Barbrook & Cameron, 1995/2015). This critical and polemic essay provides an insightful look into the ideological side of the appropriation of internet technology which, even though it clearly advocates its own views, captures the ideological divide over the internet quite clearly. The ideology Barbrook and Cameron (1995/2015) defined and critiqued was still insurgent at their time of writing, but now occupies the highly entrenched position of an incumbent ideology. However, what has not changed, as we shall see below, is that the distinction they sketched between what may be roughly designated as libertarian (in the modern right-wing sense) and communitarian interpretations of the internet’s affordances, is still all too apparent among the insurgents of today.

In summary, Barbrook and Cameron (1995/2015) critique several aspects of ‘the Californian ideology’, claiming that despite its heavy reliance on internet technology, it overlooks some ideologically relevant factors that were crucial in the creation of these new affordances. First, they describe the seemingly contradictory origins of this world view, simultaneously identifying with the radical spirit of both the 60’s hippie

counterculture, and the laissez faire, neoliberal economics of what were the hippies' greatest opponents, whilst combining it with an optimistic and deterministic view of socio-technical progress. The Californian ideology is argued to hold a dual conceptualization of the internet as both an electronic marketplace, as per its economic liberalist element, and an electronic agora, which more closely resembles the counter-cultural worldview. Barbrook and Cameron (1995/2015) claim that this unexpected mix of cultures and ideology nonetheless resulted in a highly individualist, libertarian worldview that championed above all the virtues of private enterprise, despite the fact that the technologies they appropriated are the result of a mixed economy consisting both of private firms, public entrepreneurship (remember Mazzucato, 2013) , and voluntary contributions by enthusiasts and amateurs.

Furthermore, they argue that the emancipatory claims of this "bizarre mish-mash of hippie anarchism and economic liberalism beefed up with lots of technological determinism" (Barbrook & Cameron, 1995/2015, p. 20) can be likened to the Jeffersonian calls for democracy and liberty in the US constitution, despite his status as a slave owner. Although not as extreme as slavery, they identify several possible counter-emancipatory workings of the future that tech-companies were working on building, which broke quite significantly with the optimistic, almost utopian attitudes of the years before the bubble burst. This seems less controversial in the current – slightly more pessimistic – world that is so thoroughly impacted by their innovations, as the proliferation of digital surveillance fake news, the digital divide, and voter manipulation are frequently reported on, well-documented phenomena (i.e. Liang et. al., 2018; Laterza, 2018; Goncalves et. al., 2018).

Finally, they contrast the tech-driven neoliberalism of the Californian ideology with the more state-driven introduction of the internet in European countries like France (Barbrook & Cameron, 1995/2015). They finish with a call for Europe to continue doing things differently, continue to recognize the mixed economy that brought the internet about, and develop a strategy that simultaneously leverages the benefits of private entrepreneurship, state intervention, and do-it-yourself creatives (Barbrook & Cameron, 1995/2015). Although the democratic inclusivity and universality promised by such a strategy is not immediately apparent in Europe's relation with the internet nowadays, it certainly still retains a unique critical attitude, most recently illustrated by the implementation general data protection regulations (GDPR).

Continuing to outline their more communitarian view of the internet, a 1999 essay by Barbrook provocatively evokes the notion of 'cyber-communism' by pointing out the similarities between certain narratives and practices on the internet and communist theory (Barbrook & Cameron, 1999/2015). Looking over the slightly ironic polemic against the

Californian ideology that compares its proponents to the 'enlightened elite' of revolutionary communists, it may be more useful in the context of this research to highlight his points on the ways in which working practices on the internet subvert the principles of the (neoliberal) capitalist economy. Barbrook notes that the act of gift-giving has been an integral part of internet culture from its days as a scientific research network until his time of writing – and indeed today. The gift economy of the internet, he argues, combined with its disregard for- or difficulty with enforcing copyright laws hampers the capitalist enclosure of the (digital) commons by instead disclosing informational goods.

The importance of this practice in network communities amounts, according to Barbrook, to a form of collective labour that, besides producing trivial entertainment, is also able to produce quite sophisticated information goods, evidenced by the FOSS projects like Linux (Barbrook & Cameron, 1999/2015). In line with Benkler (2006), though with a significant difference in tone, such practices, Barbrook claims, amount to a revolutionary change in the modes and relations of production. Furthermore, he claims that the subversive nature of the internet follows the Marxian principle that such revolutions can only happen once all the possibilities of the previous system have been exhausted this gift economy was only possible given the privileged position of abundance of people in modern capitalist economies (Barbrook & Cameron, 1999/2015).

Finally, Barbrook points out that the dialectical opposition of gift and commodity that he described almost necessarily needs to be overcome by a hybrid form, in order to ensure both the sustainability of capitalist enterprise and collective labour on the internet (Barbrook & Cameron, 1999/2015). This hybrid could be said to have been found in the platform economies of what some call 'netarchical capitalism' through the re-commoditization of gifts, or, in this case, user-generated content (Bauwens, 2009). Instances of such hybrids in the more collectivist internet practices are more scarce, although there exist examples of workers paid by firms to work on FOSS projects (O'Neil, 2015), and an ongoing search to find working systems of decentralized compensation in peer-production (Pazaitis et. al., 2017).

Although the now incumbent Californian ideology has certainly changed with the times and with the position of power that its former proponents now hold, the neoliberal, capitalist economy seems as strong as ever. What is notable, though, and will be further elaborated on in the final paragraphs of this section, are the parallels with the libertarian/communitarian distinction elaborated by Barbrook and Cameron (2015) in today's ideological appropriation of networked technologies. Whilst the communitarian interpretation of the internet's affordances has evolved with the times, yet stayed mostly the same ideologically, the libertarian side seems to have been split. With the original

proponents of the Californian ideology getting more comfortable with state regulation, a more extremely libertarian and anti-state version seems to have replaced it, most apparently in the space of cryptocurrencies.

The first contemporary insurgent ideology we discuss is that coupled to the development of cryptocurrencies. With advanced forms of many-to-many communication that employ DLTs secured with cryptographic consensus algorithms to store transaction data, as was first successfully done in Bitcoin, cryptocurrencies like it are often justified by community members and developers with quite a radical political ideology (Golumbia, 2016). Such a justification often follows the lines of criticizing the monetary system, government intervention and surveillance, or centralized control in general, and seeks to employ DLT-based cryptocurrencies to circumvent what are perceived as systems of oppression and assert individual liberty. Although we need to be careful ascribing such positions to all users and developers of cryptocurrencies for their motivations might just as well be out of interest in the technology, or for purely pragmatic investment reasons, it is a narrative that is nonetheless quite apparent in online circles.

What is seen here is again, as Barbrook and Cameron (2015) attribute to the Californian ideology, a seemingly contradictory mix of collective labour (as many cryptocurrencies are developed as open-source software), and individualist capitalist principles (with some identifying as anarcho-capitalists). In typologies of governance, various modes have been identified such as market and hierarchy (Williamson, 1985), later expanded with network governance (Powell, 1990), which can be seen in various (clusters) of organizations such as market exchanges and traditional firms. Of more interest here are the later additions of bazaar governance (Demil & Lecoq, 2006) to characterize the open nature of governance in FOSS projects, and finally that of tribal governance (Miscione et. al., 2018), that emphasizes slightly different tendencies found in DLT projects. Despite sharing many of the characteristics of bazaar governance, cryptocurrency governance is argued to break with this type, and is characterized as ‘tribal’ since the rivalry between projects is much higher than in typical FOSS development, evidenced by the many forks, versions, hoarding of tokens, and essentialist/maximalist attitudes (extreme loyalty to a particular protocol or cryptocurrency, most often Bitcoin) in the cryptocurrency space (Miscione et. al., 2018).

Besides such projects being characterized as tribal, they have also been called ‘digital heterotopias’ (Miscione & Kavanagh, 2015). Although this is a different sense of heterotopia than the one that has been used so far, they are rather referring to heterotopia as a real-life physical (in this case, digital) space. Miscione and Kavanagh (2015) argue that such projects attempt to create such ‘different’ digital spaces that are independent of

the state, and aim to subvert or reinvent the principles that govern their exterior with the ultimate goal of establishing new, and in their eyes, improved financial systems.

Furthermore, projects that apply DLTs often follow the mantra ‘law is code’ (Hassan & de Fillipi, 2017), referring to the fact that computer code can function as law, in that it can allow or disallow particular actions. However, this is not uncontroversial, as exemplified the ‘hack’ of Ethereum, where the disagreement over the response to this hack caused a hard fork, resulting in two incompatible versions of the Ethereum blockchain. In one version, the state was reverted to before the hacked funds were transferred, with the security flaw patched. And in the other, the vulnerability was addressed without changing the state, leaving the hacker with the funds that they rightly claimed by the law of the computer code. This indicates that those sticking to the original network more closely followed this mantra than those who moved to the new network.

Since the heterotopias presented by this individualist libertarian camp are diverse, as are the specific values they aim to achieve, we will need to simplify a bit to distil some common themes that can be represented in the value-laden IAD framework. The ethics of technology pursued are primarily geared towards the expansion of individual liberty, and particularly to achieve independence from central coordinating entities such as governments and central banks. Although the community attributes in this space exhibit significant heterogeneity, they tend to follow the principles of tribal governance, where one is loyal to their preferred project and rivalrous towards others. The rules that exist and are pursued according to this ideology are simply those embedded in the technical protocol, with their morality primarily determined by a voluntarist ethic where the main factor is whether someone voluntarily chooses to participate in a given system, thus accepting its rules embedded in the code. Finally, the participants in the action arena are conceived as highly individualistic with diverse, and often malicious intentions, whose interactions are mediated, and potentially neutralized, by the chosen technical protocol.

The decentralized nature of DLTs is, however, ideally suited for the creation of what we may call dispersed intentional communities. Before sophisticated many-to-many communication affordances ideological insurgents could often only practically holistically enact their values after finding like-minded individuals, and founding a small intentional community in which they live together. Now, the difficulty of finding like-minded people is significantly reduced by simple many-to-many communication, and coordinating between them to put their values to practice, many purposes now no longer requires physical proximity. As such, insurgents can now more easily set up systems consistent with their normative views, which on top of that are difficult to control by any single actor, effectively allowing them to operate with relative independence from

existing systems. The affordances of this technology may, therefore, appeal to supporters of any insurgent ideology, since it allows them to experiment with the practical application of their values in a setting that is not constrained by the value-laden arrangements of the incumbent ideology.

Therefore, we see, even though that DLTs are currently mainly interpreted and applied from a libertarian perspective, that the technology itself is potentially appropriable by various ideologies, insurgent or incumbent, as evidenced, in part, by the recent rise in state interest in the technology (Duque, 2020), among other ideological streams such as the one discussed below.

On the communitarian side, there are those who see the new affordances, particularly that of CBPP, in accordance with Benkler (2006), as a distinct mode of production that, more in line with Barbrook (Barbrook & Cameron, 1999/2015), is seen as both distinct from the current form of capitalism, and subverting some of its most negative qualities. The prime means to this end is by continuing to expand the internet culture of sharing/gifting, mainly aimed at the generation and expansion of the digital (and physical) commons. This distinguishes it from the other previously discussed incumbent ideologies of capitalism, whether its mode of production is industrial, cognitive, or netarchical, as well as the insurgent 'distributed' capitalism of many cryptocurrency projects, which are, in aggregate, seen as extractive of the commons (Bauwens et. al., 2019).

Overall, this side, though still radical in the sense that it is an insurgent value system pursuing their heterotopia, seems more willing to conditionally work with elements of the isotopian system. This contrasts it with the tribal governance of many cryptocurrencies, which, as evoked by the 'tribal' qualifier, strives to isolate their systems as much as possible, whilst at times aiming to 'outcompete' their isotopian counterparts in government (i.e. Tarkowski Tempelhof et. al., 2017). Although the governance of CBPP is usually along the lines of the bazaar model of governance, as we shall see, those who leverage it with normative intent towards heterotopic aims, by virtue of their willingness to conditionally accommodate different systems, are therefore pursuing a heterotopia that is characterized by hybrid forms of governance.

The intention in the latter is to harness the internet's affordances to develop and expand the alternative mode of production of CBPP, the open and collaborative design and production of software (FOSS) and hardware goods, to bootstrap a distinct political economy (Bauwens et. al., 2019). By leveraging knowledge and experience from a global network of both users and producers in the CBPP fashion, design may happen globally. Moreover, in the case of non-information goods that cannot be replicated and distributed at a near-zero cost over the internet, manufacturing can happen with locally available

resources, and lessons-learned may feed back into the global design process (Kostakis et. al., 2016). Their proposed ‘design global, manufacture local’(DGML) model of production is a key component of their heterotopic political economy, which is ideologically distinguished by the moniker of ‘cosmolocalism’ (Ramos et. al., 2016; Bauwens et. al., 2019).

Bauwens et. al. (2019) provide a detailed overview of this cosmolocalist ideology in ‘The Commons Manifesto’, which will be briefly summarized in the following paragraphs. First of all, the portmanteau of cosmopolitanism and localism signifies that this alternative model for globalization is both rooted in the cosmopolitan view that stresses the global similarities, and the localist view that acknowledges situated differences. With globally networked, collaborative design and – in the case of software – production using CBPP, and local manufacturing technologies like computer numerical control (CNC) machines (automated 3D printing and material shaping) as well as low-tech tools, the technological affordances are already said to be in place for a more ethical political economy.

The political economy of the cosmolocalist heterotopia consists an ecosystem of various institutions that together regenerate, improve, and expand the commons (primarily digital, but physical commons are also considered) (Bauwens et. al., 2019). First there is the productive community of volunteers and possibly compensated workers, that collaboratively design a software or hardware product. Second, the CBPP process, product, and community are protected by non-profit (for-benefit) associations, in part through ‘copyleft’ licences, as the Wikipedia Foundation does today. The digital commons that are generated and protected by these two institutions can subsequently be marketed, in accordance with the legal ‘copyleft’ requirements, by coalitions of socially engaged entrepreneurs (Bauwens et. al., 2019). The latter, exemplified by the companies that comprise the Enspiral Network, which itself expresses the above characteristics, has been described as an example of ‘open cooperativism’ (Pazaitis et. al., 2017).

The shift toward the cosmolocalist heterotopia is, in contrast to what many in the distributed capitalist camp believe, not simply because their established socio-technical systems – by virtue of their moral, technical, or economic superiority – are expected to outcompete their rivals. Although both ideologies strive to gain ground through the ‘transvestment’ of capital from the isotopian socio-technical systems they reject to their alternative systems, cosmolocalism does not envision the end-point of this process to result in a society that universally follows their organizational principles. (Note that, even though much discourse in the cryptocurrency space might suggest otherwise –

‘decentralize everything!’ – more moderate, pluralist, positions undoubtedly exist there as well.)

Instead, it they acknowledge that centralized and decentralized modes of organization both have their merits and disadvantages, and are ideally suited for different purposes and situations. For example, Bauwens et. al. (2019, p.41) neither dismiss “centralized infrastructures [..] as useless” nor fail to recognize that “CBPP is a proto-mode of production and, thus, currently unable to perpetuate itself on its own outside capitalism”. The political-economic modality they advocate, even though many functional examples already exist, still needs to go through the hard-won process of becoming sufficiently widespread to be considered a full mode of production. Essential in this process is the building of local and global social and political infrastructures, in which transvestment is realized by ‘partnering’ with commons-oriented entrepreneurs, as well as political movements toward a ‘partner state’ (Bauwens et. al., 2019). The latter, as Bauwens et. al (2019) explain, aims to achieve public value creation through subsidizing (directly or indirectly) the commons and its supportive infrastructures, contrasted with the current neoliberal ‘market state’ model that aims to do so through accommodating shareholder-driven private enterprise.

In conclusion, the values apparent from the cosmolocalist heterotopia can be described in terms of the value-laden IAD as follows. With regards to the ethics of technology, it seeks to leverage the existing (exogenous) communitarian values that are embedded in technology, particularly by continuing to develop technological affordances towards the expansion of the commons and CBPP (technology design goals), in conjunction with decentralized local manufacturing technologies. In terms of community attributes, it seeks to strengthen coalitions of those who share the normative principles of sharing/gift culture and socially and environmentally responsible entrepreneurship, those who wish to expand the commons rather than extract from it. These coalitions are aimed at bringing these people into various action arenas to further their shared values. Rules as exogenous variables are taken as given, and it seeks to leverage existing legal frameworks (such as copyleft) and work within the rules of existing (public and private) institutions to attempt to shift them in favour of partner state and open cooperative approaches (as policy design goals). This is summarized and contrasted with the previously described values of distributed capitalism in the table below.

Table 3 - Value Systems of Insurgent Ideologies

Types of Values	**Distributed Capitalism**	**Cosmolocalism**
Evaluative Criteria	Security, privacy, state consensus, individual freedom	Regeneration and expansion of commons within physical bounds
Ethics of Technology (Exogenous and Technology Design Goals)	Technology as means to decentralize, and expand individual freedom from centralized control	Technology as means to expand CBPP and the digital commons, and facilitating decentralized local manufacturing
Shared normative principles (Exogenous)	Heterogeneity and rivalry among groups, tribal governance	Strengthen coalitions of actors with (relatively) homogenous, commons-oriented values
Rules (Exogenous)	Voluntarist ethic, code is law, algorithmic consensus and cryptographic security	Work within, yet critically evaluate existing rules
Participants' values	Heterogenous, self-interested, and possibly malicious	Work within the bounds of physical commons to regenerate and expand it along with the digital commons
Policy Design Goals	Outcompete rival systems through superior technical protocols	Create partner state, open cooperatives, and generate transvestment towards commons-oriented systems

3.3 Towards Progress for the Realists

We have thus far hopefully demonstrated the reasons for the increasing perception that the isotopia of today, and its constituent incumbent ideologies, are socio-economically unstable, and we have not even discussed the concomitant environmental issues. Furthermore, we have seen how the technological affordances of the digital revolution have thus far been flexibly interpreted, and leveraged accordingly, by incumbent, as well as insurgent ideologies, and the values that they aim to achieve by, respectively, reproducing the isotopia, or striving toward their heterotopias. Berlin's maxim seems to be honoured, as the described heterotopias, despite all being quite radical, are envisioned to be achieved by their respective ideologies not through violent revolutions, but peaceful processes of transvestment, politics, competition, and the building of increasingly sophisticated and useful socio-technical systems.

At this point we may restate the alternative position that is left after accepting Berlin's anti-essentialist argument against moral optimism; that of moral realism, which posits that there is no single, consistent set of values and principles that can simply be implemented to 'fix' our problems. The moral realist, accepting the fact of pluralism, is almost guaranteed to feel a sense of dread when looking at the world today. What can we do when we realize that our current equilibrium is increasingly precarious, even when we marvel at the possibilities of the digital age, even if our inclinations lead us to favour one of the many insurgents that share this sensation of untenability, and ingeniously leverage the new affordances toward a consistent alternative? What can we do, despite all this, when in the end, the best we can do is muddle through?

Besides this slightly dramatic picture, any moral realist would nonetheless be hard-pressed to commit fully to any insurgent ideology, and even more cautious with predicting what, if any, presently pursued heterotopia will replace the isotopia that is so due for change. When the best you can do, as has been done many who have much more carefully studied these issues than this thesis can hope to do, is to admit that you simply do not know, the second-best seems to be to carry out some carefully directed experiments. Then the next question would be to experiment with what? Besides the obvious direction toward finding ecologically, socially, and economically sustainable alternatives, either by testing existing ideologies or attempting to find new ones, we may get a more specific sense of what such experiments ought to be directed at when we again look at the concept of heterotopia. However, this time we shall not continue to use it in the sense of ideological imaginary as has been done so far, but we turn towards its original conception by Foucault (1967/1986), and later interpretations by Lefebvre (1970/2003 and Harvey (2000; 2012).

In contrast to the heterotopia as a (as of yet) imaginary place to which a political movement strives, the original formulation in a lecture by Foucault (1967/1986) conceptualized it as a peculiar kind of place that can be physically found in reality. To kickstart the study of heterotopias, which he called 'heterotopology', he laid out various principles by which such spaces of difference operate, illustrated with examples, which are summarized below. First of all, the contents of heterotopias are different in respect to its exterior (as in prisons or asylums), and are also often internally heterogenous or even contradictory (as in gardens, museums, or libraries). They also have a temporal element, which may be fleeting (as in festivals) or accumulating (as in archives). Lastly, their function is always in relation to their surroundings.

This last principle is precisely why this concept is so difficult to define, which is perhaps why its usage has varied so much between authors. For every heterotopia, its surroundings are differently conceptualized, or rather, a heterotopia only exists by virtue of its function in a particular relation to a particular part of its surroundings. This is why, when one fails to define this function, the isolated concept of a heterotopia trades off its meaning for absurdity. This may be illustrated by the fact that when one's notion of surroundings is expanded or contracted, the definition of a heterotopia shifts with it. For example, when one focuses on a single atomic point in space, it is a heterotopia in relation to all other points in space. And when one takes space to be a unified whole, the concept of heterotopia loses all its meaning. This is why I purposefully limited the number of principles that are discussed above, for the more this concept is elaborated, the more it seems contradictory, or even too general to have any distinguishing feature at all. Furthermore, this is why the concept was not elaborated until now, except in the functional relation between ideological imaginaries and their object of critique. The concept of heterotopias, however, whether in their most general or specific usage in literature, does have distinguishing features that, again, lie in its functions.

Harvey (2000) noted that the concept, as described by Foucault contains a pervasive element of escape (one enters the museum to escape from the illegibility and disorder of much of daily life, the nightclub to escape its mundanity, and the prison exists so society can escape from the threat of dangerous individuals). Heterotopias, he elaborates, enable one to escape from certain constraints, allowing, as Foucault calls it, 'something different' to flourish, or when the constraints are on imagination, to be conceptualised and subsequently constructed. As such, returning to our problem of directing experimental ideological inquiry, heterotopic spaces may represent, as Harvey (2012, p. xvii) calls it, "seed-beds" but also seed-forms of "revolutionary movement[s]", allowing us to test and develop creative alternatives to the status quo.

Lefebvre (1970) resolved the above difficulty with defining heterotopias by their function in relation to their surroundings by immediately conceptualizing it in respect to the initial place, as only existing in relation to its respective isotopy, and further delineating the concept by speaking exclusively of urban spaces. This, in combination with Lefebvre's exclusive focus on urban spaces, is perhaps why Harvey (2012, p.xvii) considers Lefebvre's conceptualization "radically different from that of Foucault". However, the concept, both in Lefebvre and Foucault, has the function of serving as sparking the imagination as to future possibilities and directions for ideological change. To add a final remark with relevance to our problem at hand, Harvey (2012 p.xvii) states that such "revolutionary trajectories", or "[t]his "something different" does not necessarily arise out of a conscious plan, but more naturally out of what people do, feel, sense, and come to articulate as they seek meaning in their daily lives."

When we consider these more elaborated conceptualizations of heterotopia, we may add to the previously used heterotopia as ideological imaginary, the heterotopia as a real space that is internally pluralist, and conducive to the natural emergence of alternatives to isotopy through an open-ended process by which its occupants simply try to find their way. Not only is the heterotopia of the second kind, for example, libraries or universities, crucial in the previously argued necessity of searching for alternatives to the status quo, it may also help the moral realist in experimenting with these alternatives. The above question of giving direction to ideological experiments may thus possibly be answered by carrying them out in spaces that meet the qualifications of the second kind of heterotopia. Such experiments could then consist of the creation of heterotopic spaces that have three main properties.

First, they should seek to be functionally different from their exterior, or isotopia. Second, they should allow for internal heterogeneity, accommodating and acknowledging the fact of pluralism, allowing their occupants to empirically test and/or develop ideologically imaginary heterotopias through an open-ended process in which they simply try to find their way in life. Third, it should be noted that this approach does not presuppose the illusory possibility of a 'parallel system', but instead recognizes its inherent relation to isotopy. As such, while never being parallel, it may be divergent, different, or heterogeneous, whilst being independent to the extent that is possible and desirable.

Doing so should allow the moral realist not only to deal with the problematic prediction of which, if any, of the insurgents may be incumbent in the future, as those more likely to do so may be more likely to become the incumbents within this heterotopic space. It should also allow them to continue the peaceful pursuit of entirely new potential insurgents, as new models, different from any existing insurgent heterotopia, may also

emerge from this process. The three properties of heterotopian experiments and these hypothesized outcomes are summarized below (table 4).

Although this may theoretically be a way in which the moral realist may fruitfully search for the seemingly increasingly necessary alternatives without upsetting Berlin's maxim, putting such a theoretical system to practice and actually execute it may prove cumbersome. To further explore how this may work in practice, we will continue in section 5 with a case study of an experiment in participatory urban development that, as I will argue, satisfies the conditions of ideological experimentation set out above. As explained in more detail in the following methodology section, by conducting an exploratory case study of this experiment, we may get a first glimpse at the validity of the hypotheses in the previous paragraph.

Table 4 - Heterotopian Experiments: Properties and Hypotheses

<table>
<tr><th>Properties</th><th>Hypotheses</th></tr>
<tr><td>Is deliberately differentiated from isotopy</td><td rowspan="2">Empirical testing of existing insurgent ideologies</td></tr>
<tr><td rowspan="2">Allows internal heterogeneity and contradiction</td></tr>
<tr><td rowspan="2">Simultaneous development and testing of new potential insurgents</td></tr>
<tr><td>Is inherently related to isotopy and can never be truly independent</td></tr>
</table>

4 Methodology

This study is mostly guided by the theoretical issues of the previous section, but the empirical testing and triangulation of theories, however, is also deemed crucial to their practical value. As such, the dissertation first discusses some theoretical issues, which are subsequently illustrated and tested using an exploratory case study (Yin, 2018). Given that some theoretical concepts are combined in novel ways, and that, as we shall see, the selected case also is an exception to the rule in many ways, makes the exploratory case study ideally suited for the purpose of this thesis. First, it is discussed how the theoretical framework was developed, after which the gathering of empirical data on the case is described, followed by a discussion on the application of the theory to the case. This section will be concluded by an attempt to justify the relevance of the case to the theoretical questions at hand.

Although the literature review was not meticulously structured, its approach was systematic to some extent. For example, the suggestions of Webster and Watson (2002) to conduct scientific database queries using keywords related to the research topic, and looking forward toward articles that cite the present article, and looking backwards toward articled cited by the present article. This process, in addition to articles that were already known to me, resulted in a theoretical framework comprised of two sections. The first (section 2) conceptualized ideological development, mainly in terms of the moral realist position derived from Berlin (1990), and subsequently explored the role of technology and institutions in that process using theories of sociomateriality, structuration, and frameworks of institutional development, with a particular focus on their ethical characteristics. The second (section 3) attempted to understand what the recent years characterized by rapid development in digital technologies have meant for ideology in terms of the previously developed theories. Where theories of sociomateriality and structuration helped to understand the dynamics of ideologically motivated technological development, and the IAD framework (Ostrom, 2005), particularly the identification of the relevant values to its holons (Milchram et. al., 2019), helped to systematically represent the normative systems of these ideologies.

Taking further inspiration from Ostrom (2005), her distinction between framework, theory, and model, served well to structure the analysis of the case. I attempted to identify the relevant factors in the case study using the IAD framework of the same book, and understand their mutual relations using the theoretical framework. Furthermore, the case study attempted to represent the preliminary empirical findings in a model where possible.

The particular empirical characteristics of the IAD framework's holons in the case were identified mainly by analysing online sources, where newsletters, yearly status reports, government-commissioned research by consultancies, websites of participants, and personal accounts such as blogs formed the primary basis for the empirical claims below. While more websites were analysed, a total of 21 websites of initiatives, foundations, and other participant organizations are referenced in the case study, in addition to the other sources and documents mentioned above. Furthermore, one day was spent on location, where two semi-structured interviews with individual initiators were conducted using a topic guide, as suggested by Arthur and Nazroo (2003). Since the pandemic response did not permit any further in-person interviews, the ones that were conducted are not the main data source, but instead served to get familiarized with, and explore the case and its participants. Given the flexible structure of the interviews, and the possibility to explore the area of the case study that came with this visit, the day also allowed for contextualization and visual exploration of the conditions on the ground.

To understand the relevance of the case to the research problem and objectives, it would be helpful to highlight once more the research questions and the subsequent assumptions that are made about it. The research questions posed in the introduction are aimed at understanding and steering the ideological appropriation of technological affordances from a pluralist and moral realist perspective. Part of this is to understand the current playing field, and thus also the extent to which ideologies that primarily rely on the appropriation of new technological affordances have completed their revolutions.

Given that the case is one of experimental participatory urban development, it may not be immediately apparent why the selected case is relevant for answering the research questions. After all, the case study is an experiment that is not primarily driven by digital means, and one in which the degree and nature of ideological motivation in its players is highly variable. However, the elucidation of some assumptions about ideology and revolution may show why it is precisely the above condition that makes the case ideally suited to study this question.

First, we assume that ideology, besides often being explicitly articulated, is more accurately measured by how it is enacted, and specifically the socio-technical assemblies through which it happens.

Second, we assume that a historical development may only be called a revolution, besides it happening over a relatively short period, when its effects profoundly alter the status quo, up to the point where the revolution is implicitly or explicitly present in even the most divergent, mundane, and seemingly unrelated actions.

In line with the second assumption, we can state that the digital revolution (leaving aside the ideological implications for now) has already happened, and is likely still going on as we speak. We can observe digital technologies in all parts of our daily lives, and even those parts in which they are absent are often valued (positively or negatively) precisely in relation to their absence. For example, think of parents deciding to stop allowing smartphones at the dinner table in order to have better conversations with their children, the latter of which is subsequently hampered by the child's annoyance with having their phone taken away. In this example, the parents positively value the absence of smartphones whilst the child negatively values that same fact. Therefore, the situation devoid of digital technologies will result in a social dynamic (tense dinner conversation in this case) which is profoundly characterized by digital technology despite its physical absence. This sort of omnipresence that is independent of actual physical presence, or the constant implicit and at times explicit presence is, in this view, precisely what characterizes a successful revolution.

Therefore, in gauging the level of penetration, or success, of any revolution, one may wish to look at those spaces and situations where the effects of the given revolution are least apparent. For only if the revolution's effects can be felt in those places where you least expect them, can it be said to have been a true and successful revolution.

The ideological aspects of revolution, however, make this task more complicated. Returning to the first assumption, we must distinguish between expressed and enacted ideology. Since they do not necessarily coincide, the best way to uncover ideological positions is to observe the action of (coordinated) individuals. More precisely, the socio-technical assemblages that both mediate and are produced by action are of significant importance to the values expressed by- and through them. Therefore, a revolution may or may not be expressly ideological, but the socio-technical changes that accompany it will unavoidably have ideological repercussions, possibly stemming directly from the form of these changes, the new scope of action they brought about, or more likely, a mixture of both.

Now, when assessing what happened to the ideological promises of the digital revolution, one would, in line with the first assumption, need to identify the socio-technical changes it brought about, and the views that are implicit in them. If the ideological promises were an inherent part of the digital revolution, we should, along with the digital technologies themselves, be able to observe these ideological changes even in those places that are not obviously driven by these technologies. Here the plural is used quite intentionally, since the same technologies can be used for quite divergent ideological ends, and the idealistic stories told about technology in the early digital revolution were equally diverse.

Furthermore, it should also be noted that such diverse values could not possibly all come to fruition in a single uniform place. In order to observe such a diversity of (possibly contradictory views), one would need to either look at one or multiple heterotopias or spaces which are spatially and temporally distinct altogether.

It is therefore essential that the case selected to study this question has two main characteristics: First, it should be a heterotopia that allows sufficient freedom for developing divergent views independently whilst accommodating them all simultaneously. Second, it should not be primarily driven by technology, but nonetheless involve the construction of socio-technical ensembles that can be studied empirically.

5 Case Study: Almere Oosterwold

In the following section, the case will be presented in greater detail through the findings of the research steps described in section 4. Analyses of documents and online presence of relevant players will be presented along the previously developed theoretical lines. First, the case is described in general terms, looking at its background and inception to uncover the goals and inspirations of the project. After the stage has been set, the case will be discussed according to Ostrom's (2005) IAD framework, with the action arena of Oosterwold as the focal point. First, the initial exogenous variables will be discussed, mostly consisting of rules and interjurisdictional arrangements, after which we discuss various outcomes that resulted from the repeated feedback between the framework's holons as the area grows and experiences are gathered. The case study will be concluded with a discussion of the empirical findings in terms of the previously developed theoretical framework.

5.1 Pioneering in the Polder

Few situations illustrate the pioneering spirit as nicely as the case of Oosterwold, without the nasty connotation of displacing, subjugating, and eradicating (through disease or sheer violence) indigenous populations that the word has gained in the context of the colonization of the new world. Instead, this contemporary pioneering takes place on new land which was created during the middle 20th century by draining large sections of the inland sea in the centre of the Netherlands, which presently form the province of Flevoland, established in 1986. The nearly 1500 square kilometres of newly created land would serve primarily to open up new land for agricultural production, as well as to expand housing in proximity to the country's urban economic centre. The polder was waiting to be developed, requiring pioneers who would take on the task of designing and populating new cities, and work the new land.

The province's currently biggest and fastest-growing city, Almere, would have been the dream of many an urban planner: the vast amounts of new land were like a blank slate for a new city to be built upon from scratch. Teun Koolhaas, the head urban planner responsible for the design of the city articulates this feeling in an interview: "To me, the whole project of Almere was the realization of an ideal. In the past the nobility left the cities, founding estates. Now we (..) had the chance to lay out an estate for a quarter-million people" (Stassen et. al., 2001; p. 41). The drawing board would thus serve as the primary planning tool for his team, who designed the city in great detail accordingly, from the top-down.

Returning to the case of Oosterwold, its approach was a direct reaction to- and differed significantly in approach from the methods that until then dominated the development of Almere. Although a few experiments with different practices had taken place in the city and other parts of the country, a more radical approach would be tested on a larger scale than ever before. A large area of farmlands in the rural outskirts of the city would be developed in a fashion that starkly contrasts the top-down urban planning approaches that were primarily used in the development of the city to date. The details of this vision were first laid out in 2012 in a document produced by the Municipality of Almere in conjunction with other state and private actors (RRAAM, 2012). The document, a report of which the title translates to "Almere Oosterwold: Estate for Initiatives" contains three essays which explain the motivations and goals for the project. In the following section, the content of these essays will be discussed, serving as a reference for the official express ideological basis of the case.

5.1.1 Estate for Initiatives

Of the three essays included in the report, the first was written by Adri Duivesteijn, Dutch politician and at the time alderman of sustainable spatial development in Almere. The author of the second essay is Carolien Schippers, who represents and directs the state agency for real estate and development (RVOB – Rijksvastgoed- en Ontwikkelingsbedrijf at the time of publication, presently it is RVB – Rijksvastgoedbedrijf, and will be referred to as such) which manages public real estate and – more importantly in this case – assists in complex regional development projects which require the participation of multiple ministries and agencies. Third is Winy Maas, representing a contributing architecture firm, and professor of architecture and urban development. Together they formulate the main principles, motivations, and intellectual background for the development of Oosterwold, which are described below, providing the official express ideological basis of the project which may be referred back to later in the analysis. Please remember from section 2, however, that although we assume their views to have been articulated in good faith, the actual socio-technical arrangements that were subsequently made could differ significantly from those that are implied here due to various political, legal, and other practical complications.

Duivesteijn starts by recounting the short history of the city, explaining how its designers took inspiration Ebenezer Howard's garden city concept that was developed at the turn of the 20th century, advocating a polynuclear layout for cities in which the different clusters were separated by lush stretches of green and aquatic nature (Caves, 2005). Whilst expressing understanding for why even the smallest details were initially conceived on the drawing board and planned from above – "after all, there were not yet

any people to participate in the development of the city" (RRAAM, 2012; p. 12) – he laments the resulting lack of spontaneity in our modern cities. The exorbitant belief in this principle of manufacturability is thought to be the prime cause of this lack of the unexpected and fun in the city. Furthermore, he observes that the shift towards privatization that started in the previous century (one of the features of the NPM trend (Hood,1991)) has not changed this way of thinking. Instead, he posits, idealism has made place for profit maximization in urban development, resulting in a new, even less democratic form of top-down planning by project development firms.

The alderman contrasts this with another, earlier, history of urban planning, which Porta and Romice (2010) argue ought to inform contemporary urban planning practices. This historical form of planning, in which a (relatively loose) framework imposed by local authorities (say, the layout of road- and waterways) could be given content in a flexible, incremental, and organically developing manner through the myriad individual and collective decisions taken by the informally organized settlers of the neighbourhood or city in question. Porta and Romice (2010) argue that democratic urban development requires not only formal democratic institutions that set rules, but also that such rules should allow for the initiation of an informal process of continuous adaptation. This theory of democratic urban planning, which they call 'urban seeding' is given technical content through a set of spatial organization principles in their programme of 'plot-based urbanism'. This programme, for which they identify several recent and historical representative cases, is one in which the plot is the central design unit of urban planning, rather than larger structures such as the block or neighbourhood. Furthermore, besides other technical considerations of how plots relate to other components such as streets, the relatively small size of plots and allowing for their disjointed development are key prescriptions of plot-based urbanism.

Duivesteijn goes on to describe the ideological nature of our literal ways of living, that of how we organize our housing. He states that how we live is an articulation of the relation between the individual and society, and a prime stage for self-realization, self-confrontation and culture. A higher degree of self-determination (through plot-based urbanism and private commissioning in this case) could accordingly be an essential vehicle of empowerment. The aesthetic results of such a process, which are uncertain yet often more pleasing than its centrally-planned counterparts, are all but a "nice afterthought" to the policymaker (RRAAM, 2012; p. 17).

Finally, he describes mainly how the aspirations for Oosterwold are essentially heterotopic in both senses of the word. First, it is imagined to become a heterotopia which is internally diverse and perhaps even inconsistent, but nonetheless accommodates it all.

Second, it envisions a heterotopia in the sense that its approach breaks with the dominant form of planning at the time, except for a few smaller and less radical experiments with private commissioning in Almere and other parts of the Netherlands

The second essay is distinguished from the first in that it paints Oosterwold more as a practical innovation than an ideological one. In the essay, Schippers, views the project as a reaction to the concomitant crises of housing and finance that started unfolding in 2008. These crises caused the slowing down, or abandonment altogether, of construction projects which, due to the prevailing practices of urban development, resulted in the loss large sums of money in initial investments by commissioning parties. She argues that, in order to prevent a complete stagnation of the housing market, a less risky system of housing development should be formulated.

The RVB director suggests a five-pronged approach to what such a new system may look like. First, the land should be used (for agriculture in this case) until it has been sold and will be built upon with some certainty, to prevent the appearance of derelict, undeveloped plots that sit as scars on the face of many cities today. Second, urban planning legislation needs revision to accommodate a shorter and more flexible urban development cycle. Third, an adaptive, demand-driven approach can prevent the need for large initial investments that are at risk of loss when no developers can be found. Fourth, the focus should be on the end-users, who, through private commissioning, will be responsible not only for the development of their own plots but also for the character of the neighbourhood as a whole. Finally, the above aspirations are combined with one to develop urban agriculture practices that may shorten global supply chains (or cut them out entirely) and facilitate more conscious forms of consumption.

In conclusion, Schippers states that the case of Oosterwold is exciting for her agency, as it responds to a growing group of citizens who opt for a larger say in their housing, as well as the economic challenges of our times. Furthermore, the lessons learned from this experiment could be applied by her agency to foster a nation-wide effort of innovation in urban development practices.

In the final introductory essay, Maas again strikes a more ideological tone, starting from the assertion that the limited room for individual initiative in modern city planning is at odds with the values of individual liberty that are at the heart of liberal democracies like the Netherlands. Consequently, he suggests to scale up the principles of the few experiments in private commissioning of construction on plots with few building restrictions. Furthermore, where such experiments have previously been restricted to allowing the commissioning party to freely design their home, he suggests expanding the scope of this freedom to include the development of road- and waterways, energy supply,

and waste disposal. By allowing individual freedom in the context of incremental, plot-centred development, the architect and researcher claims it may become possible to develop a new part of the city collectively.

Not only does Maas believe this approach better fits the individualistic and consumer-oriented zeitgeist, he also sees Almere as the ideal place for a larger-scale experiment in private commissioning and self-determination. He relates back to the pioneering spirit described above, citing the city's history as a new development on newly reclaimed land, and how this allowed it to become a relative sanctuary for urban planning experiments in organic, privately commissioned, development. The scaling up of such experiments, both in size and scope, would have the following guiding principle: "you may do (almost) anything, but then you really must do (almost) everything yourself. This allows room for (almost) every possible initiative" (RRAAM, 2012; p.31). To "allow a degree of anarchy" (RRAAM, 2012; p. 32) would results in a rich diversity of the landscape, in terms of style and design of individual plots, but also in terms of the social and technical arrangements made at individual and collective levels for the delivery of essential services such as road access, energy supply, waste disposal and treatment, and public spaces.

He concludes by embracing the uncertain outcome of the project, asking whether the relative freedom of the new part of the city will exacerbate and magnify existing differences among its future inhabitants, or develop its own, unique identity as an autonomous, independent community. What Maas does deem certain, however, is that Oosterwold will be a diverse, experimental, and surprising addition to the various cores that already exist in Almere.

Table 5 - Summary of Ambitions

Adri Duivesteijn	Carolien Schippers	Winy Maas
democratization and **empowerment** through **self-determination** and **plot-based urbanism**	**economic stability** and **risk mitigation** through **demand-driven**, and **local production**	**diversity** and **re-aligning public values with urban planning practices** through **self-determination**

In summary, we may state that these plans are heterotopic in both senses that were discussed in the theoretical framework. First, it is a heterotopic imaginary, in that it strives to break with the isotopian urban planning arrangements. Second, the imaginary is of an

actual physical heterotopia that is qualitatively different from its surroundings, highly internally diverse, and open-ended. The additional fact that the above is framed as a practical experiment makes it consistent with the theoretical escape from the possibly inert condition of the moral realist in that it aspires to seek and test heterotopic imaginaries by means of an experiment in a physical heterotopia. To see how these ambitions were adapted to a development framework by the involved jurisdictions, we turn toward the following discussion of the project's formal arrangements.

5.2 The Sociomaterial Development of Oosterwold

Now that we have a picture of the general intentions and ideas that kickstarted the development of Oosterwold, we may look at the developmental process in more detail. The analysis of the development of the experiment so far will be structured along the lines of the IAD and its constituent holons (Ostrom, 2005). We first discuss the exogenous variables – the biophysical/material conditions, the community structure, and the rules – and subsequently discuss the action arena and the outcomes of its interactions. As Ostrom (2005) notes, the IAD is a framework, which, according to her distinction between frameworks, theories, and models, simply serves as a guide to identifying the relevant factors in an evolving institutional context. These factors are discussed in terms of the theory, which in our case tells us more specifically how we should view technologies as sociomaterial objects that co-develop with institutions through processes of structuration. Furthermore, the objective of this thesis to explore pluralist heterotopic strategies for the moral realist condition in the precarious times of today is to be kept in mind at all times. At the model level, we attempt to identify a few models that attempt to describe the contextualized practice of – to borrow the name of a recent documentary on the project – the players of Oosterwold.

5.2.1 Exogenous Variables: Material Conditions, Community, and Rules

To start with the external factors, although the biophysical conditions have already been discussed to some extent, and by extension, the community structure, they will be quickly restated here. As noted above, the initial biophysical conditions in Oosterwold are that of the polder; recently reclaimed land from an inland sea that is mostly owned by national or local governments and leased for agriculture. Some infrastructure was already in place, with roads and a highway going through the area, in addition to the water management infrastructure (ditches, canals, dykes, etc.), and a few wind turbines. Also, part of the initial and evolving (socio)material conditions is that of the available technology (partly discussed in section 3) and other resources (like money, time, and knowledge) the initiators may have. This, over time, began to include various websites and information

resources, but as these mostly emerged and changed as the group of initiators grew and started developing their plots and interacting with one another, these will be discussed together in the action arena, interactions, and outcomes holons.

Despite being newly reclaimed land, there is already an initial community structure, which was, however, to be due for drastic change. Some people, mostly farmers (around 40), already lived sparsely distributed in the area, including a hamlet of roughly 60 houses and adjoined businesses, which form the "cultural heritage" of the area (Gemeente Almere & Gemeente Zeewolde, 2013, p. 96). The initial community structure in the area is thus that of the original inhabitants, but would soon become significantly expanded and more complex with the arrival of the initiators, who could be residents from all over the Netherlands. A later poll showed that the majority – 56,8% – of the initiators came from the neighbouring city Almere, and the remainder from elsewhere in the Netherlands, mostly from other (relatively) nearby urban areas (Lekkerkerker, 2016). Although the shared values of the new community structure are potentially heterogenous, this and other polls show that most people value area's green, open, and rural character, as well as the aspirations to be environmentally sustainable and self-sufficient, and enjoy freedom in the development of a residence (levels of agreement with these values were between 83-95%, and 42-43% cited these as their main reasons for moving to Oosterwold) (Over Morgen & PAU, 2020).

The existing set of rules were that of the isotopy, with the specific area not differing significantly from other rural areas in the polder, and the city of Almere as the bastion of top-down urban planning and development that was the present-day standard in the Netherlands, albeit for the few small exceptions that inspired the large-scale experiment of Oosterwold. In the following section, we will discuss the rules that would serve as the initial framework for the development of the area, which, in contrast to the isotopia, merely defined and guided a process, rather than a highly specific, planned outcome. Note that in this section we mostly focus on the initial conditions of the exogenous variables, although relevant changes will, of course, be mentioned.

5.2.1.1 Interjurisdictional Arrangements – Rules

The above, dually heterotopic ambitions, initiated by Almere, had to be adapted into a formal framework that could be approved by the relevant jurisdictions. Do note that despite this being discussed as exogenous variables, it was undoubtedly the result of numerous individual structuration cycles and negotiations following the feedback cycles of the IAD. This nonetheless produced a set of rules, which to the first initiators were part of the initial condition. Although the rules, ambitions, and principles discussed below have not significantly changed as of the time of writing, their precise enactment and

interpretations have slightly shifted and been subject to controversy over the last years, which will be noted when required.

Although a start was already made in the document containing the above essays, the area that was planned to be developed as such falls under the jurisdiction of two municipalities, Almere and Zeewolde, and thus had to be approved by both. This resulted in the more formal 'Intermunicipal Structural Vision Oosterwold' (Gemeente Almere & Gemeente Zeewolde, 2013) that reiterates the ambitions, and lays out a set of rules that meet these ambitions. Although the document is foremost an agreement between the two municipalities, there are more organizations with jurisdiction over spatial development in some parts of the designated area. In addition to the municipalities of Almere and Zeewolde, the aforementioned RVB, the provincial government, and the regional water authorities form a subject-specific governmental council that periodically comes together to make decisions relating to the further development of the project, including setting land prices. Below, the contents of this document will be summarized, and unless otherwise stated, the below text is to be considered as a paraphrased translation of the above citation.

Reiterating the vision outlined in the first document, the intermunicipal agreement starts by sketching a future picture of a true heterotopia; Oosterwold has grown into a spacious, green, sustainable, and diverse part of the city with its own identity despite the sharp contrasts between residents, who have all responsibly leveraged the freedom granted by the state, or rather, by its relative distance. This picture follows the lines of six concrete ambitions that were already formulated in 'estate for initiatives', and are nearly identically copied and accepted intermunicipally; "1) Oosterwold offers maximum freedom to initiatives; 2) Oosterwold develops organically; 3) Oosterwold is a continuous green landscape; 4) Oosterwold's green pillar is urban agriculture; 5) Oosterwold is sustainable and self-reliant; 6) Oosterwold is financially stable" (Gemeente Almere & Gemeente Zeewolde, 2013, p. 20-22). As they elaborate on the individual ambitions, a seventh aspiration emerges quite clearly, paraphrased as; 7) Oosterwold is socially inclusive. This emerges through the repeated aspirations that initiation should be accessible to most income levels, including those under a modal income, and the expectations that initiators will also independently enact collective efforts.

These ambitions, in combination with existing public infrastructure and legislation, form the main limiting factors on this 'maximum freedom', which results in a minimum amount of restrictions which are in and of themselves quite strict. Here, the minimal conditions are laid out for the development of this area, which need to respect national regulations with regard to ecology, water management, archaeological heritage (which, despite it being reclaimed land, still exists from human activity on the inland sea, and

from before when it was an inhabited marshland), infrastructural pollution (think of noise and cast shadow from existing motorways, air traffic, and wind turbines), and traffic access, in addition to working with the existing infrastructure and their conditional change.

With such preconditions in place, they move to the more specific development strategies and principles, which flow directly from the six (or seven) aforementioned ambitions. The ten resulting principles are said to facilitate the organic development, rather than restrict it, and strive to balance individual and public interests whilst creating clarity for the involved parties (Gemeente Almere & Gemeente Zeewolde, 2013, p. 44-54). We first discuss the principles 1 and 2, which relate to the freedom of choice (or the degree thereof), of initiators. Second, we discuss principles 2 and 3, which regulate the availability and general layout of plots. Third, we discuss principles 5-7, which deal with specific spatial functions. Finally, we discuss principles 8-10, which relate to the sustainability of self-sufficiency and finances.

The first principle, ‘people make Oosterwold’, stresses the inclusivity of the potential initiating parties, which may be commercial, governmental, or private individuals. Initiators may choose with whom to collaborate on the development of a plot, which may happen individually or collectively. As discussed in more detail later, rules with regards to collective initiation were made more strict to require all end-users to be known at the moment of starting the application. The second, ‘free choice of plots’, defines the freedom of choice in plot location, size, and shape, which is aspired to be as great as possible, only constrained by the aforementioned preconditions, availability, and land price. The high degree of freedom in plot choice is expected to contribute significantly to the diversity of Oosterwold.

The third principle, ‘generic plot with set spatial distribution’, establishes a generic, predetermined functional distribution (20% construction, 6,5% pavement/roads, 20,5% green public space, 2% water, and 51% (urban) agriculture). Individual plots may vary from this, but should, in aggregate, display the above distribution. The fourth principle, ‘specific plots with specific spatial distribution’, regulates this variation in individual plots by establishing various kinds of plots, both standard and specific, which, depending on their kind, may have different functional distributions (for example, agricultural or landscape plots have higher proportions of (urban) agriculture or green public space, and urban core plots may have a higher proportion of buildings). The availability of specific plots depends on the particular chosen place, which depends on, for example, the presence of existing forests and natural corridors.

Principle five, ‘freedom and restrictions for building’, defines floor area ratios for different types of plots, with the goal of guaranteeing the green and open character of Oosterwold. Although a building permit is not required, and initiators can fill their ‘red plot’ (the proportion of the plot that can be built on) as they please, as long as it has the required floor area ratio, and conforms to national regulations on building safety. Principle six, ‘contribution to infrastructure’, establishes the responsibility of each initiative for road access to their plot and its water drainage. Although the municipality and other responsible jurisdictions continue to maintain the existing infrastructure, such as the general road access and water management of the area, the initiators are responsible for connecting their individual plots to existing infrastructure. This principle also establishes the responsibility of each initiative to guarantee the public ‘right of passage’ at the edges of their plot, which is intended to result in a permeable landscape for pedestrians or cyclists. The seventh principle, ‘Oosterwold is green’, aspires to guarantee the diversity of privately owned green functions, whether it is publicly accessible space, agriculture, or a private garden. A landscape plot is required to have a higher proportion of public green space.

With the eighth principle, ‘plots are predominantly self-sufficient’, the ambition for initiatives to be as independent as possible is articulated. This places the responsibility for water management, waste-water treatment, and energy supply with initiators, and may be arranged both individually and collectively. Initiatives are also responsible for compliance with environmental and health regulations in the execution of these functions. Initiators are also encouraged to generate their own electricity, as sustainably as possible. The ninth principle, ‘every plot development is financially sustainable’ establishes the aspiration for initiatives to be as financially independent as possible, even though some might be eligible for subsidies (as with the landscape plot). The tenth and final principle, ‘public investments follow’, determines that, in contrast to standard development practices, public amenities will follow the development of the area. This means that things like public schools, transport, or other public investments will only be made once there are sufficient people living in Oosterwold, and it has already yielded public revenue. This principle is limited to some extent by the obligations of local governments established by national law and was intended to allow the continued development of housing without creating a high financial burden on the municipality in times of economic crisis.

Finally, the report concludes with some practical considerations about the enactment and realization of these principles and aspirations. It first discusses some legal obligations and task divisions between the government and the initiator. Furthermore, it introduces the role of the regional director (*gebiedsregisseur*). This official position is essentially a representative of the government towards the initiators, serving as their first point of

contact, provides information, coordinates between parties, and is both responsible for approving and helping with the applications for the required permits. This person would not be a director in the sense that they exert direct control, but rather serves a facilitating and coordinating function. The regional director's office, the 'regional team Oosterwold' (or *Gebiedsteam Oosterwold*), is responsible for guiding potential initiators through the application process, and their eventual acceptance. The regional team operates a website under the name 'Maak Oosterwold'[1], meaning 'Make Oosterwold', that provides the necessary information on this process. The website itself will be discussed later, as we first describe this process to complete the rule section (Handboek Oosterwold, 2020).

After filling out an intake form, where one already indicates the desired size of their plot, applicants enter a waiting list, and are subsequently invited to an information session, where they, together with other potential initiators are informed by the regional team about the development of ideas and plans in Oosterwold. Applicants are given a couple of months to develop their plans further and are invited once again to a 'dots meeting', where they can place a dot on the map that marks the location of their initiative. Placing a dot marks the official start of the process of taking initiative in Oosterwold, and maps are periodically published that show the dots of all (planned) initiatives up to that date. Within a month after placing a dot, a declaration of intent is signed by the regional team and applicant, which precisely determines the location, shape, road access, and current price of their desired plot, forming the basis for further development. After this, applicants need to submit a development plan in which they demonstrate the planned layout of functions on their plot, a planning, and the financing, which is to be approved by the regional team, which tests for feasibility and compliance with the established rules for Oosterwold, in addition to national regulations. When approved, it forms the basis for the anterior agreement, in which the final land price and development plans are officially established and set, and needs to be signed within two months of the intention agreement. At this stage, the initiators have a year to have the necessary research conducted to obtain the required environmental permits, after which they may proceed to arrange the purchase of the land, and subsequently start physically developing their initiative.

5.2.2 The Action Arena: Participants, Interactions, and Outcomes

In the previous sections, I mostly discussed the formal ambitions and arrangements, showing how the (evolving) exogenous variables form the initial conditions for the Oosterwold experiment and its participants. This resulted in an institutional, rule-based framework and developmental plan for Oosterwold that chose to be process- rather than result-oriented. We may now move to what this process has resulted in, by looking at the

[1] www.maakoosterwold.nl

action arena, and the outcomes of the interactions between its participants that have emerged during the early years of the experiment. In analysing the action arena, we also take into account the structuration processes described in section 2, which complement the IAD by having a view more focused on the individual (participants) and their internalization of external structures (exogenous factors). Before moving on to the outcomes of interactions, it may serve well to first discuss in a bit more detail the participants that comprise the action arena.

The municipalities of Almere and Zeewolde have collaborated with other regional authorities (discussed in the previous section) to set up the structural vision, subsequent development plan, continue to evaluate outcomes and update enforcement measures and land prices. This category of participants also includes the regional team and -director. Second, we have the present and future residents, which can generally be assumed to be initiators, but this is not necessarily the case, as the initiator of a collective initiative may also be a commercial entity or non-resident. Third-party actors are the third kind of participant, which, as mentioned before, can be initiators, but may also be contractors. This category of participants includes architectural firms or project developers, construction firms, engineers, consultants, and researchers.

By looking at the online presence of initiators and other participants, such as government websites, individual blogs/reports, official evaluations, and other websites of participants, a preliminary picture emerges of the initiators' challenges and achievements during the first couple years of the experiment. We shall see that a collaborative, participative, and diverse environment is already taking shape, observe early indicators of the success of various of the above principles and aspirations, as well as various models by which individual and collective initiatives renegotiate their position with regards to both the government and the isotopian method of urban development. Special attention will be paid to the manner in which technology is appropriated by participants and the ideological implications of the various combinations of social and technical arrangements that were made by initiatives to develop their plots and the broader commons of the neighbourhood. We start by looking at the way information is gathered and shared, followed by the recurring theme of renegotiating established practices, describe three distinct models of initiative development that can be observed, and look at other relevant outcomes that were measured by various consultancies. The case study is concluded with a reflection on the use of new technological affordances, and the representation or emergence of insurgent ideologies, in relation to the developments discussed in section 3.

5.2.2.1 Gathering and Sharing Information

The freedom for initiators to take the lead in the development of their plots has resulted in many responsibilities that the inhabitants of most other neighbourhoods do not need to worry about (as it has all been taken care of already by the government and project developer). It is, therefore, quite a substantial task, especially for individual initiators, to go through the whole application process, plan one's initiative, and arrange all the ecological and archaeological research to obtain the environmental permits, before they can even start building. High-quality information on this complicated process is, therefore, a key factor in facilitating the successful development of initiatives, as the accurate internalization of the external structures (especially information on rules and community structure in this case), and their skilful appropriation (especially technology in this case), are instrumental in successfully guiding the action of participants.

The official source of information (mainly on rules) is the aforementioned website of the regional team, 'Maak Oosterwold', but the information was more dispersed as other involved governments also had parts of their website dedicated to Oosterwold. The official websites, in addition to the informative function of formal and informal in-person meetings, and other informal information sources soon emerged as well in the form of individual blogs/websites[2], an online forum[3], a private Facebook group, chat groups, private forums, and informal direct communication, were all indicated in a 2016 evaluation to have been of much help (Lekkerkerker, 2016). For example, 81% indicated to have used the regional team website, 65% used other initiators' websites (especially the blog of the late Frank Meijers, oosterwold.wordpress.com, is perceived to be very helpful), 61-66% indicated to have gotten information from informal and formal meetings, respectively, and around half made use of the Facebook group, the forum, and direct contact with the regional team (Lekkerkerker, 2016, p. 29/123-124). These information sources function both according to the one-to-many model – as with the government- and individually maintained websites and blogs – and the many-to-many model – as with the Facebook group and forum.

Despite the wealth of information sources, the survey of the same evaluative report also concluded that the official information sources could be integrated and improved, especially with regards to the steps that need to be taken up to the point of land purchase (Lekkerkerker, 2016). This eventually led to the development of 'Handboek Oosterwold,'[4] which was added as a supplement to the regional team website in May 2019

[2] i.e. oosterwold.wordpress.com; www.paradijsvogelbosje.nl; www.tjalfbloem.nl; www.hetrodehoekje.nl; polderwoon.wordpress.com

[3] www.forumoosterwold.nl; The website is currently offline, but the front page can be found on www.archive.org

[4] handboek.maakoosterwold.nl

(Maak Oosterwold, 2019). The handbook is a step-by-step online guide containing all the relevant information for initiators in Oosterwold but can be followed by anyone who signs up to make an account. Even though this is not linked to the national digital identity of Dutch residents, interviewees did indicate that the need to sign up raised privacy concerns for some, and claimed this was generally seen as an unnecessary obstacle.

To conclude the discussion of the government website, as the only visible, electronic government (e-government) component that is directly related to the Oosterwold project, we can briefly (and partially) evaluate is using Layne and Lee's (2001) four-stage e-government development model (naturally, the involved governments may have other indirectly related e-government practices at the front and back ends, but these are out of scope). The Layne and Lee (2001) model allows ranking e-government development linearly along two axes: organizational and technological complexity on the one hand, and the level of integration with other e-government services on the other.

The website mainly serves as a one-to-many information portal, and is not integrated with the national e-government services such as digital identity, nor does it support any transactions beyond providing electronic contact details and forms. As such, integration with other e-government systems is virtually absent (besides linking to other online information sources), and it has a low level of technological and organizational complexity. Considered as an e-government project, it places the Oosterwold experiment in the lowest, 'catalogue,' tier of e-government development (Layne & Lee, 2001). However, the project of Oosterwold as a whole is quite complex organizationally, even embracing complexity in the development process, and was furthermore never intended as an e-government project. Hence, this is by no means a complete evaluation of the website, let alone the whole experiment. The fact that the website is oriented mainly to information provision may even be conducive to the goal of having a low barrier to contact the regional team and director, who are encouraged to have personal contact with initiators and be involved with the community to foster their coordinating role. In accordance with this, many transactions in the application process, as well as subsequent interaction, are done in person, as the website shows neatly. With the ongoing pandemic, however, more meetings are now done through teleconferencing apps.

With regards to the non-governmental one-way information transfer, we have seen that the blogs and websites of initiators who stepped in early in the process have been of great help to many that followed. The many-to-many communication on forums and Facebook, however, has mixed perceptions. Information can be contradictory, misleading, wrong, or provocative, as noted by a detailed personal account and the aforementioned evaluation (Fröger, 2018; Lekkerkerker, 2016). This is consistent with the common perception of

fake news on social media, which is challenging to mitigate even on private, moderated groups like those of Oosterwold, and perhaps explains why only half of the people cite the Facebook group as a useful source of information. There are, however, more restricted online portals for smaller groups of participants centred around cooperatives, foundations, or living communities, which are more easily moderated as its users are often known personally, and cannot be used with a pseudonym, as is possible on the Facebook group (Fröger, 2018). Furthermore, group chats, often using WhatsApp, are also used among groups of neighbours to exchange information or warn of calamities (Fröger, 2018). Overall, though, despite the lack of easily accessible and high-quality information on some many-to-many platforms, they are nonetheless useful places where people can ask for help, share experiences, and connect with their (future) neighbours.

Here, given the different qualities of the various ways of sharing information online, a functional distribution between platforms can be observed and can be expected to continue in the future. Where the government websites, reputable blogs, and the more easily-moderated forums can be used as high-quality information sources, fulfilling mainly an informing function, the more informal and difficult-to-moderate platforms can continue to serve a socializing function, but should not be relied upon for important information.

5.2.2.2 Renegotiations: Participation, Representation, and Intermediation

A theme that was present from the first inception of the project in ‘estate for initiatives’ is that of a reinvention of the relation between government and citizen, and more specifically a reinvention of the role of the citizen in the urban development process. The development of Oosterwold was supposed to be demand-driven, participatory, surprising, and diverse (RRAAM, 2012). Evaluations and online personal accounts confirm that this is resulting in the changing relation between the state, the citizen-initiator, and the project developer, both through a renegotiation of respective responsibilities, but also simply through the fact that such negotiations are possible. Below these renegotiations are discussed, first those surrounding the role of project developers, and second those of respective responsibilities of the state and the citizen.

As mentioned before, the inspiration for the project, as discussed in section 5.1, was partly due to the perceived negative effect on the character of the city as a result of top-down planning by project developers. By demand-driven development with strong involvement of the end-user, a diverse and high-quality neighbourhood would emerge. And although the rules never explicitly forbade collective initiation with a project developer as an intermediary (henceforth referred to as intermediary initiation), the involvement of project developers is cautiously dissuaded, evidenced by the aforementioned later

addition of restrictions on the number of end-users that needed to be known before the application could start. This rule, first set to require 75% of end-users to be known, was intended to prevent the enclosure of large plots by project developers, risking a lack of involvement of the end-user, which was the precise goal of the experiment (Lekkerkerker, 2016). Not restricting the practices of project developers would also come with the risk of having monotonous neighbourhoods developed within Oosterwold that potentially remain vacant for long periods.

The evaluation concludes that although it is too early to judge the effect of intermediary initiation on the involvement of end-users, diversity, or quality, different views exist among respondents and that the rules- and official standpoint on this matter are not sufficiently clear (Lekkerkerker, 2016). For example, the report indicates that respondents speak of desirable and undesirable intermediary initiation, which indicates that there are particular views on what the desired role of project developers is, but that these are not sufficiently explicit in the rules (Lekkerkerker, 2016). Subsequently, the rules with regards to collective and intermediary initiation were again restricted further, requiring all end-users to be known, limiting turnover during the application process to 50%, and also placing requirements on the attendance of end-users to information sessions (Handboek Oosterwold, 2020).

These restrictions and more particular rule specifications have the unique goal of maintaining the involvement of end-users in the development of Oosterwold. Not to push out project developers, but rather requiring them to be more engaged with their end-users. This seems to contribute to the goal of having end-user driven urban development and preventing undue enclosure, although it is still early to say what this means for the overall quality and diversity of the initiative. It also fosters the heterotopic character of Oosterwold, as the isotopy of project developer/supply- driven urban development is explicitly subverted. Moreover, true to the pluralist spirit, it does not attempt to eliminate these isotopian actors; it merely changes the way they approach project development to be driven by its eventual users. This expands the options for end-users to be heard in the development of their living environment, and, by choosing for intermediation by project developers on an opt-in basis, it is up to the end-users whether they wish to reproduce the isotopy or truly have things done differently.

Moving on from the renegotiation of the project developer's role in Oosterwold, we turn to the renegotiation of the role with the state itself. This is perhaps the most contentious subject in the experiment, as opinions vary widely, yet luckily the heterotopic character of Oosterwold allows for the simultaneous accommodation of various models of relating to the (local) government. Emblematic of this process is the account shared on one of the

aforementioned initiator's websites of the desire to develop their residence in collaboration with the municipality, rather than having the plans made for you. Or, paraphrasing and citing the Lekkerkerker (2016, p. 5) evaluation, the freedom and responsibility given to initiators now pose the question of how much responsibility is given; "how far does the participative democracy reach, and where does the representative democracy begin?"

This dynamic is most prevalent given the responsibilities of initiators to realize key infrastructures such as roads and other utilities such as gas, water, electricity, and waste management. The heterogeneous attitudes toward this responsibility are apparent from both the 2016 and 2020 surveys. When asked to evaluate these responsibilities, there was a significant spread between negative, neutral, and positive responses, with most having a neutral attitude (Lekkerkerker, 2016). Furthermore, when asked which utilities should be provided by the government, a majority of respondents indicated that utilities like schools and sports facilities should be provided by the government (65%), as well as public roads (62%) (note that many roads in the area are private) (Over Morgen & PAU, 2020). In addition, a majority of 60% agreed that the municipal provision of such goods should go in hand with less influence, and 58% agreed that this could also be reflected in a higher land price (Over Morgen & PAU, 2020).

How these responsibilities are carried is furthermore reflected in the manner of organization of those public utilities that are typically provided by the municipality, often using public-private partnerships (PPP). The following figures relating to the realization of such utilities are taken from the Lekkerkerker (2016) survey. The supply of drinking water, for example, is generally (90%) done with a direct connection to the same company that provides water to the surrounding area, but often complemented with the re-use of grey water (23%) or (purified) rainwater (26%). We see a similar trend of, what we may call instead, 'private-private partnerships', in the energy supply. Although a vast majority (94%) makes use of solar panels, few seem to be completely self-sufficient in this respect, as 73% of respondents were still connected to the privately managed electricity network of the area. Whilst the connection to the existing nearby sewage system may in some cases be realized, most plots are too far away for this to be financially feasible. A vast majority of 93% has opted for helophyte filters, with some supplementing this with- or entirely relying on other options such as septic tanks. Finally, garbage disposal was, especially in the first years quite an issue, as the municipality no longer automatically provided this service. In the first years, there was much unclarity over how this could be arranged, but initiators founded working groups to nonetheless take responsibility to find ways to deal with the garbage collectively (Lekkerkerker, 2016). As noted on the general (informal) resident association website, there was a long process of asking offers of both

private and public garbage disposal services, but eventually, an arrangement was made directly with the municipal garbage service, who had the best offer given their subsidized status (Platform Oosterwold, 2020)

The above indicates that, although commonalities exist, and some collective arrangements (like garbage disposal) are made, there is still significant freedom for making one's own arrangements. This can be expected to result in a heterogeneous landscape of arrangements, some strive for true self-sufficiency, most others have a backup, or entirely rely on a direct arrangement with the private water or energy supplier. Some take initiative individually, design and build their own homes, gathering all necessary information online, or consult with specialists, others contract this out to architects and construction firms. Some take initiative collectively, independently as a group, with advisors, with contractors, or mediated by a project developer. As such, each initiative will have to consider for itself how it will be realized, and given the variety of preferences and goals, it is to be expected that this repeated process of renegotiation will result in a diverse set of arrangements, with varying levels of freedom, responsibility, independence, sustainability, and self-sufficiency.

5.2.2.3 Individuals and Collectives: Three Models

When exploring Oosterwold, both in-person and online, the wealth and diversity of initiatives seem too great to characterize and categorize neatly. However, three models of initiation can be identified that are distinguished most apparently by the number of people involved and their intentionality in terms of specific shared values. The first is named *Individual Initiative (II)*, and in accordance with the name, it is simply that, and individual or single family that buys one plot for their house. There are two kinds of collective initiation; the *Intentional Community* (IC) and the *Planned Community* (PC), distinguished by the former's greater focus on developing a community with shared values or characteristics that exceed (and generally include) those of Oosterwold itself, and the latter's greater focus on intermediary initiation. It should be noted that these models may overlap, given some existing boundary cases, and looking at them as a Venn diagram potentially also hint at possible other types that may not yet exist or were sadly overlooked in the research. Furthermore, the characterization in terms of three models should by no means be interpreted as suggesting any homogeneity besides the above factors that distinguish these models, thus taking into account that initiatives that fit the same model may still differ significantly in other respects.

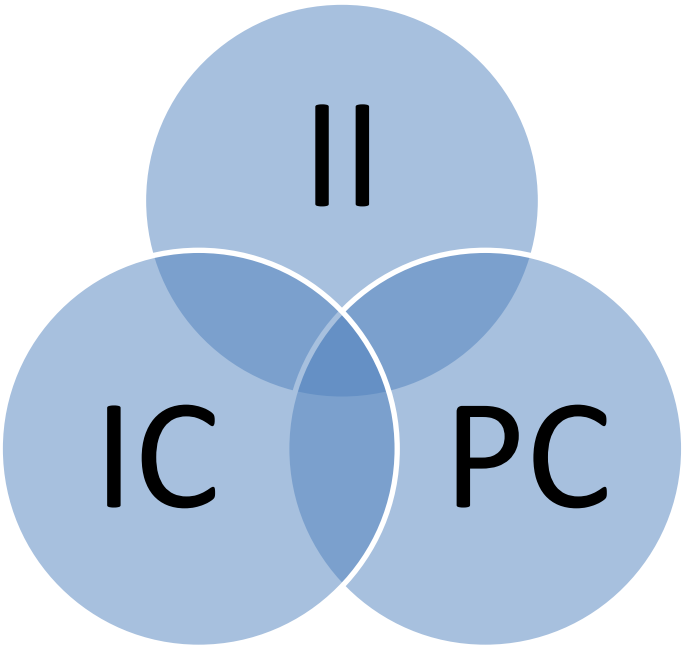

Figure 4 - Three Models of Initiation

Individual initiatives, as mentioned before, are distinguished by the few people involved in the initiative; think of families, couples, friends, or single individuals planning to build a home in Oosterwold. Besides the small number of end-users, and of course, their general affinity with a project like Oosterwold, the personal accounts in online blogs indicate there are no apparent factors that contribute to any further homogeneity in this group[5]. The reasons for this affinity may vary, while most would have considered pragmatic factors like land price, (green) space, and the relatively few building restrictions, others might also see much appeal in the renegotiative and heterotopian character of Oosterwold They may display different levels of independence, with some outsourcing most of the planning and construction work to professionals, others doing everything by themselves, and most probably opting for any of the intermediary options. Although the image that is given by only looking at those who created a website may be significantly skewed, those running blogs often indicate to be comfortable and capable of using technology in a relatively sophisticated manner.

The first kind of collective initiation is that of the intentional community, consisting of relatively large numbers of people for whom the driving factor of initiation was the founding of a community with shared values beyond the official ambitions. The emphasis on these shared values is variable, and may even be less shared values than other shared characteristics like culture or age. Judging from the online presence of collective initiatives, several intentional communities exist, and more may be present that do not

[5] oosterwold.wordpress.com; polderwoon.wordpress.com; www.hetrodehoekje.nl; www.paradijsvogelbosje.nl; www.indefruitboomgaard.nl

run a website[6]. The two websites listed below are examples that neatly fit this model, but many boundary cases exist as well, as discussed below. The first is a community of a handful of families who share a philosophy of raising children, based on the ideas of nonviolent communication, and the continuum concept, a parenting philosophy developed by Jean Liedloff (1985). The second is initiated by an internationally operating naturists' association, seeking to found a living community that is accepting of nudity. Both of these initiatives do not make use of project developers, but rather opt for end-user driven development, possibly contracting out more specialized tasks.

Finally, we have the second form of collective initiatives, the planned community, which is characterized by the intermediary initiation by a project developer. This model seems to be quite prevalent, both judging from the small pockets of identical or stylistically similar houses that can be observed in the field, and the many websites of such initiatives that are run by project developers[7]. Such initiatives may of course, to varying degrees also have aspects of intentional communities, sometimes citing aspirations of living 'in harmony with nature and each other' as in the initiative of the first link below, but these generally do not ascribe the same level of primacy to shared values as in the previously mentioned intentional communities. One particularly interesting case, although intensively planned, is that of ReGen Villages, a high-tech sustainable and self-sufficient neighbourhood concept, which has already completed the application process[8] (Lekkerkerker, 2016; Bosschaert, 2018).

Although we have already seen an example of a boundary case between the intentional and planned communities, examples exist of boundary cases between individual initiatives and planned communities as well, and the boundary between individual initiatives and intentional communities, despite the lack of clear examples, can also be imagined. The boundary between individual initiatives and planned communities is exemplified by the activities of the same firm responsible for the tiny house farm linked to above[9]. This company, besides serving as an intermediator for collective initiatives, also offers their services to individual initiatives, helping with the arrangements needed for the application and delivering designs. Given that they offer both standard and individualized designs, we can imagine the emergence of a planned community of individual initiatives that have all been developed by this firm, with greater or lesser shared aesthetics.

[6] www.giraffendorp.nl; www.natu-eco.nl
[7] www.eemgoed.nl; www.ecodorp-bolderburen.nl; www.tinyhouseoosterwold.nl;
[8] www.regenvillages.com
[9] www.woneninoosterwold.nl

The final boundary case of individual initiative and intentional community does not have a concrete example with its own website, but when imagined how they might emerge, this is not surprising. This hybrid form may emerge when various individual initiatives form a community within Oosterwold based on a number of shared values or characteristics, possibly attracting new initiators who share such values. Unless they form an official association, and not simply stay in touch personally or in a group chat, private forum or Facebook group, it is unlikely that such hybrid intentional communities of individuals living in different parts of Oosterwold will develop a publicly visible online presence.

5.2.2.4 Other Outcomes

To conclude the current outcomes of the structurational processes of institutional development in Oosterwold, some final examples of collaborative efforts that have thus far emerged in the experiment will be discussed. Various organizations with diverging purposes can already be observed, from highly localized formal representation systems to more general informal platforms for discussion and coordination, and function-specific organizations such as cooperatives and foundations. Although, given that almost a thousand initiatives are already taking place (Maak Oosterwold, 2020b), it will be impossible to discuss each of the plethora of cooperative or commercial entities, as well as the variety of foundations and non-profits that are active here.

First are the localized, formal associations for managing matters related to neighbours on the same (part of a) road, ‘kavelwegverenigingen’, literally translated as ‘plot-road-associations’. Various models exist, with different degrees of commitment and coordination, yet generally, these associations deal with matters of collective interest at the most local level (Lekkerkerker, 2016). For example, these associations were the source of the aforementioned working groups that, in the early years, coordinated to arrange garbage disposal (Lekkerkerker, 2016). Their most common function, however, is to collectively arrange road access, or pavement, to clusters of plots (Lekkerkerker, 2016). Roads are, however, not always collectively arranged, as for example one of the interviewees moved in before his future neighbours were known, thus had to individually arrange to get the access road paved, and subsequently work out disagreements through the association after the new neighbours became known. As mentioned in the Lekkerkerker (2016) evaluation, more examples of this exist and may lead to the disproportionate influence of early initiators, who may in practice inadvertently decide the more general layout of plots and access roads where they first move in.

On the more informal side, and general to Oosterwold as a whole, or even beyond, we see, based on online presence[10], several kinds of organizations. A general neighbourhood association has been founded, 'Platform Oosterwold', which, as the name indicates, aspires to be a platform for cooperation and coordination between initiators and other parties like the municipality and regional team. Although this is not (yet) a formal representative and intermediary organ, it has already facilitated many discussions and created working groups for various issues of collective interest (Platform Oosterwold, 2020). Furthermore, there are many events and organizations that facilitate the exchange of topic-specific information, most notably on the topic of urban agriculture. For example, there are yearly events for sharing and showcasing urban farming techniques, which take place at an urban farm that will also start offering housing soon (apartments and detached houses) [11]. Finally, there are also more permanent platforms for the exchange of information and skills relating to urban farming, as for example the two local branches of external foundations for ecological farming and food forestry of the latter two links[10].

The collaborative aspect of the developing community is further evidenced by surveys, which confirm generally positive attitudes towards the cooperation among initiators. Where 50% said to have regular contact with other initiators, and indicating sporadic or intensive contact were groups of 20% of respondents (Lekkerkerker, 2016). Furthermore, an overwhelming majority of 70% valued it (very) positively, 18% neutrally, with the remainder, except for 1% negative valuations, put not applicable (Lekkerkerker, 2016). In addition, another, more recent survey (Over Morgen and PAU, 2020), found that 88% agreed that initiators help one another to realize their plans, and 70% agreed that initiators took responsibility for realizing the goals of urban agriculture and collective realization of access roads.

5.2.3 The Sociomaterial Structuration of Heterotopian Experimentation

Above the empirical aspects of Oosterwold have been discussed; official documents, surveys, evaluations, personal accounts and online presence of initiatives and related organizations were described and analysed. Although some connections with the theoretical framework of sections 2 and 3 may have become apparent already, the case study will be concluded below by analysing what the above findings mean in terms of these theories of sociomateriality – the interwoven structuration cycles of technology, institutions, and ideology.

[10] www.platformoosterwold.nl; www.oosterwoldontkiemt.nl; www.oogsterwold.nl; www.voedselbosbouw.org
[11] www.vliervelden.nl

First, the representation of these theoretical dynamics in the empirical findings are briefly highlighted. Second, I continue by discussing the dually heterotopian nature of Oosterwold: the initial, heterotopian ideological imaginaries of the Oosterwold experiment, their aspirations to create a physical heterotopia, arguing that it indeed displays the characteristics of a heterotopian experiment. And finally, we return to the questions that began and concluded the theoretical framework; how, given the empirical reality and morality of pluralism, and given the recent expansion and rapid development of technological affordances, can the moral realist escape their potentially inert predicament to pursue ideological progress?

To demonstrate the structurational nature of the case, we have seen that such feedback processes between technology, institutions, and possibly ideology can be observed in the empirical findings discussed above. It is seen that the conjuncurally-specific external structures (institutions, rules, community, and technology) are internalized and reacted to in accordance with the participants' available skills and dispositions, leading to outcomes that subsequently become the new external structures (table 2; figure 2).

We can take a few empirical examples of such processes in Oosterwold from the above discussion of empirical findings. First, these cycles are apparent from the participants' information management practices (section 5.2.2.1), with initiators reacting to the lack or insufficiency of a unified official information source by sharing such information themselves through online forums, blogs, websites, and social media, which was subsequently mitigated by the enhancement and integration of information by the regional team into a digital handbook. Second, these dynamics are readily apparent from the negotiations surrounding the role of project developers, and the various ways in which individuals, dependant on their personal dispositions, renegotiate their freedoms and responsibilities in relation to the government and utility companies (section 5.2.2.2). Third, this can be observed from the three models of initiation, where, depending on the end-user's dispositions, and the relation thereof to the external structures of isotopy and the heterotopian rules of Oosterwold, various (combinations of) models of initiation can be chosen for that satisfy the conjunctural desires and possibilities of the end-user (section 5.2.2.3).

The intentions, arrangements, and outcomes discussed in this section reveal a true heterotopia that is distinct from-, yet nonetheless embedded in isotopy, internally heterogeneous, and facilitating the search for- and development of alternatives. We can conclude from this that the initial framing of the action arena (Oosterwold itself) as a heterotopian experiment, at first by formal rules and ambitions of local governments, which are subsequently reinforced and renegotiated by other participants, plays a vital

role in steering subsequent structuration cycles toward an actual, physical heterotopia. Below, three of the main aspects of such heterotopian experiments are discussed using the above empirical findings.

First of all, it is distinguished from isotopy in three ways; it breaks with the established urban development practices by being end-user driven, it displays relatively far-reaching freedom and responsibility for initiators, in addition to the aspirations of sustainability and self-sufficiency that are evidently, yet regrettably, not sufficiently present in isotopy. Second, it is highly internally diverse and even contradictory, with many models of initiative development and utility provision, different levels of end-user responsibility and independence of intermediaries and government have emerged already. Case in point are the three models of initiation (section 5.2.2.3). Third, its functions strongly relate to their surroundings, shown by the large proportion of initiatives that are still connected to the regular water and electricity networks and the collective arrangement with the municipal garbage service (section 5.2.2.2). In addition, Oosterwold is further functionally related to isotopy, given the fact that the whole project was a reaction to the external forces of the housing crisis and the growing perception that supply-driven urban development was leading to unsurprising and monotonous urban landscapes (section 5.1).

Finally, to conclude the case study, the questions of the moral realist predicament that sandwiched the theoretical framework will now be revisited. With moral realism emerging immediately from Berlin's (1990) arguments, which was both contextualized and problematized with recent theoretical, technological, and ideological developments, I concluded with a potential answer to this question that cited the potential of heterotopian experimentation to test and even develop new insurgent ideologies. Hence, this case study is concluded by asking what happened to the insurgents; whether we can confirm the hypotheses that existing or entirely novel insurgents would be empirically tested or developed in the experimental heterotopia of Oosterwold

Given its heterotopian aspirations and outcomes, the experiment of Oosterwold is inherently ideological in that it aims to find alternatives to- and reinvent the isotopian ideology, albeit only in the space of urban development. The first apparent ideological developments in the Oosterwold action arena are the renegotiations of freedom and responsibility of initiators vis-à-vis the municipality. Whilst the outcomes of these negotiations are too varied to summarize succinctly, and moreover still ongoing in this early stage of the experiment, the fact that the relationship between citizens and governments is renegotiated makes the project inherently ideological. In terms of the three models of initiation (figure 4), the most ideologically heterotopian in nature is that of the intentional community, followed by individual initiation, and finally the planned

community. Even though initiatives of each model may display significant normative differences, given the rules of the experiment, even the planned community model in Oosterwold differs significantly from isotopian planned neighbourhoods in that developers are required to involve end-users, or at the very least know who they will be.

Furthermore, none of the insurgent ideologies that leverage new technological affordances discussed in section 3 seem to have had any clear influence on Oosterwold. However, the products of the ideology of netarchical capitalism, which also make use of many new affordances, are clearly represented, which is testament to the incumbent status of this ideology, as well as the practical use-value of its products. This may lead to the possibly premature conclusion that the insurgents' revolutions have failed. This conclusion would be premature, however, since it is difficult to say whether the lack of representation of the new insurgents in Oosterwold is due to their products' lack of practical value and resulting failure or stagnation of their revolutions, the lack of skills to apply them, or simply that people are not aware of them.

Especially the first two explanations seem quite unlikely, since both distributed capitalism and cosmolocalism seem to offer practical arrangements that may actually be of value to Oosterwold. The former, for example, through the creation of local currencies that may stimulate the local economy (i.e. Shaw, 2018; Dittmer, 2013)), and the latter through the creation of a 'maker space' or community workshop in which initiators could build for example agricultural tools, or even entire houses, using the designs of the peer-produced digital commons (i.e. Giotitsas, 2019; Priavolou & Niaros, 2019). The lack of skills of the initiators also seems unlikely, as they have demonstrated a proactive, hands-on attitude, and obviously do not shy away from using digital tools. It is therefore still too early to say anything about both the insurgents' value, and their application in Oosterwold. While the peaceful promotion, dissemination, and further development of these insurgent ideologies and their products and methods may be warranted, keeping an eye on the future developments in projects like Oosterwold may nonetheless be justified, as it is in such places where we may observe early indicators of the success of their revolutions.

Despite the experiment being in too early a stage to evaluate the revolutions of the existing insurgents, or identify any coherent new potential insurgent, except perhaps the principles of Oosterwold as a whole, the facts are that the citizen-state relationship is changing and that end-users may choose to realize their homes in a variety of ways that all differ from isotopy. These empirical realities may justify the continued monitoring of developments in Oosterwold, or other experiments like it. Since their continued development, and eventual future stabilization may reveal how such heterotopian experiments (in

participatory urban development in this case), develop new modes of organization or apply existing insurgent ideologies, both of which potentially challenge, subvert, and hopefully improve upon the ethics of isotopy.

6 Discussion

Here the implications of the research, as well as its possible limitations and their pointers to future research directions will be discussed. The implications of this thesis are both theoretical and practical, attempting to apply and combine theoretical concepts to analyse and possibly direct strategies for ideological progress. A few limitations exist, mostly with regards to the availability of empirical data at the early and rapidly evolving stage of development that the case study currently finds itself in. These limitations, however, do point at possible future directions for research, which may provide useful insights in the further development of pluralist and moral realist strategies for ideological progress.

The theoretical contribution of this dissertation lies in the application and combination of theories and concepts to a novel subject which is arguably of significant relevance to our contemporary, increasingly precarious social, political, and economic condition. Although most of the theories and subjects were already connected before in one way or another (which I attempted to show throughout the theoretical framework to demonstrate construct validity), the precise combinations and interpretations of theories and concepts have, to my knowledge, not yet been made. As such, the dissertation combines theories of sociomateriality, institutional and technological structuration, and the IAD framework to study current ideological developments, and better understand the predicament of moral realists in this context.

Another theoretical and empirical contribution in this regard is perhaps the identification of an increasingly common ideological position (moral realism) that is often articulated or implied but rarely explicitly named, raising concerns as to its possible inclination to idleness, in addition to an attempt at overcoming these concerns by formulating – and exploring empirically – a practical heterotopian experimental strategy. Furthermore, this empirical exploration of the case study, despite possible theoretical flaws, nevertheless allows an English speaking audience to take note of a project that is of interest to many fields of study but almost exclusively documented in the Dutch language. Moreover, the generality of the theoretical contribution, despite its application to a specific case, may also be used to analyse other cases or inform future experimental and heterotopian projects that could allow the testing and development of alternatives to isotopy.

Possible limitations of the study lie in the availability of data and the early and rapidly changing developmental stage of the subject of the case study. First of all, only a limited number of interviews could be conducted, given the limitations imposed by the pandemic. This could luckily be compensated by studying online sources, many of which, whether they were official evaluations or personal accounts, touched upon many of the subjects that would otherwise have been discussed in the interviews. The near-exclusive reliance

on online data sources may have led to a slight selection bias. Although this has been mitigated by the fact that the surveys that were cited did poll a reasonably representative cross-section of participants, it may have been magnified by nearly exclusively sampling initiatives with an online presence. Furthermore, since the project of Oosterwold is only running for a little over half a decade, it is still in a very early stage of development, with new people moving there on a regular basis, and the further development of existing initiatives, the future outcomes of the experiment may still change significantly.

Whilst the final point may be a limitation at present, it also provides opportunities for future research. The main hypotheses that heterotopian experimentation would lead to ideological development have been confirmed on the basis of the developments to this date, although generalized statements about the specific developments that are taking place are not yet possible. But given that we have at least observed that such developments are taking place, and will continue to evolve over time, it is justified for researchers to keep monitoring the developments in Oosterwold, as it may very well yield new or more conclusive results in the future. Further opportunities for future research may lie in the identification and analysis of existing heterotopian experiments, or setting up entirely new ones. This could lead to further evaluation and development of the proposed experimental heterotopian strategy for ideological progress in moral realism, or, if its hypotheses are found to be correct, give rise to an empirical research programme for testing and developing alternatives to our current condition.

7 Conclusion

To conclude the dissertation, the main contributions and findings will be briefly summarized. First, the theoretical framework will be discussed, highlighting the research problem and the conceptual tools that were used to address it. And second, the findings of the case study will be discussed, focusing on how the theoretical framework informed the analysis, and what the implications are of the results.

Beginning with a discussion of Berlin's (1990) 'pursuit of the ideal', the implied ideological position of moral realism was identified as the alternative to Berlin's rejection of what he called moral optimism. This position, flowing from an acknowledgement of the fact and morality of pluralism, states simply that no single, coherent solution exists to the socio-political troubles of humankind. It was therefore attempted to understand the moral realist predicament in contemporary society, which is thoroughly permeated by the ongoing digital revolution, and sees increasing calls for structural, and therefore ideological, change in response to ongoing economic and environmental struggles. This attempt was structured by theories of technological and institutional development, and their relevance to ideological progress. Here we also introduced the concept of heterotopia as an incumbent ideological imaginary, which aided the discussion of current ideologies and their objectives. The developed theoretical framework combines theories and frameworks of sociomateriality, structuration, institutional (and technological) analysis and development, and the role of normativity in them.

Subsequently, the second part of the theoretical framework attempts to apply these theories to study the ongoing technological developments and their interpretation by various ideologies. First to be discussed were the new affordances brought by the digital revolution, focusing mainly on the possibilities offered by advanced forms of many-to-many communication. Second, it was attempted to analyse the currently incumbent and insurgent ideologies by their appropriation of the aforementioned affordances, and the expressed and enacted value systems they reveal. Finally, the position of moral realism was problematized, arguing that it potentially leads to idleness in the face of these dynamic technological and ideological developments. A possible way to escape this predicament was sought in the further elucidation of the concept of heterotopia, this time as a physical space whose internally heterogeneous properties, and its peculiar relation to isotopy, support the emergence of new critiques and alternatives to isotopy in an open-ended, experimental fashion.

Finally, an empirical example of such an experiment, in the form of a project of participatory urban development, was explored. The findings indicate that it indeed displays the properties of a heterotopian experiment and that the current outcomes provide

an early indication that such projects indeed lead to ideological development. The development of new models of participatory initiation of urban development, and the renegotiation of relative responsibilities and freedoms of citizens, project developers, and local governments, which are all argued to be inherently ideological, indicate that development is taking place in this area. Although the case, in addition to being only a single case and the availability of data, is in too early a stage of development to draw generalized conclusions that evaluate the ideological developments in the area, the indication that these are in fact taking place gives a preliminary indication that the hypothesis may be confirmed.

More research into the enaction of heterotopian experimentation, both in the case of Oosterwold, and by identifying or creating others, is therefore argued to be justified. As it may generate an empirical research programme by which ideological insurgents can be tested and developed. This could lead to more available data on the value of such insurgents, and therefore aid moral realists in straddling the increasingly precarious contemporary equilibrium by allowing an incremental and evidence-driven pursuit of peaceful ideological progress.

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I confirm that I have read and understood the information in this document. I agree to the outlined procedure for plagiarism assessment and potential sanctioning.

Leiden, 01 Jun 2020

Frank Boon