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A BREATHLESS RACE FOR BREATHING SPACE

Critical-analytical futures studies
and the contested co-evolution
of privacy imaginaries and institutions

Matti Minkkinen



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For my parents Lea and Ami, my wife Osmi, and my children

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ABSTRACT

Seeds for countless alternative futures already exist in anticipatory imaginaries and projects, and in possibilities for action. The novel approach of critical-analytical futures studies enables systematically studying anticipatory future-making processes and possibilities for agency. Critical-analytical futures studies develops the tradition of critical futures studies by incorporating an understanding of historical processes, causal mechanisms and negotiation among actors with future-oriented projects.

Privacy in the digital age seems to be simultaneously a grand challenge and a relatively minor issue. Currently actors are breathlessly racing to ensure and define breathing space. In other words, they debate the meanings of privacy in a context where datafication seriously undermines privacy. This dissertation investigates the anticipatory co-evolution of imaginaries and institutions in making futures of privacy in Europe. Privacy protection is defined as a social institution at the intersection of three types of anticipatory practices: anticipatory institutional change, surveillance practices and anticipation in everyday life. By regulating surveillance, privacy rules maintain a societal future orientation that leaves space for creativity, imagination and human agency.

The analytical framework is operationalised through four stages for qualitatively studying anticipatory institutional change: 1) historical context, 2) investigation of actor storylines, 3) analysis of deeper imaginaries, and 4) identification of latent future possibilities. This approach, developed in this dissertation, is termed CASIL (context, actor storylines, imaginaries and latents).

The five original studies develop different aspects of the four methodological stages. The overall temporal landscape features two competing imaginaries, continued growth and tragic loss. Decision-makers in the European Union are navigating between these imaginaries and trying to maintain a positive role for Europe. The discussion section identifies numerous latent possibilities for promoting a systemic understanding of privacy as 'breathing space for futures'. However, there is a strategic tradeoff for privacy advocates between increasing the regulation of surveillance practices and taming the roots of surveillance.

KEYWORDS: futures studies, critical futures studies, anticipation, cultural political economy, privacy, data protection, institutional change

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TIIVISTELMÄ

Lukemattomien tulevaisuuksien siemenet ovat olemassa imaginaareissa ja toiminnan mahdollisuuksissa. Uusi kriittis-analyttisen tulevaisuuksientutkimuksen lähestymistapa mahdollistaa tulevaisuuden tekemisen prosessien ja toimijuuden mahdollisuuksien tutkimisen. Kriittis-analyttisessä tulevaisuuksientutkimuksessa kehitetään kriittistä tulevaisuuksientutkimusta tutkimalla historiallisia prosesseja, kausaalisia mekanismeja sekä toimijoiden ja projektien välistä neuvottelua.

Digitaalisella aikakaudella yksityisyys näyttäytyy samanaikaisesti suurena yhteiskunnallisena haasteena ja verrattain vähäisenä kysymyksenä. Toimijat pyrkivät hengästyneesti määrittelemään hengitystilaa, eli he väittelevät yksityisyyden merkityksistä tilanteessa, jossa dataistuminen heikentää yksityisyyden edellytyksiä. Väitöskirjassa tutkitaan imaginaarien ja instituutioiden koevoluutiota yksityisyyden tulevaisuuden tekemisprosessissa Euroopassa. Yksityisyyden suoja määritellään yhteiskunnalliseksi instituutioksi, joka on kolmenlaisten antisipatoristen käytäntöjen välissä: antisipatorisen institutionaalisen muutoksen, valvontakäytäntöjen ja jokapäiväisen ennakoinnin. Yksityisyssäännöt säätelevät valvontaa ja pitävät yllä luovuuden ja inhimillisen toimijuuden mahdollistavaa tulevaisuussuuntautumista.

Antisipatorista institutionaalista muutosta tutkitaan laadullisesti nelivaiheisen kehikon avulla. Vaiheet ovat 1) historiallisen kontekstin huomioiminen, 2) toimijoiden tarinalinjojen tutkiminen, 3) taustalla olevien imaginaarien analysointi sekä 4) piilevien mahdollisuuksien tunnistaminen.

Väitöskirjan viisi artikkelia käsittelevät kehikon eri osia. Kokonaiskuvassa voidaan nähdä kaksi kilpailevaa imaginaaria: jatkuva kasvu ja traaginen menetys. Euroopan unionin päätöksentekijät navigoivat näiden imaginaarien välillä ja yrittävät ylläpitää Euroopan positiivista roolia. Väitöskirjassa tunnistetaan piileviä mahdollisuuksia edistää systeemistä ymmärrystä yksityisyydestä, jossa yksityisyys nähdään ”hengitystilana tulevaisuuksille”. Yksityisyyden puolestapuhujat ovat strategisen valintatilanteen edessä, jossa toisella puolella on valvontakäytäntöjen sääntelyn lisääminen ja toisella puolella valvonnan juurien kesyttäminen.

ASIASANAT: tulevaisuudentutkimus, kriittinen tulevaisuudentutkimus, antisipaatio, kulttuurinen poliittinen taloustiede, yksityisyys, tietosuoja, institutionaalinen muutos

Acknowledgements

While I was reading an article on privacy and surveillance, my wife called to inform me that she had arrived home and she could not close our front door because the lock was stuck. This was a problem because she had to leave on errands in a few minutes, I could not get home that fast and thus our apartment would be accessible to anyone. Fortunately, after some investigation, the problem turned out to be simple: a small rock was lodged between the door, preventing it from closing.

For me, this incident serves as a metaphor for privacy in contemporary society. In a large part of our lives, we are unable to close the door and we must rely on others not to intrude into our homes. If we are unsatisfied with the situation, who is a trustworthy mechanic that we could call to fix our locks, knowing that they will not replicate our keys for their own purposes? What is lodged between our doors and our homes? Are lockable doors an outdated concept in the first place and we simply need to adjust to living without them? These questions of voluntary or forced opening are central to thinking about privacy in the current age. One of the central arguments of my dissertation is that metaphors and imaginaries are necessary for thinking about complex issues such as privacy.

Using the terms employed in this dissertation, my entry to the futures field happened through a collision of agential selectivities and latent possibilities. In other words, I had been interested in the societal implications of new technologies ever since my undergraduate work in sociology at the London School of Economics. Before that, I had learned about the importance of politics through my childhood family and about technology through programming small games with an Amstrad PC1640 using the BASIC programming language. My interest in critical theory and the role of culture strengthened during my master's in European thought at University College London. After returning to Finland, my interests were given direction by the latent possibility of taking a master's degree in futures studies. While the futures field intrigued me, I was never fully convinced that producing forecasts or polishing instrumental methods for producing scenarios were fruitful roles for academic futures work. We must do something more. This is where critical futures studies comes in, as a highly promising but sporadically developed field. Through six years of utilising and teaching critical futures studies approaches at the University

of Turku, I gained the confidence to develop the approach of critical-analytical futures studies, which is applied to the phenomenon of privacy protection in this dissertation.

The ideas and texts in the dissertation have gone through many iterations, and the text between these covers represents a relatively stable fixing of ideas rather than the final word on privacy and futures. While I was writing the dissertation, the future became the present and is quickly becoming the past. At the beginning, the General Data Protection Regulation was an uncertain future to be negotiated, and now it is a part of the established order of things. During the final months of the dissertation work, the new coronavirus brought the whole world into a state of profound uncertainty and demonstrated the importance of unforeseen crises for any research topic. At the same time, futures studies is evolving in partly contradictory ways. There are signs of the field becoming increasingly established in academia, policy and business. On the other hand, traditional notions of scholarly futures studies are challenged by the anticipation studies approach. If futures are increasingly topics of discussion in sociology, psychology, social geography and other fields, what is the added value of futures studies? A PhD dissertation, like any set of ideas, is a product of its time, and I have attempted to position my work in relation to these substantial and methodological developments.

I believe that scholars' choice of tools is not simply a neutral technical question, and therefore I have used software that contains embedded values of user autonomy to write this dissertation. Most of the text was written in GNU Emacs, an open source text editor that dates back to 1985 and continues to evolve through community effort. Emacs has an embedded programming language, Emacs Lisp, which makes it expandable to any kind of working with texts. This turns users into co-developers. The texts were written in the Markdown language, which is a simple markup language, and converted to the Microsoft Word format using the Pandoc converter. Pandoc can convert dozens of formats to dozens of other formats, representing a vision where writers can use any tool and format because they can be converted rather than being locked in to any proprietary platform.

First of all, a big thank you to my supervisors Sirkka Heinonen and Hardi Auffermann for helping me in many ways on the first steps on my academic path, by providing contacts, confidence, advice and opportunities. In addition to the formal supervisors, I would like to thank Aino Halinen-Kaila for helping to clarify the focal issue at an early stage of the research, and Ilkka Tuomi for suggesting the focal question "What is the future privacy?" during a journey on the London underground. Many thanks are also owed to our postgraduate seminars in futures studies, which have often been the most inspiring place to discuss new ideas, and to Petri Tapio for building the postgraduate programme in futures studies in a determined way. Thank you also to the Turku University Foundation, the University of Turku Graduate

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Finally, my heartfelt gratitude goes to my wife and my children, the latter growing up with my dissertation, and both constantly reminding me about the importance of family as a site of private life, and that after all, this dissertation is the lesser of my children.

31.3.2020

Matti Minkkinen



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Matti Minkkinen is a researcher at Finland Futures Research Centre, University of Turku. His research covers qualitative futures research methodology, critical futures studies, futures consciousness and the topic areas of privacy, security and digital futures. Minkkinen teaches futures studies in the international Master’s Degree Programme in Futures Studies.

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List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

- I Minkkinen, Matti. Futures of privacy protection: A framework for creating scenarios of institutional change. *Futures*, 2015; 73: 48–60.
- II Minkkinen, Matti, Auffermann, Burkhard & Heinonen, Sirkka. Framing the future of privacy: citizens’ metaphors for privacy in the coming digital society. *European Journal of Futures Research*, 2017; 5(7).
- III Minkkinen, Matti. Making the future by using the future: A study on influencing privacy protection rules through anticipatory storylines. *New Media & Society*, 2019; 21(4): 984–1005.
- IV Ahvenharju, Sanna, Minkkinen, Matti & Lalot, Fanny. The five dimensions of Futures Consciousness. *Futures*, 2018; 104: 1–13.
- V Minkkinen, Matti. The anatomy of plausible futures in policy processes: Comparing the cases of data protection and comprehensive security. *Technological Forecasting and Social Change*, 2019; 143: 172–180.

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1 Introduction

The future of privacy in the digital age is a curious issue. The backdrop to the current concern over privacy is formed by rapidly increasing technological affordances for creating, collecting and processing vast amounts of data, business practices that rely on massive data processing and increased interest in data-driven security due to fear of terrorist attacks and other shock events. The broader context is the debate around the so-called digital transformation, which is centred on artificial intelligence at the time of writing and is likely to have shifted somewhere else by the time this dissertation is published. The transformation is seen to provide novel opportunities but also threats ranging from individual harms to unforeseen concentrations of power, steepening inequalities and even existential threats to humanity. Following the discussion around privacy, as I have done, easily contributes to a kind of cognitive dissonance. On the one hand, if we believe some commentators, privacy is a crucial if not existential issue for civilised life in the years to come. In 2014, the United Nations High Commissioner for Human Rights published a report on the right to privacy in the digital age, and the Charter of Fundamental Rights of the European Union recognises respect for private and family rights and protection of personal data as fundamental rights (European Union 2012; United Nations 2014). On the other hand, some commentators casually discuss life with little or no privacy, which may require adaptation but is certainly not dystopian. Individuals say they value their privacy but do little to protect it in practice (e.g. Barth and de Jong 2017). Privacy or protection from surveillance do not appear on lists of grand challenges such as the United Nations Agenda 2030 sustainable development goals or the Millennium Project's 15 global challenges.

Moreover, as a scholar concentrating on privacy issues, I often find myself at the other end of a tradeoff or balancing, usually with broadly shared values such as security, efficiency, transparency or personalised products and services. In this way, the privacy scholar has to indirectly oppose all these positive things, while defending what seems to be an individualistic and even selfish interest. Positioning privacy as the opposite end of a tradeoff gives it a kind of negative identity.

In this dissertation, I develop a novel approach of *critical-analytical futures studies*, which enables studying the co-evolution of imaginaries and institutional

change. This approach is operationalised for qualitative study using four stages: (historical) context, actor storylines, imaginaries and latents (CASIL). Using critical-analytical futures studies, I identify and study the central imaginaries in the European data protection reform, and identify latent possibilities for future privacy and discuss their potential and problematic aspects. In this way, this dissertation clarifies the contestation between different conceptions of privacy in the digital age, hopefully resolving some of the collective cognitive dissonance. I also position privacy as a positive prerequisite for a particular kind of future-oriented society, thus problematising its negative identity. The dissertation focuses on Europe and particularly the data protection reform in the European Union, because conceptions of privacy vary widely across cultures and political systems and because Europe is often seen as an influential arena in setting global privacy standards (Bennett and Raab 2018).

The central problem is the future-oriented study of an important yet broad and ill-defined social phenomenon such as privacy. On the one hand, futures of privacy are influenced by numerous trends, processes and events. On the other hand, its future is likewise shaped by contestation over what privacy is and what it should be, as well as current ways of thinking about the future. Privacy protection is a social institution that is negotiated and contested by a set of actors in a path-dependent historical process. Given the systemic nature of privacy, the predominant ways of understanding and managing privacy are problematic. In particular, viewing privacy as a self-managed interest or an individual fundamental right may be inadequate for tackling systemic privacy issues in the digital age. Due to this continuous contestation, a model of change based on fixed driving forces is inadequate, and human agency, including the role of imagination and ideas, needs to be taken seriously. At the same time, action takes place within boundaries set by the historical situation.

Keeping this complexity in mind, I argue for an understanding of privacy as *breathing space for futures* at the individual and societal level. The title of the dissertation is intentionally reflexive, that is, turned back on itself. While privacy enables breathing space for future-making, the current debate over privacy protection happens in the ‘breathless’ context of rapid datafication and de facto little privacy beyond the right to click “I agree”. The main problem under study is thus privacy *for* the future, not privacy *in* the future. Assessing technological and other trend-like threats to privacy remains important, but this area has already been covered by several projects (e.g. Ahonen et al. 2010; Auffermann et al. 2012; Guelke et al. 2013; Porcedda, Vermeulen, and Scheinin 2013). Another temptation is to start from the ‘death of privacy’, which Richards (2015a) considers as a privacy myth. Bennett (2001) lists tens of books that discuss the “death of privacy” and the rise of surveillance, and John and Peters (2017) studied 101 newspaper articles between

1990 and 2012 declaring the end of privacy. Yet privacy continues to evolve despite its recurring death. A more interesting starting point than the death of privacy is qualitative change in privacy over time.

The problem in this dissertation, then, is the present state of privacy and surveillance and how these influence future orientation rather than an impending dystopian world without privacy. Privacy is not simply another topic for future-oriented enquiry. Instead, privacy is systemically linked to human future orientation, particularly its explorative and creative element, which enables imagining and making alternative futures that are not continuations of present trends and logics.

1.1 Structure of the thesis

The structure of the thesis is the following. In the theoretical framework chapter, I outline the critical-analytical futures studies approach of the dissertation, drawing on critical futures studies, the causal mechanisms approach and cultural political economy. Then, I locate privacy as a social institution between three types of anticipation: anticipatory institutional change, predictive surveillance and anticipation in everyday life. In the methodology chapter, I present an approach to qualitatively studying institutional change based on four stages: context, actor storylines, imaginaries and latents. The synopsis chapter summarises the original studies and discusses their implications when taken together. In the discussion chapter, I identify and consider latent possibilities for future privacy understood as breathing space for futures as well as discussing policy implications and future research directions. In the conclusion, I return to the central problem and present more general conclusions particularly for critical futures studies.

1.2 Aims and research questions

The central aim of the dissertation is to understand privacy as a social and cultural phenomenon and understand change in privacy particularly from an anticipatory perspective, focusing on Europe. My dissertation is motivated by three central research questions, which are divided into subquestions:

1. How can privacy be conceptualised from a systemic and future-oriented perspective?
 - How has privacy been defined from different perspectives?
 - What is an appropriate theoretical framework for understanding changes in privacy over time?
 - What kind of analytical approach is appropriate for studying privacy in a future-oriented manner?

2. What is the role of anticipatory imaginaries in transforming the European privacy protection system?
 - What kinds of imaginaries exist in the privacy protection system?
 - What kinds of generic and specific anticipatory assumptions are embedded in the imaginaries?
 - How are imaginaries used by actors to influence change in privacy protection?
3. What latent possibilities for future privacy can be identified in the privacy system?

The research questions, empirical material and methods are divided across the summary and the original studies in the following way:

Research questions, studies, empirical material and methods.

Research question	Study	Empirical material	Methods
1. How can privacy be conceptualised from a systemic and future-oriented perspective?	1, summary		
- How has privacy been defined from different perspectives?	1	Literature	Literature review
- What is an appropriate theoretical framework for understanding changes in privacy over time?	1, summary	Literature	Literature review
2. What is the role of imaginaries in transforming the European privacy protection system?	2, 3, 4, 5		
- What kinds of imaginaries exist in the privacy protection system?	2, 3, 5	Focus group transcripts, document material	Causal layered analysis, concept mapping
- What kinds of generic and specific anticipatory assumptions are embedded in imaginaries?	4, 5	Literature, document material	Exploratory qualitative study
- How are imaginaries used by actors to influence change in privacy protection?	3	Document material	Concept mapping
3. What latent possibilities for future privacy can be identified in the privacy system?	Summary	Literature, material from the studies	Cultural political economy

This dissertation includes empirical studies but it deliberately emphasises theory, philosophy of science and methodology as opposed to data-driven methods. In the age of Big Data, vast materials of different kinds are available and this easily leads to a temptation to build scholarship inductively ‘from the data up’. Some contributors even argue for the obsolescence of theory at the face of data science (for a critique, see Mazzocchi 2015). However, I would argue that theory and philosophy of science

remain important if we are to understand how different types of data also *produce* social phenomena and change individuals rather than simply reflecting them, and if we are to critically study phenomena related to datafication rather than simply promoting it.

2 Theoretical Framework: Critical-analytical Futures Studies and Cultural Political Economy

Privacy as a social phenomenon evolves over time through changing cultural practices, technological affordances and values, but the shape of privacy protection is also continuously made in a complex system of actors, institutions and structural pressures. Moreover, like many social systems, this system is anticipatory, that is, capable of using the future to orient social practices in the present (Tuomi 2019). Potentially innumerable cultural, economic, technological, political and social factors influence the development of this system. To make sense of these dynamics and to locate anticipation and privacy in relation to one another, I will argue that three theoretical perspectives provide a fruitful combination: critical-analytical futures studies, which combines an emancipatory knowledge interest and focus on causal mechanisms, cultural political economy with a double focus on semiosis and structuration, and the anticipation perspective.

Before going into substance, a note on terminology is in order. The theoretical framework uses the term ‘imaginaries’, which is not an established term in futures studies. ‘Image of the future’ and ‘futures images’ are more broadly utilised in the futures field (Bell and Mau 1971; Boulding 1963; Kuhmonen 2016; Polak 1973; Rubin 2013). Bell and Mau (1971, 23) define an image of the future as “an expectation about the state of things to come at some future time” and explore their antecedents and effects for decision-making. However, after Bell and Mau’s initial setting of the research agenda, there has been relatively little development of the theoretical underpinnings of the ‘image of the future’ concept.¹ At the same time, there has been a resurgence of interest in the concept of ‘imaginaries’ more broadly in the social sciences (e.g. Beckert 2013; Jasanoff and Kim 2015; Sum and Jessop 2013, ch. 4; Taylor 2004). Taylor (2004, 23) defines a social imaginary as “the ways people imagine their social existence, how they fit together with others, how things go on

¹ See, however, Kuhmonen’s discussion of futures images in the dynamics of complex adaptive systems (Kuhmonen 2016).

between them and their fellows, the expectations that are normally met, and the deeper normative notions and images that underlie these expectations”. Taylor discusses rather fundamental imaginaries that underlie all social interaction and evolve over decades and centuries. Jasanoff and Kim (2015, 4) propose an explicitly future-oriented concept of sociotechnical imaginaries, defined as “collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology”. Sum and Jessop (2013, 165), in turn, define imaginaries as “semiotic systems that frame individual subjects’ lived experience of an inordinately complex world and/or inform collective calculation about that world”, noting that there are many kinds of imaginaries at different levels. I adopt this latter broad and pluralistic concept of imaginaries rather than Taylor’s more unitary approach or Jasanoff and Kim’s approach focused explicitly on desirable futures and technoscience. On the surface level, images of the future and imaginaries are similar concepts. However, the imaginary, broadly defined, is richer because an imaginary does not have to explicitly touch on the future but it nevertheless influences future outcomes. In this way, imaginaries highlight the imaginary relation to the complex social world more broadly rather than outlining discrete images of the future.

2.1 Six paradigms of futures studies

Futures research has matured into an interdisciplinary field with many approaches, methods and competing or complementary paradigms. Stabilisation and also fragmentation of the futures field have been identified as features of contemporary futures studies (Kuosa 2011; Son 2015). The field is grappling with increasing societal complexity that continues to challenge conventional methods that were developed during more stable times following the Second World War (Pang 2010). Son (2015) even claims that contemporary futures studies is experiencing an identity crisis. A simplified typology of futures studies paradigms is presented in Figure 1.

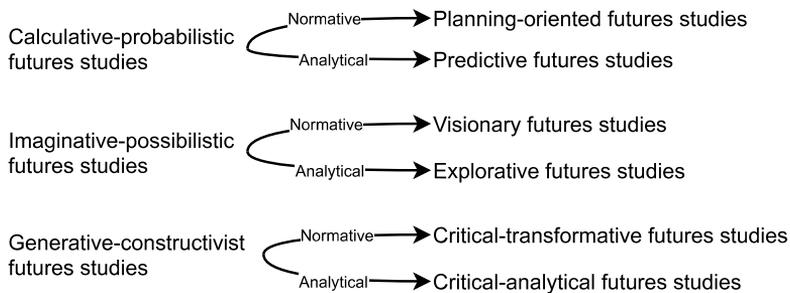


Figure 1. Typology of futures studies paradigms.

Futures studies, foresight, scenario approaches and futures thinking in general have been divided into types in many different ways. Roy Amara's (1981) division of the futures field into three basic goals, forming perceptions of the future (the *possible*), studying likely alternatives (the *probable*) and making choices in order to bring about a particular future (the *preferable*), continues to be influential. Around ten years later, alternative divisions into three paradigms have been suggested by Mannermaa (1991) (descriptive, scenario and evolutionary) and Inayatullah (1990) (predictive-empirical, cultural-interpretative and critical-poststructuralist). Tapio and Hietanen (2002) present a structured list of seven paradigms with different roles for professionals, decision-makers and the public. However, their approach is more generally aligned with planning-oriented futures studies. Co-evolutionary integral futures, which seeks to integrate levels of analysis, and participatory futures, which challenges expert-led 'knowledge' of the future, have been suggested as more recent paradigms (Hideg 2013). In a more general typology, these may be seen to fall under either critical or transformative approaches. Recently, Tuomi (2019) has also proposed a list of three approaches to foresight: probabilistic (forecasting), possibilistic (scenarios) and constructivist (design-based foresight) (cf. Poli 2017, 1:67). While forecasting is data-driven, aiming at prediction accuracy, possibilistic scenario-based foresight is more oriented towards exploring uncertainties, increasing preparedness and devising resilient paths of action. Constructivist foresight, in turn, is expansive, explicitly aiming at increasing the space for action, realising latent opportunities and thus generating novel futures without explicitly representing them in full. The two first types are notably similar to social geographer Ben Anderson's (2010) two types of anticipatory practices: calculating futures (extrapolation and inference based on trend analysis, modelling and data mining) and imagining futures (imagining, representing and narrating futures).² In Figure 1, I adopt this threefold structure but suggest an additional dimension of normativity for further distinguishing between futures studies paradigms. *Normative* approaches aim explicitly to influence and change the future in some value-driven direction, while *analytical* approaches aim to explore and analyse possibilities. This does not mean that analytical approaches do not have normative underpinnings, but it means that the starting point of the analysis is explanation and understanding rather than active intervention. This added dimension yields six paradigms of futures studies: planning-oriented futures studies, predictive futures studies, visionary futures studies, explorative futures studies, critical-transformative futures studies and critical-analytical futures studies. Theoretical and methodological examples of each paradigm are given in Table 1.

² Anderson's third category, performing futures (simulations, strategic games), is also interesting but it may be seen to fall under possibilistic approaches.

Table 1. Futures studies paradigms and examples.

Paradigm	Examples
Calculative-probabilistic	
Planning-oriented futures studies	Backcasting (Dreborg 1996), roadmapping, normative scenarios (Börjeson et al. 2006), technocratic futures thinking (De Smedt, Borch, and Fuller 2013), planning-oriented futures workshops
Predictive futures studies	Trend extrapolation, deterministic modelling, predictive analytics based on Big Data (Aradau and Blanke 2017), predictive scenarios (Börjeson et al. 2006), problem-focused scenarios (Wilkinson and Eidinow 2008), conventional and predictive futures thinking (De Smedt, Borch, and Fuller 2013), probable futures (Amara 1981)
Imaginative-possibilistic	
Visionary futures studies	Visionary futures thinking (De Smedt, Borch, and Fuller 2013), preferable futures (Amara 1981), visioning (van der Helm 2009), utopian approach (Masini 1993, 45), vision-oriented futures workshops
Explorative futures studies	Explorative scenarios (external and strategic) (Börjeson et al. 2006), scenario paradigm (Mannermaa 1991), alternative futures (Manoa School) (Dator 2009), intuitive logics scenarios (Wright, Bradfield, and Cairns 2013), actor-centric scenarios (Wilkinson and Eidinow 2008), intuitive and eventuality futures thinking (De Smedt, Borch, and Fuller 2013), possible futures (Amara 1981)
Generative-constructivist	
Critical-transformative futures studies	Evolutionary futures thinking (De Smedt, Borch, and Fuller 2013), critical/epistemological futures studies (Slaughter 2002), critical-poststructuralist paradigm (Inayatullah 1990), identification of pioneers and frontrunners in transitions (de Haan and Rotmans 2018; Heinonen and Karjalainen 2019; Karjalainen and Heinonen 2018), reflexive interventionist multi-agent scenarios (Wilkinson and Eidinow 2008), integral futures (Hideg 2013; Slaughter 2008), pathways (Sharpe et al. 2016), transformation-oriented futures workshops, concrete utopias (e.g. Levitas 1990; Patomäki 2006)
Critical-analytical futures studies	Studies of the dynamics of images of the future (Bell and Mau 1971; Polak 1973; Kaboli and Tapio 2017; Rubin and Linturi 2001), futures studies as non-predictive study of social change (Malaska 1999; Mannermaa 1991), anticipation studies as critical study of anticipation processes (Anderson 2010; Poli 2017)

In reality, the dividing lines between different approaches are seldom clear-cut. In particular, distinguishing between planning, visionary approaches and transformative approaches may be difficult and visioning workshops, for instance, may exhibit properties from all three. Nevertheless, it is useful to analytically distinguish between approaches emphasising rational planning, bold but achievable imaginative visioning and identifying transformative potential and seeds of change in the complex open present. Rather than a simple hierarchy, there are trade-offs between adopting different approaches. For instance, in policy foresight it may often

be desirable to stay relatively close to the calculative-probabilistic paradigm, while ensuring sufficient public participation and analytical rigour, to allow results to be understandable and useful to planners. However, significant social innovations are unlikely to be achieved with this strategy.

The selection of research approach in any particular study should be guided by the nature of the phenomena under study, the aims of the study and the research questions. The complex systemic interconnectedness around privacy protection, the difficulty of defining privacy and the role of human imagination mean that a predictive perspective is not feasible, especially if we take learning and innovation seriously (Miller 2018b; Tuomi 2012). An exploratory scenario approach, drawing on the intuitive logics tradition, for instance, could yield interesting results, but scholarly scenarios without a focal actor or decision focus would risk being arbitrary, as there is no clear criterion for determining which factors are relevant, and they risk repeating statements from previous scenario studies (e.g. 6 1998a). Scenarios also typically examine structural driving forces, leaving less space for the role of human imagination and meaning-making in social change, apart from outlining trend-like shifts in values (Hughes 2013).

2.2 The evolution of critical futures studies

In this dissertation, I argue in favour of *critical-analytical futures studies* for studying complex social phenomena, taking into account both anticipatory assumptions and historical change processes. ‘Critical futures studies’ has been pioneered by Richard Slaughter (Slaughter 1982, 2003, 91–97), although it has since been superseded by integral futures in his thinking (Slaughter 2008). While integral futures studies usefully explores dynamics between several levels of analysis, it is not adopted here because the post-conventional stance to scholarship and extremely holistic ambitions make it more amenable to foresight practice and interventionist action research than empirical scholarship. Instead, I will argue for a more focused and analytical version of critical futures studies, not as a replacement to integral futures but as a complementary approach.

In a nutshell, critical futures studies emphasises the investigation and critique of power relations, domination and foundational assumptions in envisioning and constructing futures, as well as developing social capacities to assert human purposes (Inayatullah 1990; Slaughter 1982, 148–54). According to Slaughter (2002, 504), “the ultimate purpose of futures work at this level is to open out productive mind-spaces, to design in-depth social innovations and to prefigure more advanced stages of civilised life”. Critical futures studies can be seen to develop in partly overlapping waves. Ossip Flechtheim’s futurology was emancipatory from its beginnings in the 1940s, with aims of democratisation and ending war and exploitation of humans and

nature. Flechtheim's conception of futurology has been characterised as scientific and rationalist, with a specific notion of social progress that was rooted in a search for a third way between power blocs during the Cold War (Andersson 2018, 43–48). For Flechtheim, the future had to be freed from ideology and examined through critical social science (Andersson 2018, 46).

The global systemic dimension of futures studies, exemplified by the *Limits to Growth* report and the formation of the World Futures Studies Federation in the 1970s, can also be seen as the development of emancipatory, if not explicitly critical, futures studies (Ahlqvist and Rhisiart 2015). Andersson (2018, 47) characterises the “project of futures studies” as a form of counter-expertise to predictive futures work, the latter often associated with military planning during the Cold War. The new emancipatory futures studies, in contrast, was linked to new social movements such as the peace and environmental movements. Robert Jungk and Johan Galtung were central figures, and critical imagination was elevated as a new central value in addition to social scientific inquiry (Andersson 2018, ch. 8).

Richard Slaughter was a pioneer in explicitly developing critical futures studies in the early 1980s. Slaughter's formulation of critical futures studies focuses on two aspects: investigating worldviews and ways of knowing that frame our claims about futures, and emphasising the emancipatory potential of futures studies. This potential is limited by taken-for-granted social and economic structures that support certain kinds of futures work (Slaughter 1982, 134). For Slaughter, the revision of epistemological assumptions enables continuous re-negotiation of inherited meanings, emergent propositions and future potentials (Slaughter 1982, 149).

Sohail Inayatullah (1990) interprets Slaughter's critical futures studies to represent the search for a “true self” in line with the Enlightenment project. The underlying concept of emancipatory knowledge interest comes from the critical theorist Jürgen Habermas who distinguished it from the technical and practical knowledge interests. For Habermas, the emancipatory knowledge interest essentially means an interest in reflection and self-reflection to overcome domination and realise autonomy and responsibility (Habermas 1971, 53, 301–17). Inayatullah presents an alternative proposal for critical futures studies, drawing on the post-structuralist thought of Michel Foucault, Jacques Derrida and Michael Shapiro (Inayatullah 1990, 1998). In this formulation, social reality is problematised and seen as the product of particular language use, historically evolving knowledge paradigms and regimes of truth. The re-negotiation of meanings, proposed by Slaughter, also becomes problematic because the “politics of meaning” continue to operate through language and discourse. The task of critical futures studies, then, is to make the present problematic and remarkable rather than seeking new shared meanings (Inayatullah 1990). The debate between Inayatullah and Slaughter echoes the broader ‘Foucault–

Habermas debate' between Foucault's notions of power and genealogy and Habermas' communicative rationality (e.g. Kelly, Foucault, and Habermas 1994).

Around the same time as Inayatullah's post-structuralist notion of critical futures, Mika Mannermaa and Mika Pantzar were developing evolutionary futures research as an alternative to the descriptive and scenario paradigms (Mannermaa 1991; Pantzar 1992). Evolutionary futures research begins from the concept of complexity, analyses mechanisms behind increasing complexity and argues that bifurcation points between stable phases provide emancipatory potential for futures studies (Mannermaa 1991; Pantzar 2017). This is somewhat similar to Slaughter's notion of continuous re-negotiation of meanings, although framed in terms of systems and complexity science. Like Slaughter, Mannermaa argues that futures studies should have a clear emancipatory knowledge interest: "it should help people to free themselves from old lines of thought and to create new ideas" (p. 364). The ontological reality of complexity and the epistemological orientation towards emancipation can be seen to provide complementary arguments in favour critical futures studies.

Many of the same emphases as in critical futures studies, such as focus on complexity, anticipatory assumptions and a deeper investigation of societal reality, have re-emerged in the 'anticipation studies' approach (e.g. Poli 2017). Recent contributions in this line of thinking call to reflect on assumptions about the future in habits and techniques of thinking in addition to content, and question how we could relate differently to the future (Anderson 2010; Miller 2011). To some extent, anticipation studies is a continuation of French futures studies (*la prospective*) and critical futures studies, but its ambition is broader, arguably to 'futurise' social sciences as well as natural sciences (Poli 2017, Ch. 1). The critical futures studies and anticipation traditions necessitate 'turning inwards' and focusing on how phenomena are framed instead of mapping and forecasting external trends and their interactions. In this sense, they bring the foresight actors into the frame, explicitly investigating the anticipatory assumptions that underlie statements about futures (Miller 2018b). Such framing assumptions are present in futures thinking in any case, and they should be made the explicit focus of attention in order to provide more transparency and reflexivity to anticipatory practices. However, anticipation studies authors do not explicitly position their work in relation to critical and emancipatory futures studies, which makes tracing intellectual links somewhat difficult. Moreover, the normative and political implications of anticipation studies are largely left undeveloped, although some authors have discussed these issues in particular contexts such as education (e.g. Amsler and Facer 2017)

Recently, there have been calls for rejuvenating critical futures studies as an alternative to mainstream strategy or policy-oriented futures work (cf. Son 2015, 130). Ahlqvist and Rhisiart (2015) argue strongly in favour of critical futures research as a complement to instrumentalist futures studies and foresight. They present three

potential pathways for critical futures: construction of futures through sociotechnical practices, future-oriented dialectics and socio-economic imaginaries in the construction of futures. This study essentially takes up the third path, investigating discourses, practices and imaginaries in change processes through cultural political economy (Jessop and Oosterlynck 2008). However, Ahlqvist and Rhisiart (2015) link critical futures studies to behaviour change and futures knowledge, both of which are problematic. They argue that the emancipatory dimension enables revealing meta-level knowledge that changes human behaviour towards a more sustainable direction (p. 95). They further argue for a dialectical process that could produce “more in-depth futures knowledge” as a synthesis (p. 97). While the intended behaviour change is towards increased critical self-reflection, the framing of changing external behaviour, as opposed to Slaughter’s negotiation of meanings, has undertones of control over futures. Futures knowledge, in turn, is a problematic concept for critical futures studies. Arguably critical futures work does not aim to produce knowledge about futures, but instead to problematise current, historically specific, knowledge and practices and thus enable alternative futures to emerge.

Goode and Godhe (2017), in turn, argue for politically charged critical futures studies for studying “the scope and constraints within public culture for imagining and debating different potential futures”, contributing to a “futural public sphere”. They usefully question strong constructivism and remind futurists about contingency, emergence, competition among several competing discourses and the limits of ‘steering history’ in this context. These themes are also explored in this dissertation.

2.3 Critical-analytical futures studies, causal mechanisms and projects

In relation to previous developments of critical futures studies, I propose two important points to take the field forward. We need to historicise the concept of emancipation and, related to this, incorporate the critical realist notion of social mechanisms into the critical futures project. The concept of emancipation has been central in critical futures studies since the beginning. In the critical futures tradition, one key concern is ‘colonisation’ of the future, which means locking many parts of the world as well as future generations into futures planned by a narrow set of decision-makers or visionaries (Inayatullah 1990; Sardar 1999). As Riel Miller (2018b, 21) puts it, in this closed type of anticipation, “the imperative is to colonise tomorrow with today’s idea of tomorrow”. Adam and Groves (2007, 13) state that “our own present is our predecessors’ empty and open future: their dreams, desires and discoveries, their imaginations, innovations and impositions, their creations”, which means that the consequences of our ‘empty’ futures will also be inescapably real for future generations. The emancipatory agenda of critical futures studies then means revealing

colonisation by particular imaginaries and decolonising the future, thus increasing scope for human agency. The key challenge is how to retain agency, including the invention of previously unimagined novelty, in the context of complexity and radical uncertainty without colonising or trying to control the future (Miller 2010; Wilkinson and Eidinow 2008). Critical futures studies and the anticipation approach mark a shift away from both deterministic forecasting and exploratory or visionary scenario approaches. The aim is to *generate futures*, broaden future alternatives, rather than claiming to know the future or a discrete set of alternatives (Poli 2017).

However, by focusing on assumptions and worldviews behind current futures thinking, critical futures studies and the anticipation approach risk losing the processual focus that is central to other types of futures research, which investigate trends, weak signals and other drivers of change. Turning inward risks removing temporality and historicity from futures studies. While studying present anticipatory assumptions is necessary, it is also important to be able to situate them in broader change processes that include structural and material factors as well as the interplay of numerous future imaginaries. This way futures studies can study processes of negotiation over futures in addition to taking part in them.

In this historical perspective, the meaning of emancipation is broader than simply freedom from epistemological limitations such as inherited worldviews and assumptions. Critical theory, stemming from the Frankfurt School, is a broad and open-ended emancipatory project that positions phenomena in historical context, critically disputes existing social realities that are produced by specific interests and power relations, and suggests the possibility of different social conditions through dialectical negation (Ahlqvist and Rhisiart 2015, 95; Alvesson and Sköldbberg 2009, 144). From the Habermasian perspective, this means enabling rational communication free from domination, such as the re-negotiation of meanings promoted by Richard Slaughter. However, this epistemological notion of emancipation is too narrow, reducing critique to uncovering presuppositions and proposing that other ways of thinking are possible, or to freeing humans from any kinds of constraints (Sayer 2009). A deeper and more historical notion of emancipation cannot avoid questions of structured inequalities, power relationships, including economic power, and normative questions about human flourishing. The aim of more substantively critical and emancipatory social science is to critique injustice and avoidable suffering, and to promote human flourishing (Sayer 2009). This substantive approach to emancipation is theoretically supported by the capability approach developed by Nussbaum and Sen, which is also referenced by authors within anticipation studies (Miller 2018b; Poli 2017, 1:247–52). Capabilities are “substantial liberties” that provide opportunities for choosing and acting, such as physical and psychological integrity and literacy (Poli 2017, 1:248–49). Neither injustices nor capabilities necessary for flourishing can be exhaustively listed, but

the key insight is that humans and other species are capable of suffering and flourishing, and emancipatory social science should reduce suffering and promote flourishing. The substantive and historical notion of emancipation is, of course, nothing new in futures studies: it was already central to Ossip Flechtheim's futurology. It is also in line with Eleonora Masini's notion of seeds of change in the historical process (Masini 2006) and Wendell Bell's substantive formulation of the mission of futures studies: "to maintain and improve the well-being of humankind and the life-sustaining capacities of the Earth" (Bell 2003, 158).

Importantly, injustices and forms of suffering are historically changing and linked to particular contexts. Emancipatory social science can only have a limited role in promoting flourishing because it is conditioned by social practices outside itself (Bhaskar 2014, 174). In terms of integrating historical processes to futures studies, Mika Mannermaa's and Mika Pantzar's evolutionary futures studies and the focus on long waves in the economy provide inspiring examples of futures studies as the study of socioeconomic change (Mannermaa 1991; Pantzar 2017; Wilenius and Kurki 2017). Anita Rubin's analytical work on images of the future and changes in values is also relevant (Rubin and Linturi 2001). However, discussing societal development in terms of macro-level phases risks neglecting the numerous negotiations and struggles that take place on the micro level and particularly on the meso level of institutions and imaginaries. Richard Slaughter's transformative cycle, which outlines a continuous cycle of breakdowns of meaning, re-conceptualisations, negotiations and conflicts and selective legitimation, also serves as inspiration for considering social change in a way that also considers changes in cultural meanings (Slaughter 2004). The model usefully indicates the negotiation and selectivity involved in sociocultural change, but it is presented as a tool for workshops, development processes and cultural criticism rather than a model or theory of social change (Slaughter 2004, 17). Therefore, additional perspectives are needed to develop critical-analytical futures studies.

In the following, I argue that two types of causality are useful for critical-analytical futures studies that studies both anticipatory assumptions and historical processes. First, for the analytical part, the recent move in social sciences towards *causal mechanisms* provides an opportunity to combine critical futures studies with a processual and evolutionary view. Causal mechanisms are differentiated from the traditional covering-law explanations and statistical regularities by indicating the "cogs and wheels", the entities, actions and relations, of the causal process through which outcomes are produced (Hedström and Ylikoski 2010). In futures studies, focusing primarily on efficient causes and causation between abstract macro-level factors tends to lead to determinism and consideration of particular ill-defined external shocks as causes of change (Derbyshire and Wright 2017). Even though focal actors may be seen to exhibit limited agency, broader social systems are often

implicitly seen as following a trajectory determined by presently visible driving forces (Tuomi 2019). Causal mechanisms, in contrast, are local in that they explain spatiotemporally restricted processes rather than statistical regularities or development seen through general system variables (Hedström and Ylikoski 2010). In particular, qualitative research, which captures unfolding meaning-making processes, is compatible with mechanism-based theoretical accounts (Tavory and Timmermans 2014, 97). Nevertheless, similar types of mechanisms, such as self-fulfilling prophecies, may explain outcomes in different cases (Hedström and Bearman 2009, 6–7). In principle, mechanism-based explanations require empirical evidence to provide plausible analytical explanations for each link and rigorous checking of each assumption. In practice, futures researchers are typically interested in broad macro-level phenomena and thus will need to balance between rigour and comprehensiveness. Mannermaa's (1991) evolutionary futures studies, for instance, is rather broad in scope, making it difficult to identify and justify particular mechanisms, and thus the meso level of specific institutions and collective action may be a fruitful starting point for analyses. Mechanism-based explanations are foundational for the recent approach of analytical sociology. However, analytical sociology has thus far mostly examined micro-level mechanisms related to individuals' behaviour, although links to historical sociology examining large-scale processes have also been suggested (Barkey 2009; Hedström and Bearman 2009).

Crucially, the mechanism-based approach precludes prediction when social action is involved, because “the same mechanisms can produce different outcomes in different circumstances” (Hedström and Ylikoski 2010, 56). The focus on causal mechanisms therefore needs to be distinguished from the conception of deterministic mechanistic systems, which are in fact rare and exclude all living systems and human societies (Tuomi 2019). Unpredictability means that mechanism-based futures research is strictly speaking not about the future, or indeed futures, but about understanding present structures and anticipatory assumptions and identifying contingent possibilities in the present.

The causal mechanism approach is often connected with the critical realist position on philosophy of science, notably promoted by the British philosopher Roy Bhaskar (Bhaskar 2014; Hedström and Ylikoski 2010). The ontological critical realism of Bhaskar and others should be distinguished from the epistemological critical realism promoted by Wendell Bell for futures studies. The latter attempts to epistemologically steer between positivism and post-positivism while Bhaskarian critical realism is more concerned with social ontology and justifiable forms of causality (Bell 1997; Bhaskar 2014). Critical realism in Bhaskar's sense is rather complex and employs specialist vocabulary such as ‘generative mechanisms’ and ‘causal powers’, and it is not fruitful to explore this philosophical basis in depth in this dissertation. However, it is interesting to note that closeness to critical realism

unites the cultural political economy approach discussed below (Sum and Jessop 2013), recent contributions to the philosophical basis of futures studies (Patomäki 2006; Poli 2011) and the causal mechanisms approach.

In order to maintain the emancipatory element in critical-analytical futures studies, that is, reduction of injustice and avoidable suffering and promotion of flourishing, another type of causality is also necessary: the future-oriented projects that motivate human actors. Eleonora Masini has discussed the importance of understanding actors' projects for futures studies, distinguishing this from both predictive and utopian approaches (Masini 1989). More recently sociologists have drawn on Alfred Schütz's conception of projects to emphasise projectivity as a key element of human agency (Emirbayer and Mische 1998; Mische 2009). While causal mechanisms help to understand the structural conditions and the process of events, considering future-oriented and value-driven projects of human actors as well as the interplay of many such projects is also necessary to give a richer account of social events that also considers human agency. Projects can be characterised as the *final causes* of future outcomes (Derbyshire and Wright 2017). In line with the historical emancipatory approach, the normative standpoint of critical-analytical futures studies should be (critical) commitment to emancipatory projects, in the plural, rather than committing to the perspective of any single social actor or to a specific image of the future such as a precisely specified 'sustainable future'. As Masini (2006, 1166) states, "projects for and of the future must be many, reflecting different values and appreciated for their diversity. [...] Futures projects are political and ethical positions that lead to action."³

It is important to analytically distinguish the imagined futures of various actors and the future that emerges as the result of their systemic interaction. Actors and coalitions promote different projects, but the resulting outcome may not be intended by any single actor. Institutional change and design may then be *intentional*, driven by goals, values and objectives, but not *purposive*, leading to a fully predicted outcome (Lewis and Steinmo 2012). Agency-oriented approaches in transition studies discuss similar issues, but the direction of desired change is relatively clear for sustainability transitions, which allows to identify pioneers and frontrunners (de Haan and Rotmans 2018; Heinonen and Karjalainen 2019; Karjalainen and Heinonen 2018). In contrast, it is less clear who are pioneers in the context of privacy.

2.4 Cultural political economy

Admittedly, the notions of causal mechanisms and actors' intentional projects come from different theoretical lineages, and their combination raises the perennial

³ The broader project is to ensure the kind of society that enables multiple future-oriented projects and the freedom to discuss alternative futures (Bell 1997, 74).

challenge of structure and agency. Causal mechanisms point towards the importance of structures, while studying actors' projects emphasises the agency of relatively free-willed actors. The framework of cultural political economy provides several useful analytical tools for bridging this gap and understanding structural conditions and actors' strategic opportunities. Cultural political economy (CPE) is an interdisciplinary social scientific approach that begins from the principle of complexity reduction (Sum and Jessop 2013). The social world and social practices cannot be comprehended in all their complexity, which means that selection is necessary for social actors to 'go on', but selection may take many different forms. In particular, the cultural political economy framework provides three useful sets of conceptual tools. The first tool is the strategic-relational approach to institutions by which the CPE approach attempts to bridge the perennial structure-agency divide in social sciences. Rather than discussing external constraints (structure) and free-willed actions (agency), the CPE approach considers "structurally inscribed strategic selectivity" and "strategically calculated structurally oriented action" (Sum and Jessop 2013, 50). The terminology is admittedly somewhat complicated, but it usefully recognises how certain structures such as organisational forms selectively privilege certain types of agents and action, and conversely how actors may utilise (or not utilise) these contextual opportunities when selecting a course of action, depending on their capacities (Sum and Jessop 2013, 49). Importantly, structures are not viewed as fixed but as historically evolving.

The second conceptual tool is the distinction between two modes of complexity reduction in social practices: sensemaking (semiosis), which produces sedimented meanings, discourses and imaginaries, and structuration, which produces institutionalised social forms (Sum and Jessop 2013, 148–60). Semiosis refers to continuous sensemaking and meaning-making at different levels, where phenomena are fitted into simpler frameworks to comprehend them. Similar semiotic practices occur in many fields: everyday life, scholarship, policymaking and so on, and they include both situational meanings and shared cultural codes that transcend particular situations. Norton (2014) sums up the importance of shared meanings: "cultural systems, understood as the set of relevant conventions of meaning, are the preeminent technique people use to figure out what is going on and who one is in a situation and to map their courses of action". Complexity reduction through semiosis seems close to Peirce's semiotics and abductive reasoning, where individuals are seen to continuously and creatively redefine actions and situations (Tavory and Timmermans 2014, 140). Sum and Jessop (2013, 4) state that their approach is close to the Peirce's pragmatic tradition but not located within it. However, in discussing semiotics (Sum and Jessop 2013, Ch. 3), they do not elaborate their relationship to the pragmatic tradition.

Structuration, in turn, means the contingent reproduction and transformation of social systems in the continuous interaction among social actors. Like cultural systems, institutional rules internalised as inter-subjective schemas also make meaningful social interaction possible: “Because individuals’ attention and cognitive capacity are limited, humans rely heavily on such ‘schemas.’ [...] [T]hey are a coherent set of interrelated propositions that inform one’s view of how the world works, one’s goals, and the means of achieving them” (Lewis and Steinmo 2012). Here, frameworks from historical institutionalism such as Mahoney and Thelen’s (2009) theory of gradual institutional change are useful for bringing rigour to structuration analysis. Historical institutionalism is discussed below in the next section.

It is interesting to compare cultural political economy with causal layered analysis (CLA), since CLA is perhaps the best-known critical futures method. Causal layered analysis, based on a post-structuralist philosophy of science, tends to prioritise the semiotic and linguistic dimension, by considering ‘social causes’ as one layer of meaning that is based on fundamental myths and metaphors (Inayatullah 1998). In CLA, the ‘real’ is conceptualised as discursive and layered (Inayatullah 1990, 1998) while in CPE the ‘real’ is assumed to exist partly outside discourse but social actors have no direct access to it. The myth/metaphor layer in causal layered analysis investigates one instance of sensemaking: comprehending complex phenomena through cultural myths and cognitive metaphors. CLA is also a practical method to promote investigation of broader futures by taking distance from the present, and as such it can be seen as an intervention into the semiosis and structuration processes that CPE studies. While intended as dynamic, the CLA method as such does not include any explicit consideration of temporal sequences where different worldviews interact over time. Causal layered analysis is perhaps most appropriate as a tool for analysing imaginaries in depth and for promoting novel possible futures based on metaphors, and it can be complemented with other tools such as CPE for outlining the mechanisms of institutional and cultural change.

Finally, the third conceptual tool is the distinction between four modes of strategic selectivity: structural, discursive, technological and agential (Sum and Jessop 2013, 214–19). These condition the co-evolution of imaginaries and institutions in different ways. Structural selectivity means the constraints and opportunities to action provided by prevailing social structures such as existing institutions. Discursive selectivity refers to the constraints and opportunities in semiotic orders such as imaginaries, established discourses and text genres. Prevailing discourses may restrict which statements are imaginable and intelligible, who is authorised to state them and how they can be connected to broader discourses. Technological selectivity combines structural and discursive features in more comprehensive “knowledging technologies” such as dominant strategic logics and regimes of truth, visible for instance in credible scientific disciplines. Finally,

agential selectivity refers to the capacities of agents to strategically calculate their approach in particular situations (Sum and Jessop 2013, 214–19).

Semiosis and structuration produce path-dependent societal developments as well as path-breaking semiotic and social innovations. Semiotic and structural changes co-evolve through three general evolutionary mechanisms: continuous *variation* in discourses and practices, *selection* of certain discourses and practices to make sense of phenomena and *retention* of certain discourses and practices in routines, institutional rules, ways of talking and so on (Sum and Jessop 2013, 184–85).⁴ Lewis and Steinmo (2012) also argue for the role of continuous variation produced by advanced cognitive capacities in institutional change: “In constantly generating new variation upon which mechanisms of selection and replication operate, cognition, cognitive schemas, and ideas become central for understanding the building of human institutions, as well as the scope and pace of their evolution”. Discourses that are merely used by actors for sensemaking are *construals* (or “mere fantasies” in Alfred Schütz’s terms), while putting them into practice makes them *constructions* with potentially transformative effects (or “design fantasies”) (Beckert 2013; Sum and Jessop 2013, 162). This distinction, although rarely explicitly stated, is crucial in futures studies, since it denotes the difference between disconnected scenarios or images of the future and future-oriented action on the basis of such imaginaries. For Poli (2017, 1:67), this direct action orientation distinguishes anticipation from foresight.

2.5 Towards an anticipatory cultural political economy: anticipatory institutional change and latent possibilities

In sum, cultural political economy offers a theoretical vocabulary that can be operationalised and is broader than domain-specific terms. However, the framework does not explicitly consider anticipation and futures. Thus one option would be to turn to Jasanoff and Kim’s sociotechnical imaginaries as images of desirable futures (Jasanoff and Kim 2015). However, a more interesting option is to consider imaginaries as anticipatory, pointing towards futures, even though they may not explicitly contain representations of (desirable) futures. Poli (2017, 1:52) makes an analytical distinction between *representational* and *presentational* anticipation. The former contains explicit ideas about futures while in the latter, futures are embedded in action and practices. A possible third type is imaginaries that contain beliefs about

⁴ The authors also provide a more elaborate set with two additional mechanisms (reinforcement and selective recruitment) but they mostly utilise this set of three mechanisms.

the world, about the roles of human actors, about causality and so on (cf. Bell and Mau 1971; Taylor 2004). They are representations but not explicitly about futures.

Many authors have made some kind of distinction between more explicit, intentional foreground discourses and underlying imaginaries. In causal layered analysis, the litany level represents the manifest content of discourses, while the underlying layers point to a deeper myth, worldview or imaginary (Inayatullah 1998).⁵ Drawing on CLA, Miedziński (2018) suggests analysing policy narratives by reconstructing their storylines and then investigating their deeper narrative frames, including cognitive and normative determinants. Lewis and Steinmo (2012) distinguish between *ideas* (conscious, creative solutions) and *schemas* (unconscious cognitive rules) on the individual level. Schmidt (2008), in turn, distinguishes between foreground policy ideas and programmatic ideas, and underlying philosophical ideas that are rarely contested, and also between foreground discursive abilities and background ideational abilities. In a similar way, Tavory and Eliasoph (2013) discuss narrative trajectories/projects (shared stories about where actors are going) and temporal landscapes. The latter are naturalised ways of organising time that are rarely explicitly discussed unless their stability is challenged. For understanding anticipatory multi-actor dynamics, I would then argue for distinguishing between *actor storylines* and *anticipatory imaginaries*. The former are explicit narratives with a similar way of making sense of a complex world that are used to persuade others and form discourse coalitions (Hajer 1993, 47–48). The latter concern different actors' underlying relationships to the future but they are usually not explicitly articulated and they need not be explicit images of the future.

Cultural political economy seems to be compatible with the theory of anticipatory systems, since both involve complexity reduction as a necessary prerequisite for action. Anticipatory agents formulate simplified models of their environment to guide their future-oriented action (Louie 2010). CPE makes a useful distinction between two types of models: imaginaries, which are 'sedimented' semiotic orders, and institutions, which likewise represent crystallisations of continuous societal processes (cf. Mahoney and Thelen 2009). In-depth philosophical discussion and synthesis of the two frameworks is beyond the scope of this dissertation.

The key point is that institutional change is an anticipatory process because the imaginaries employed by actors point towards futures. Historical and discursive institutionalism provide conceptual tools for understanding institutional change, which I will argue to be useful for developing an anticipatory approach to institutional change

⁵ In an earlier paper, Inayatullah points to Donald Michael's and Walter Truett Anderson's argument for investigating stories, larger structures of meaning, instead of scenarios understood as playful exploratory devices (Inayatullah 1990).

and cultural political economy. In historical institutionalism, institutions are seen as contingent and evolving settlements of power dynamics between actors (Mahoney and Thelen 2009). Discursive institutionalism, in turn, highlights the role of ideas and political philosophies in institutional change (Schmidt 2008). However, the anticipatory orientation of institutional change has received little explicit attention. While rational choice institutionalism and historical institutionalism consider the material interests of actors and discursive policy analysis studies discourse coalitions, the anticipatory projects that motivate them are not explicitly examined (Hajer 1993; Hall and Taylor 1996; Mahoney and Thelen 2009). Conversely, in the futures field, political and institutional dimensions are often lacking, and in particular, gradual evolutionary institutional change processes that involve changes in cognition and framing are rarely discussed (Nilsson et al. 2011). This is understandable because it greatly increases complexity: not only are there alternative futures, there are alternative ways of framing the focal issues, which in turn influence institutional change. An anticipatory approach to institutional change is important because institutions are not only developed based on causal factors from the past or interpretations of the present but also looking forward into imagined and planned futures, with future-oriented actors and projects playing a key role.

The future-oriented study of institutions means studying the continuous negotiation processes and struggles over plausible future imaginaries that may then become institutionalised in social structures. In the futures field, there is a long tradition of research into images of the future and their role in societal development, starting from Kenneth Boulding's and Frederik Polak's works on the role of the images of the future in societal development, and continued in Wendell Bell's 'cybernetic-decisional model' of the systemic antecedents and effects of images of the future and Anita Rubin's studies on young people's images of the future during times of social transition (Bell and Mau 1971; Boulding 1963; Polak 1973; Rubin 2013). Bell (1997) identifies the study of images of the future as one of the tasks of futures studies. However, only recently scholars have explicitly studied the 'ecology' and coordination involving numerous anticipatory actors with different images of the future (Michael 2017; Tavory and Eliasoph 2013). As van Lente (2012) states, socio-technical developments are "saturated with formal and informal anticipations", where explicit foresight may only be the tip of the iceberg.

For understanding systemic developments, it is important to draw attention to causal mechanisms that explain *how* changes in institutional rules and structures are produced through interacting factors (Hedström and Ylikoski 2010). There are continuous processes of societal contestation and negotiation over plausible futures, which may take different forms in different contexts, but the general outline remains similar. It is important to notice that 'the negotiation process' is an abstraction that actually consists of innumerable local sites of contestation, negotiation and struggle

around specific aspects of the future. Models of policy cycles with agenda setting, decision-making and implementation are one example of such negotiations. The numerous local negotiations may exhibit general patterns, what Tavory and Eliasoph (2013) call trajectories (shared narratives that give meaning to action) and they take place against the ‘temporal landscape’ (widely shared views on structuring time, such as weekly calendars). The diversity of views vary in different negotiation processes, from an emphasis on one shared vision to countless heterogeneous perspectives (Tuomi 2019). Actors’ future-oriented projects are important but the outcome of the contestation may differ from any actor’s project.

Because no actor usually dominates the institutional change process, negotiating *plausibility* is a central mechanism. Imaginaries and discourses remain only construals in Sum and Jessop’s (2013) terms unless they take root and influence the construction of institutions. Here, discursive, structural and technological factors and strategic action together work to select certain options and exclude others (Sum and Jessop 2013, ch. 5). Plausibility may then be seen as a particular kind of discursive selectivity, which entails that imaginaries are meaningful and viable from the perspective of key actors, such as policymakers, with particular sensemaking frames. Importantly, narratives need to have practical credibility in addition to inherent convincingness (Beckert 2013). Here I adopt van der Helm’s (2006, 24) concept of plausibility as a purely subject-related notion that refers to “concepts of judgment and conviction, to argument and the process of being convinced”. In other words, plausibility relates to negotiations, sensemaking and reasoning, not to the objective possibility or probability of the described future state, which is often unknowable in advance. This differs from the common conception of plausible futures as a subset of possible futures.

The notion of negotiating plausibility challenges a conception of strictly rational and evidence-based decision-making. What is plausible to key actors is not only defined by facts but arguably also by ethics, values, worldviews and even aesthetic considerations of what are appropriate, elegant or ‘ugly’ solutions (Eidinow and Ramirez 2016). There is a paradox related to the plausibility of imaginaries. If an imaginary is highly plausible, it is also unlikely to challenge the status quo and promote change. On the other hand, if an imaginary is highly challenging to the status quo, it is unlikely to be widely perceived as plausible and therefore has limited effect (Ramírez and Selin 2014). We can hypothesise that effective imaginaries skilfully combine existing discourses and stretch the limits of plausibility to promote novel social practices. Power relations among actors may also be highly unequal in negotiations. The institutional and economic positions of the actors that discuss futures are likely to influence perceptions of plausibility. The different ways in which power plays out in negotiations on plausibility is an important topic for future work.

In temporal terms, negotiation processes include opening phases where institutional rules are opened to questioning and new actors are included in the

discussion (den Besten, Arts, and Verkooijen 2014), and even crises and ‘hyperprojective’ phases when different understandings of the future are made explicit and brought forth as objects of conscious reflection (Jessop and Oosterlynck 2008; Mische 2014). Mische argues that by analysing futures talk in sites of hyperprojectivity, “we can understand the mechanisms by which future projections affect decisions, relations, and institutions” (Mische 2014). The three mechanisms of variation, selection and retention provide a useful simplification of these mechanisms (Sum and Jessop 2013, 184–85).

Jessop and Oosterlynck (2008) emphasise economic, social and political *crises* as conducive to alternative projects and visions as well as attempts at reasserting the dominant order, and their outcomes are not deterministic.⁶ Depending on the actor perspective, crises are catastrophes or windows of opportunity. The public consultations on the EU General Data Protection Regulation, studied in Minkkinen (2019a), may be seen as one opening phase, if not a crisis.

Anticipatory CPE then provides a temporal frame for critical-analytical futures studies by investigating the co-evolution of imaginaries and institutions. However, since critical futures studies and the causal mechanism approach posit that prediction is generally impossible in social systems, the problem of futurity remains. Does the ‘future’ only mean the future horizons of actors or can we say something about possible future outcomes of actions? I would argue that the framework allows provisional identification of latent possibilities. Theorists within futures studies, philosophy and the social sciences have considered similar notions but have given them somewhat different names. For instance, Masini (2006) discusses “seeds of change” in the process of history, while Bell (1997, 76) discusses “real potentials within things” and “the futures that could be” as well as “dispositions”. In *The Principle of Hope*, Ernst Bloch discusses several types of possibility, the most relevant here being “possibility according to the object”, which means potential that is hidden in the structure of an object, which may be either active evolutionary potential or passive, requiring human intervention to become reality (van der Helm 2006; cf. Poli 2017, 1:88–93). Poli (2011), in turn, discusses five provisional categories of *latents*: dispositions, seeds of the future, and three kinds of constraints (social relations, levels of reality and worldviews/myths). There is an interesting parallel here to the four selectivities in cultural political economy. Patomäki (2006,

⁶ Capoccia and Kelemen (2007) similarly argue that critical junctures are decisive breakpoints in path-dependent development. The concepts of tipping points and bifurcations are also similar (e.g. Mannermaa 1991). Slaughter (1982, 153) likewise argued for three broad phases in critical futures: analysis of breakdown of inherited meanings, reconceptualisation via new paradigms and negotiation and selective legitimisation of new meanings.

14) states that “[r]eal possibilities are not exhausted by actualised or empirically observable possibilities”, while Miller (2010, 74) mentions identifying “emergent traces of both endogenous and exogenous change in anticipatory systems”, which may be “hidden by the filters of the dominant paradigm”. Adam and Groves (2007, 17, 122) discuss “latent futures in the making”, which are living in the present and on their way to emergence. Sum and Jessop (2013, x) note that semiosis may refer to “as-yet-unrealized possibilities”. The distinction in CPE between semiotic (sensemaking) and structural/institutional factors is useful for considering future potential. Future potentials and potential pathways thus reside in the opportunities provided by the co-evolution of particular imaginaries and institutions. However, in open systems we cannot predict which sets of potentials will actualise and we cannot simply assume which pathways could emerge.

Based on the previous discussion, critical-analytical futures studies could be summarised with the following definition: critical-analytical futures studies investigates the relationships between anticipation, semiosis, structuration and latent possibilities in particular spatiotemporal contexts. The elements of critical-analytical futures studies are illustrated visually in Figure 2.

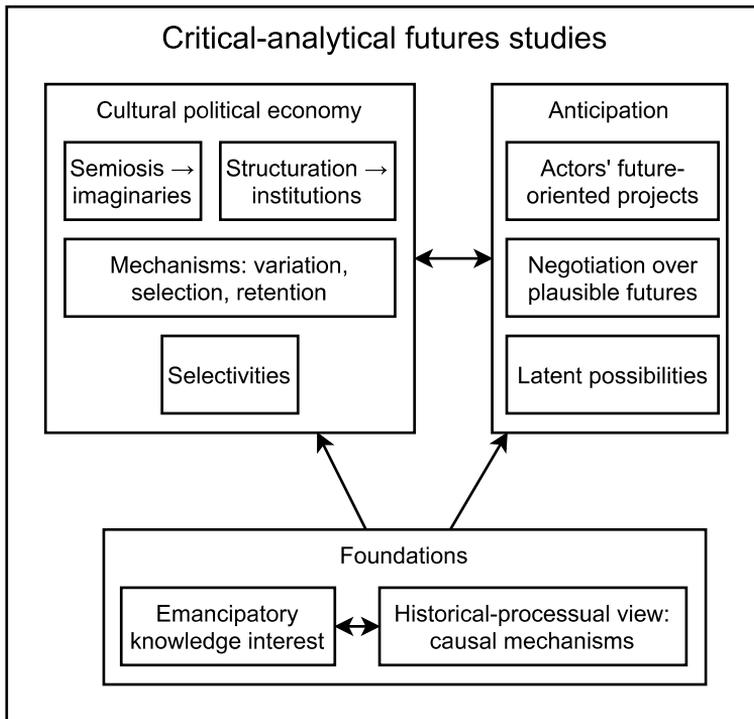


Figure 2. Elements of critical-analytical futures studies.

3 Locating Privacy as a Systemic and Anticipatory Phenomenon

This chapter discusses the meaning of privacy for anticipation and future orientation. Using the critical-analytical futures studies framework presented in the previous chapter, I will argue below that privacy occupies a position at the intersection of three types of anticipatory practices: anticipatory institutional change, predictive surveillance practices and everyday anticipation. In other words, privacy is not simply another topic for future-oriented study, but it is *conceptually linked to anticipation*. This means that changing privacy rules also changes the way futures are made. It should be noted that a similar argument could be made for many topics: different energy systems and housing policies, for instance, may also change anticipatory practices. This makes futures studies an inherently reflexive field that needs to examine its own influence on phenomena and its co-evolution with them. In the following, this reflexive attention will be turned to privacy as an anticipatory phenomenon.

3.1 Privacy: a systemic understanding

Privacy is a notoriously difficult concept to pin down. First the choice of this term needs to be justified. For some scholars ‘privacy’ is an overly limited concept for investigating widespread surveillance practices (Lyon, Haggerty, and Ball 2012). Coll (2014) argues that when privacy is given a precise ‘bureaucratic’ definition, it in fact acts as an ally of surveillance by shaping subjects that diligently protect their own privacy without challenging broader structures. There are certainly definitional struggles around privacy. Many commentators agree about the importance of privacy but give subtly or radically different meanings to the term. Nevertheless, ‘privacy’ has proved to be a resilient and evocative term around which many debates and networks have been formed, together with the European concept ‘data protection’, which is somewhat narrower and more technical (Bennett 2012). Therefore privacy will be utilised as the central concept in this study.

I will argue for a particular systemic understanding of privacy that seeks to put privacy into a broader societal context rather than perceiving it as an individual

interest. When considering the possibilities of privacy in the future and future governance of privacy, we need to consider the whole picture in order to avoid partial optimisation. Over decades of scholarship, definitions of privacy have proliferated in different fields. The different views on privacy may be classified according to two axes: 1) emphasis on the micro, relational or macro level and 2) emphasis on subjective factors such as experiences and values or emphasis on objective factors such as the social mechanisms around privacy (Minkkinen 2015). Table 2 presents an overview of privacy definitions.

Table 2. Definitions of privacy (Minkkinen 2015).

	Subjective definitions: experiences, norms, values	Objective definitions: mechanisms, functions
Micro: individuals	Privacy as control over personal information (Westin 1967).	Privacy as precondition for dignity, respect and moral autonomy (Benn 1971; Bloustein 1964; Floridi 2016; Reiman 1976). Privacy as the right to be let alone: protection from intrusion, interference and information access (Gavison 1980; Tavani 2008; Warren and Brandeis 1890).
Relational: relationships and groups	Privacy as norms that ensure appropriate flows of information (Nissenbaum 2010).	Privacy as necessary for intimate relationships through differential sharing of personal information (Rachels 1975; Fried 1968). Privacy as a dynamic process of negotiating boundaries and forming self-identity in social relations (Cohen 2012; Petronio 2002; Schoeman 1992; Steeves 2009).
Macro: society	Privacy as a shared value (Regan 1995).	Privacy as a feature of social structure, a societally constructed right or fundamental right, and a socially created need (Baghai 2012; González Fuster 2014; Moore 1984; Solove 2008; Westin 2003).

On the micro level, there is a distinction between privacy as *control* over personal information (Westin 1967) and privacy as a right or condition of limited access related to human dignity and moral autonomy (Benn 1971; Bloustein 1964; Floridi 2016; Gavison 1980; Reiman 1976; Tavani 2008; Warren and Brandeis 1890). On the relational level, privacy is viewed as crucial for social interaction, and scholars emphasise either subjective norms (Nissenbaum 2010) or objective processes of relationship maintenance and negotiation of boundaries (Cohen 2012; Fried 1968; Petronio 2002; Rachels 1975; Schoeman 1992; Steeves 2009). On the macro level, privacy has been defined as a shared value (Regan 1995) and as a feature of existing social structure (Baghai 2012; Moore 1984; Solove 2008; Westin 2003). This overview suggests that definitions need not be mutually exclusive because

they focus on different aspects of a complex phenomenon. Privacy is also difficult to place in any single interpretive frame because it evolves over history, and different aspects of the phenomenon are salient in different times, due to societal concerns such as terrorism and questions raised by technologies such as the rise of computers after the Second World War and new technologies such as Big Data analytics, the Internet of Things and networked sensors in smart cities today. Moreover, privacy seems to operate at the boundaries between different societal levels (micro, meso, macro) and spheres of social action (Nissenbaum 2010; Schoeman 1992). This dynamic nature is important to remember since “all definitions of privacy, to some extent, are based on questionable assumptions about individualism, and about the distinction between the realms of civil society and the state” (Bennett and Raab 2006, xxii).

In this study, I will address the task of defining privacy by focusing on *privacy protection* as societal rules that govern data flows and uses of data (Nissenbaum 2010; Richards 2015a). Viewed in this way, privacy can be defined as a social institution, which includes rules, instruments, norms and actor roles. This institution structures expectations about social practices in the context of complexity. The rules can take different forms, ranging from implicit social cues and norms to binding legislation. They may be contextual, such as norms about certain rooms within a household, or broadly applied. Crucially, privacy protection rules exist in a social context with sets of institutions, structures, dominant technologies, social imaginaries and so on. Furthermore, I argue below that at present, privacy rules primarily protect dynamic processes of *anticipation* that are disrupted by surveillance practices. By extension, privacy protects a particular kind of anticipatory society.

Before investigating privacy further, the focal problems that guide this study should be clarified. This is not only an academic undertaking because as Nilsson et al. (2011, 1125) state, underlying norms and cognitive perceptions about problems and solutions are key to developing adequate policies. It is possible to identify several partly overlapping types of privacy issues. They may be heuristically divided into three categories:

1. Criminal data breaches and hacks
2. Individuals’ experiences of anxiety, discomfort, loss of privacy, loss of control and other direct or indirect harms
3. Structural and often invisible issues related to power, domination, autonomy and behavioural manipulation

Firstly, there are legitimate concerns around criminal exploits, which are likely to become an increasingly significant issue for digitalising societies. Focusing on data breaches and hacks frames privacy as a rather technical issue connected to

cybersecurity and specific technological measures to secure systems. Interestingly, privacy understood as protection from criminals, hackers and identity thieves has been found to facilitate the development of government surveillance technologies in the United States (Rider 2018). This first aspect of privacy is regularly discussed in computer science, for instance. Even though they are important, these cybersecurity concerns are not investigated in this dissertation. Secondly, there are harms that individuals experience such as anxiety, loss of control and potentially also more tangible harms. Thirdly, there are more invisible structural issues related to unequal power relationships and the potential for domination and behavioural manipulation. The two latter types of issues are difficult to disentangle, but it is important to analytically distinguish between them because they point to different privacy conceptions and different kinds of solutions. Methodologically individualist studies of privacy concerns, for instance, focus on individuals' experienced privacy concerns and individual privacy management (e.g. Bellman et al. 2004). This approach tends to locate privacy on the subjective end of Table 2, as an individual interest or value. This aspect of privacy could be titled *experiential privacy*.

While the experiences of individuals are important, the less visible structural underpinnings of privacy are at least equally important because they are linked to broader socioeconomic processes. Focusing on power issues, as in surveillance studies for instance, tends to convey privacy in more objective terms, as a condition or a right rather than a subjective experience or concern. This aspect of privacy could be titled *structural privacy* or *institutional privacy*. Recently, some authors have argued that privacy should be seen through the lens of power and domination rather than experienced harms (Austin 2015; Cohen 2013; van der Sloot 2018). If structural issues were neglected, the solution to privacy issues could be to maintain current power relations and simply make surveillance more smooth and comfortable. While considering each of these aspects of privacy is valuable, I will focus on the third type because it is crucial for considering societal futures, and it is often unexplored in more technical and individualistic discussions of privacy.

A systemic perspective on privacy protection draws attention to the different actors, factors and their relations that influence privacy protection. Beginning with actors, Raab and Koops (2009) discuss the roles of various actors in the privacy system and present a categorisation duplicated in Table 3.

Table 3. Actors and their privacy roles and responsibilities (Raab and Koops 2009, 215).

Actor	Responsibility
Constitution-maker	Stipulate the right to privacy
Legislature	Make privacy-compliant laws and data protection acts
Data protection authority	Supervise and enforce compliance, encourage good practice, raise awareness in public and politics
Court	Decide cases involving privacy breaches
Government department or agency	Compliance, staff training in privacy protection
Private company	Compliance, staff training in privacy protection
Privacy activist organisation	Campaign for privacy, propose regulations, raise public awareness
Academic	Explain privacy and data protection, discern long-term developments
Journalist	Highlight issues and events, explain policies and developments
Consumer	Protect own privacy, complain
Citizen	Protect own privacy, complain
Technology developer	Implement privacy-enhancing technologies (PETs), educate IT professional staff about privacy

The authors stipulate continuous conflict and negotiation as major processes in the system rather than simplistic stories of “onward march of privacy protection or the inevitable erosion of privacy” (Raab and Koops 2009, 213). While the set of actors is comprehensive, their roles are viewed rather narrowly. For instance, consumers and citizens are seen to have identical roles: only protecting their own privacy and filing complaints. What about the power of conscious consumers to shape prevailing privacy practices through their choices? What influence can citizens have as political actors through numerous channels such as campaigning, prefigurative politics and direct action? Similarly, many private companies play a much larger role in societal negotiation over privacy than simply compliance and staff training. If we take a broader view of the privacy protection system, beyond the formal responsibilities of actors, groups of actors such as citizens or governments may also play more significant roles in the evolution of privacy protection.

Viewed from a systemic perspective, privacy protection is also linked to a number of societal processes and practices. To understand the systemic linkages of privacy protection, I present a heuristic ‘privacy dynamics model’ in Figure 3.

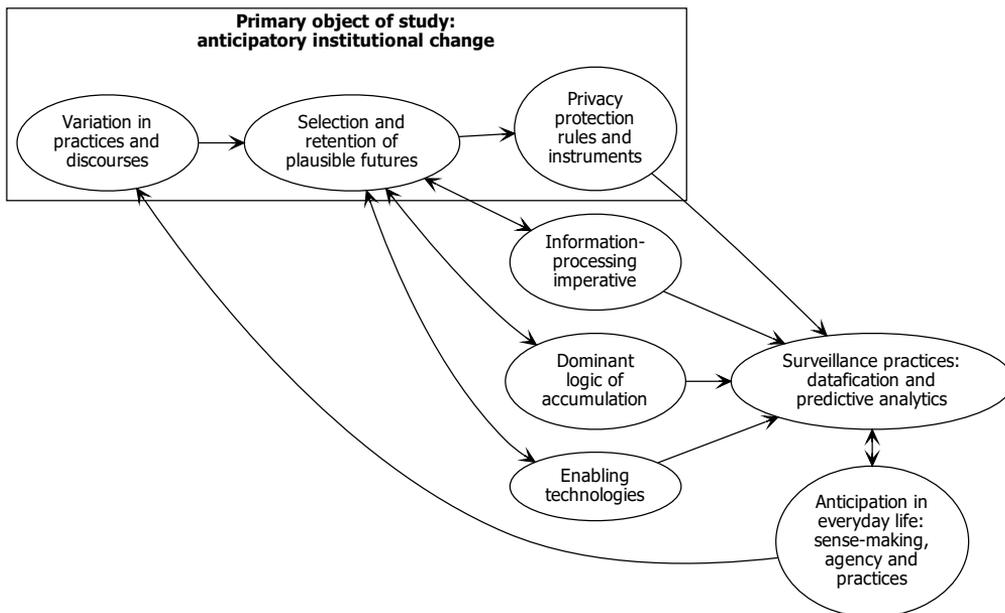


Figure 3. Privacy dynamics model, adapted from Minkkinen (2015).

The model attempts to place privacy protection in a social context taking into account current surveillance issues and the futures perspective. Privacy protection rules and instruments (e.g. Bennett and Raab 2006) govern surveillance practices, which in turn influence everyday anticipatory practices. The surveillance practices may entail data collection, processing and dissemination (Solove 2008). Increasingly, surveillance practices are future-oriented, involving predictive analytics on datafied populations (Mantelero 2016). This future orientation of surveillance will be discussed in the next section.

The arrow between surveillance practices and everyday anticipation is bidirectional because individuals and groups are not only passive subjects of surveillance, but they also protect their privacy in many ways. The so-called *privacy self-management* paradigm is still strong in the privacy protection regime, in Europe and elsewhere (e.g. Lehtiniemi and Kortensniemi 2017). However, this paradigm has come under heavy criticism recently for failing to protect individual privacy and underplaying privacy as a collective and relational phenomenon (e.g. Baruh and Popescu 2017). Privacy self-management, relying on notice and choice, could be characterised as a dominant imaginary in the privacy protection system, which relies on the notion of conscious active citizens.

The model includes three key systemic drivers of surveillance practices, each of which contributes through a different mechanism. The *information-processing imperative* refers to the taken-for-granted cultural view that more information is

better, which is rooted in the Enlightenment notion that knowledge discovery inevitably leads to forward progress (Cohen 2012, Ch. 5). This imperative holds in many areas, including security, public administration and business. The *dominant logic of accumulation*, in turn, refers to the business models that mandate ever-increasing surveillance and collection of personal data (Zuboff 2015). Global technology firms monetise the content and behavioural patterns of their users by creating and selling predictions about future behaviour. A related notion is the so-called ‘surveillance-industrial complex’, which directs attention to the global market around surveillance practices, where there are intimate links between governments, state agencies and corporations (Hayes 2012). *Enabling technologies* refers to all the technological advances that make contemporary data practices possible: big data analytics, Internet of things, social media, the semantic web and so on. Taken together, these three systemic drivers seem to add up to an insurmountable threat to privacy, as data processing is seen as beneficial, profitable and powerfully promoted by the affordances given by technologies. It should be noted that technologies also provide affordances for privacy protection, such as so-called privacy-enhancing technologies. Examples include public key encryption and various designs for increasing individuals’ obscurity in online activities. However, the important point is that technologies do not simply emerge, but they are consciously designed driven by certain goals and values, usually increasing efficiency and productivity. Once implemented, they are not simply neutral tools, but they provide certain affordances and tilt development towards certain directions.

3.2 Privacy at the intersection of three types of anticipation

The powerful drive towards increasing data processing and surveillance is the reason why discussions on the future of privacy are sometimes met with remarks that privacy does not even have a present, let alone a future. However, the relationship between privacy and futures is more complex. In the following, I argue that privacy rules operate at the intersection of three different types of anticipatory practices, indicated in Figure 3 as “Anticipatory institutional change”, “Surveillance practices” and “Anticipation in everyday life”. Hence privacy rules influence what kind of anticipation takes place rather simply promoting or hindering anticipation. Prevailing anticipatory orientations and practices, in turn, define how futures of privacy and futures more broadly are conceived.

3.2.1 Anticipatory institutional change

Like any social institution, privacy protection rules are in the process of historical evolution, and a historical perspective is necessary for understanding these changes (Thelen 2003). History should not be seen as a purely objective chain of events and facts, but rather as a more complex flow of occurrences, some of which may be framed as significant events and given meaning from different perspectives. The historical phases of privacy protection have been traced, for instance, by Mayer-Schönberger (1997) for Europe and Westin (2003) for the United States. There are continuous contestations and negotiation processes around privacy rules, which include variation, selection and retention of imaginaries and practices. In these processes, the perceived plausibility of imaginaries and practices is important for their institutionalisation. Depending on their scope, these negotiation processes may influence both privacy protection rules and the drivers of surveillance practices. The current European approach regulates data protection broadly across sectors, but sectoral legislation in many areas is also significant for data protection.

The negotiation on plausible privacy futures takes place in a historical situation marked by path-dependencies and structural constraints. There are strong cultural worldviews around privacy such as liberalism and communitarianism (6 1998b; Minkinen, Auffermann, and Heinonen 2017). In particular, all three drivers of surveillance practices play a role in the selection and retention of plausible futures. For example, images of the future with significantly decreased data collection, online space free from advertising and absence of new technologies are likely to be deemed implausible. However, none of these factors are deterministic, and they may be opened to negotiation, although this may be a risky strategy. The dilemmas related to questioning underlying drivers will be explored in the discussion chapter.

3.2.2 Surveillance practices

Privacy protection develops through an anticipatory negotiation process, as discussed above. Privacy is also related to a different type of anticipation that is becoming increasingly prominent: surveillance practices involving predictive analytics and Big Data. Surveillance is the focal topic of the emerging field of surveillance studies, and it may be defined as attention that is purposeful, routine, systematic, and focused (Cohen 2013). Another definition of contemporary surveillance is “*scrutiny of individuals, groups, and contexts through the use of technical means to extract or create information*” (Marx 2016). Surveillance can be seen as a fundamental social ordering process (Lyon, Haggerty, and Ball 2012). A foundational work in surveillance studies is Michel Foucault’s *Discipline and Punish*, which outlines the modern organisation of power as panoptic surveillance, internalised discipline and normalisation of individuals and populations (Foucault

1995). Some authors distinguish between surveillance and *dataveillance*, the latter being more continuous and involving ambiguous purposes (van Dijck 2014). New technological tools make it possible to process large amounts of data on individuals, groups or entire populations (Mantelero 2016). These data are refined through statistical analyses, algorithms and possibly machine learning to develop predictive insights, including profiling and categorising of individuals, which then guide decisions such as targeting of advertisements, behavioural nudges or policy decisions made by public authorities. In particular, ‘hypernudges’ based on Big Data and dynamic feedback loops are an extremely powerful method of behaviour modification, which can potentially influence millions of online platform users simultaneously (Yeung 2017).

These analytics and behavioural nudges generally happen entirely outside individuals’ knowledge and control, and the algorithms are trade or state secrets. Likewise, the industry of data brokers that processes data and sells prediction products is mostly invisible. Thus anticipatory capacities are redistributed from human subjects to technological systems and the actors that control such systems (cf. Groves 2017). The secrecy and diffuse nature of contemporary surveillance further diminishes the potential for reciprocity in previous forms of surveillance. Surveillance by neighbours, though potentially invasive, is radically different from surveillance by hundreds of data brokers, foreign states and the world’s largest companies. In the field of social media and online search engines, these capacities have been developed at least since the early 2000s, following the bursting of the dot-com bubble (e.g. Zuboff 2015). There is currently a significant trend towards utilising Big Data in fields such as healthcare, education, urban planning and security (Couldry and Yu 2018). While data may also concern physical infrastructure, it is particularly valuable when it concerns human individuals.

Like anticipatory institutional change, this type of anticipation also involves a feedback loop, which Cohen terms ‘modulation’. Modulation refers to processes in which surveillant attention is continuously modified according to the subject’s behaviour with logics outside the subject’s control (Cohen 2013, 1915). These forms of data processing may have far-ranging consequences for the social contract between governments, companies and citizens/consumers since according to some authors they are part of a broader process of datafication where individuals are increasingly seen through quantified data points, allowing for real-time tracking and predictive analysis (van Dijck 2014). Austin (2015) calls this “governance through profiling and categorisation” where organisations predict what individuals will do and seek to regulate this predicted future action. Even though datafication is increasingly normalised, it should be seen as a particular semiotic process that does not only neutrally describe the objective world (van Dijck 2014). Instead, datafication constructs certain kinds of understandings of the world by selecting

certain aspects of the world as decontextualised measurements and processing and combining them in order to find correlations, patterns and so on.

The prevalence of Big Data and predictive analytics can be seen as a sign of increasing societal future orientation, and it is often seen as an opportunity for futures studies. However, it promotes a particular kind of future orientation based on extracting discrete data points from ongoing social interaction processes and calculating predictions based on these data points. These are relatively unproblematic when calculating risks of infrastructure breakage, for instance, but when datafied human beings are involved, there are two kinds of problems. Firstly, there is a great risk of false certainty since humans tend to act in surprising ways. More importantly, modifying human behaviour by predicting it raises significant ethical questions. When technological predictions become an ingrained part of society, they are likely to alter predominant views on human subjectivity and the roles of citizens vis-à-vis the actors creating the predictions (Couldry and Mejiar 2018). If citizens' futures are always already calculated based on profiles, what space is left for their own future-oriented projects in the 'sea of expectations' (van Lente 2012)? These technological predictions are clearly different from the societal negotiation on plausible futures identified in the previous section.

3.2.3 Anticipation in everyday life

A third type of anticipation relevant to privacy is the everyday anticipation of individuals and groups. In everyday anticipation, sensemaking and action are intimately linked. Sum and Jessop (2013) argue that in order to 'go on' in the world, actors need to reduce complexity by continuously making sense of the world around them and formulating simpler models of complex situations. Here I am particularly focusing on the future-oriented aspect of such sensemaking. Emirbayer and Mische (1998), in a much cited paper, identify the 'projective dimension' of agency and argue that human actors imagine new possibilities and negotiate paths towards the future in an interactive process. The authors argue that "the specific culturally embedded ways in which people imagine, talk about, negotiate, and make commitments to their futures influence their degree of freedom and maneuverability in relation to existing structures" (p. 985). They also note that imaginative narrative construction and experimentation, the tentative enactment of alternative courses of action, are crucial for human agency (p. 988). In psychology, in turn, agency has been connected to possible selves, conceptions of oneself as a living and acting human in future situations that often take a narrative form (Erikson 2007). The first-person perspective of a particular human actor makes this type of anticipation different from abstract representations of futures.

This kind of everyday anticipation is connected to studies on (non-expert) individuals' images of the future (e.g. Minkkinen, Auffermann, and Heinonen 2017; Rubin 2013), often discussed through the lens of hopes, fears and aspirations. Apart from such studies on the content of images of the future, this micro-level anticipation has not received much attention in futures research, which is usually seen as a somewhat instrumental field, used either in policy or business strategy.

Recently, the emerging literature on futures literacy has drawn attention to these processes by emphasising the value of specific, unique and ephemeral anticipatory assumptions (Miller 2018b). Groves (2017) also discusses 'lived futures' as a contrast to abstract calculations and the empty futures of planning. He characterises lived futures as narratives involving a multiplicity of experiences of place and community, and particular objects of concern with needs and vulnerabilities. Lived futures are intimately linked to material practices with particular rhythms through which the future is 'known' (Groves 2017). Our five-dimensional model of futures consciousness contributes to this literature by reviewing several related concepts and providing a basis for analysing futures consciousness at individual and group levels (Ahvenharju, Minkkinen, and Lalot 2018). Cultural sociologists have also contributed by investigating the 'project' as a central concept for future orientation (Mische 2009) and developing a model of actors coordinating futures at different levels (protention, trajectories, temporal landscape) (Tavory and Eliasoph 2013).

Surveillance practices may supplant and disrupt everyday anticipation, although the connection is not linear and everyday anticipation may also challenge or utilise surveillance systems. Emirbayer and Mische (1998, 1005–6) ask which kind of contexts tend to keep actors engaged in habitual responses and which kind of contexts facilitate imaginative distance and projection of future alternatives and communicative deliberation over actions. Surveillance in general tends to direct behaviour towards conventional and socially acceptable practices, producing "tractable, predictable citizen-consumers whose preferred modes of self-determination play out along predictable and profit-generating trajectories" (Cohen 2013, 1917; Richards 2015b, 101). Predictive analytics, in particular, is relevant for the future orientation of action because data-driven predictive systems continuously fill an actor's future with calculated predictions. The predictions are then used as a basis for influencing the actor, by recommending certain products or nudging behaviour in a certain direction, for instance. These predictions are based on observed past patterns. While in everyday life, this often provides convenience, it also redistributes anticipatory capacity from the actors and their imaginative and experimental practices to such calculation-based systems. As Poli (2017, 1:254) states, "[v]iolating [the integrity of one's body] and reducing [the integrity of one's mind] immediately cut short an agent's capacity to see and use her future". Even without normative evaluation, we can note that these are different anticipatory

systems with different emphases on creative imagination and data-driven calculation. Groves (2017) discusses the abstracted and emptied future horizon that underlies formal calculation. Abstraction means the flattening of complex processes into context-free quantitative indicators (system variables), while emptying is a related process where the future is viewed as a space of possibilities with discrete decision points in order to optimise outcomes. Likewise Anderson (2010) notes calculation as one type of anticipatory practices where absent futures are made present through calculations of probabilities rather than imagining or enacting possible futures.

We may hypothesise that in a society that emphasises efficiency, data-driven surveillance is likely to increase because actors' everyday anticipation processes are likely to be less efficient, at least in the short run. Human actors need time to consider different options and experiment, even though intuitive decisions may also be made very rapidly. In any case, the fact that a calculated future or calculated futures already exist not only makes this process faster or more evidence-based but also changes its nature. Similarly, it does not only change outward behaviour but the meaning of behaviour for agents. In contrast to calculative and optimising practices, lived anticipation in everyday life is highly embodied and contextual, involving affects and emotion — hope, fear, longing, anxiety, concern over particular objects of concern, loved ones and so on (Groves 2017).

The relevance of privacy in this context is that *privacy rules protect everyday anticipation* by limiting surveillance practices that disrupt this kind of anticipation. Privacy can be seen as *breathing space for futures* at the intersection between three types of anticipation. Privacy rules are built through an anticipatory societal process, they regulate predictive surveillance and they enable everyday anticipation. Accounts of privacy as necessary for intimate relationships and personhood were already put forward in the 1970s (Reiman 1976). Recent privacy theorists have drawn attention to the dynamic nature of the processes that privacy protects. Cohen (2013) argues that privacy shelters processes of play and experimentation from which innovation emerges. For her, privacy regulation must maintain “interstitial spaces” where dynamic, emergent subjectivity may develop and flourish (Cohen 2013). For Cohen, “the play of everyday practice is the means by which human beings flourish. It is the modality through which situated subjects advance their own contingent goals, constitute communities, and *imagine their possible futures*” (Cohen 2012, unpaginated, emphasis added). Similarly, Richards (2015b, 5–6, 95–96) views privacy rules as safeguards of sensemaking, intellectual exploration, idea generation and belief formation, which surveillance tends to chill and drive towards the mainstream. According to Richards (2015b, 108), privacy protection nurtures a “culture of vibrant intellectual innovation” and human imagination. In his view, ideas often need to be discussed and tested in more restricted spaces before public

exposure — a notion that is familiar to most academics. Brewster and Hine (2013) link privacy to spaces of ambiguity and incomplete legibility, historically found in cities, which enable creativity and innovation. Privacy can then generate futures by providing space for new ideas and practices (Poli 2017).

Floridi (2016) presents a somewhat different framing of similar ideas. From a philosophical perspective, he argues that humans are characterised by permanent incompleteness: “We are the incomplete species that wants, that misses, that asks questions, that has doubts, that worries or rejoices about the future and regrets or feels nostalgia or saudade about the past, that can see the other side of the coin” (Floridi 2016, 309). Central to human dignity is the possibility to remain open and in the process of becoming and resist efforts for closure. From this perspective, many contemporary surveillance practices attempt to ‘close’ individuals by profiling them and predicting their future behaviour. From the perspective of anticipation studies and the capabilities approach, Poli (2017, 1:253–54) discusses agents (individuals, communities, organisations) as continuously unfolding, and becoming a fully human person requires constant care and enabling conditions. The psychological theory of possible selves also highlights the self-concept as forward-looking and dynamic, influenced by hopes, fears and motivations, rather than fixed (Markus and Nurius 1986). Privacy, properly understood, thus enables open-ended human flourishing and maintaining multiple ‘possible selves’ rather than secrecy and isolation to protect an essentialistic self.

Privacy as an enabler of everyday anticipation should be connected to the critical literature on alienation and the potential inherent in everyday life. In Western sociology, critical theory and cultural philosophy, alienation and social order in modernity are among the grand themes. Émile Durkheim’s study of *anomie*, Georg Simmel’s ‘tragedy of culture’ where objective culture threatens to overcome humans, Max Weber’s notion of ‘instrumental rationality’ and Walter Benjamin’s loss of the ‘aura’ in the age of technological reproducibility all touch on similar themes of human alienation and the possibility of de-alienation and flourishing (Benjamin 2008; Durkheim 1999; Simmel [1911] 1997; Weber 1978). The Frankfurt School’s discussions on the irrational elements in Enlightenment thinking, the alienating ‘culture industry’ and the colonisation of the lifeworld by the system also discuss similar themes (Adorno and Horkheimer [1944] 1997; Habermas 1984). ‘Everyday life’ has often been an ambiguous underlying theme in such discussions. The critique of everyday life has been explicitly taken up by French philosophers after the Second World War. For Henri Lefebvre, the everyday world is where the individual acquires a coherent selfhood, and imaginative everyday activity is easily transformed into routinised and commodified forms as human capacities are transferred to an anonymous apparatus (Gardiner 2000, 76–77). Lefebvre (quoted in Gardiner 2000, 79) describes everyday life as “residual, defined by ‘what is left over’

after all distinct, superior, specialized, structured activities have been singled out by analysis”. According to Poli (2017, 1:93), Ernst Bloch also saw hope and utopian potential in everyday life. On the other hand, Lefebvre warns against the notion of a self-sufficient individual living a life of ‘privation’, deprived of links with the world (Gardiner 2000, 83). In later writings, he was concerned with the all-pervasive technical control without a substantive vision of what a good society looks like, echoing Frederik Polak’s argument in *the Image of the Future* (Gardiner 2000, 89; Polak 1973). Michel de Certeau, in contrast, highlighted the possibilities of spontaneous human agency and tactics of everyday resistance (Gardiner 2000, p. 168; Kalekin-Fishman 2011). In American sociology, Erving Goffman studied the presentation of self in everyday life, and the difference between ‘front stage’ and ‘backstage’ behaviour (Kalekin-Fishman 2011).⁷ In this context, privacy should be seen not as protection of the isolated individual with secret information, but as protection of the potential inherent in anticipatory everyday life. We can then ask what tactics for spontaneous creativity exist in the conditions of ubiquitous predictive analytics, and whether all behaviour becomes front stage behaviour.

The critical perspective focusing on the transformative potential of everyday life is inherently normative and emancipatory, in the vein of the ‘decolonisation’ of futures (Miller 2018b). Moreover, I would argue that it is connected to aesthetics in addition to ethics. Eidinow and Ramirez (2016) argue that aesthetic judgments about what feels appropriate, elegant or ugly significantly influence the perceived plausibility of futures. In a similar way, a society where individuals and groups have broad scope for relatively autonomous anticipation may feel inappropriate to certain actors even before judging its ethical preferability. In ‘Sociological Aesthetics’, originally from 1896, Georg Simmel considers society from an aesthetic point of view, arguing that certain aesthetic perspectives leave more room for individual differences than others, noting the attraction of both ‘socialistic’ and ‘individualistic’ forms of society (Simmel 1968). Similarly we may consider the different aesthetics and ethics of centralised (either to human decision-makers or algorithms) and distributed anticipation within society. Poli, for instance, allies himself with individualism: “Politics and institutions have the duty of creating best possible conditions for the largest possible number of individuals to become full and stable persons” (Poli 2017, 1:253). Groves (2014, 217) makes the connection between living with uncertainty and human flourishing: “To live with reflexive uncertainty, it is necessary [...] to embrace an ethics and morality of future-oriented care in which moral reflection must focus on the potential for flourishing created by the strategies

⁷ There is also a great deal of empirical, mostly descriptive, scholarship on everyday life.

for domesticating uncertainty [e.g. surveillance] that are enacted within a society's forms of life.”

Everyday anticipation, which privacy rules protect, may be seen as ethically valuable for its own sake regardless of its broader societal consequences, as in Floridi's and Groves's accounts. However, Cohen's and Richards's accounts suggest an additional link from the micro level to the macro level. Since privacy protects dynamic experimentation, imagination and innovation, from the macro perspective it provides *variation* to the discourses, practices and imaginaries that enter into societal negotiation on plausible futures. This is the broader anticipatory feedback loop in addition to the feedback loops in anticipatory institutional change (influencing futures through imaginaries) and predictive analytics (influencing behaviour through predictions). From the institutional change perspective, continuing variation on established practices is seen as a source of gradual and potentially transformative change (Jessop and Oosterlynck 2008; Mahoney and Thelen 2009). In a similar way, Poli (2017, 1:187–88) states that complex systems are creative: they have the capacity to change, reframe, learn and become different from what they were. From this perspective, privacy not only maintains possible selves but helps to generate futures for the broader system.

Privacy is thus important for futures thinking, but not simply in the sense that more privacy means a stronger future orientation in thinking and action. Instead, privacy enables a qualitatively different kind of future orientation, one that is distributed rather than centralised, and involves exploration, creativity and alternative open futures beyond continuation of present trends. Surveillance practices redistribute anticipatory capacities and thus change the balance of power and alter the future orientation of society.

4 Case and Methods: Studying the Co-evolution of Imaginaries and Institutions in the EU Data Protection Reform

The previous chapter brought together numerous theoretical perspectives both on critical-analytical futures studies as the study of social change processes and the position of privacy in broader social context. What is an appropriate analytical strategy for studying anticipatory dynamics in these phenomena and identifying latent future potentials? This chapter outlines the operationalisation of the approach presented in the previous chapter, that is, methodological tools for qualitative study of anticipatory institutional change in the case of the EU data protection reform. The methodological approach is given the title *context, actor storylines, imaginaries and latents* (CASIL).

4.1 Overview of the case: EU data protection reform

The data protection reform in the European Union is an interesting case of institutional change for several reasons. Firstly, the scope of the regulation is unusually broad, covering both public and private sector processing of personal data. Secondly, the reform represents an opening in the path-dependent EU data protection framework, and the resulting regulation is likely to apply for decades. Thirdly, the process was heavily lobbied and numerous stakeholders expressed their views about a desirable future privacy framework. Finally, the European Union data protection framework is broadly viewed as a leading data protection approach, some elements of which are likely to be adopted in other regions over time (Bennett and Raab 2018). The overall timeline of the reform, heuristically divided into an opening phase and a narrowing phase, is presented in Table 4.

Table 4. Timeline of the EU data protection reform (Minkkinen 2019a).

Month	Process stage
<i>Opening phase</i>	
May 2009	Stakeholder conference
December 2009	Treaty of Lisbon; Public consultation on legal framework
November 2010	European Commission's communication on a comprehensive approach
January 2011	Public consultation on comprehensive approach
<i>Narrowing phase</i>	
January 2012	European Commission proposes Regulation
October 2010 to December 2014	Council meetings
March 2014	Debate and vote in Parliament
June to December 2015	Trilogue negotiations between the European Parliament, Council and Commission
December 2015	Agreement on the General Data Protection Regulation (GDPR)
April 2016	Adoption of the GDPR by the European Parliament
May 2018	The GDPR became enforceable

The Treaty of Lisbon was an important structural enabler for the reform by making the EU Charter of Fundamental Rights legally binding (De Hert and Papakonstantinou 2012). The reform was a complex process that involved negotiations among stakeholders and EU institutions in different phases. My study focuses specifically on the opening phase when stakeholder consultations were conducted, because this is the most interesting phase for investigating the anticipatory aspects of the reform, and the analysis of the subsequent phases would require in-depth study of the functioning of EU institutions as well as considering the thousands of amendments proposed during the heavily lobbied process.

The outcome of the reform process, the General Data Protection Regulation, can be seen as a spatio-temporal fix (Sum and Jessop 2013), which temporarily stabilises the contradictory tendencies in the data-driven economy. In the following sections, I will present methods for studying this process.

4.2 Methodological principles

The primary principles underlying the choice of methodology are compatibility with the theoretical starting points, pluralism and reflexivity. Since the social phenomena under study are complex, no single method can produce a full account and selectivity is inevitable. Thus for a richer account, it is important to be able to utilise different

methods while being aware of their inherent limitations and different starting points (Alvesson and Sköldbberg 2009).

Futures research, sometimes viewed as a method science, includes a large set of methods. However, many established methods such as Delphi are intended for producing scenarios or images of the future or practice-oriented foresight rather than investigating broader social change and the role of existing futures thinking. Social scientifically oriented backcasting (Wangel 2011) and reflexive scenario methods (e.g. Ramírez and Wilkinson 2016; Wilkinson and Eidinow 2008) provide useful tools, but the starting point is different, since they are still concerned with *producing* plausible imaginaries rather than investigating the role of imaginaries in social change. Critical methods such as causal layered analysis (Inayatullah 2004), in turn, investigate predominant worldviews and myths but do not include explicit consideration of temporality, and so far adding the dimension of temporality has only been discussed in the context of producing policy-relevant scenarios (Hughes 2013). Finally, workshop methods such as futures cliniques (Heinonen and Ruotsalainen 2013), futures literacy labs (Miller 2018a), design-based foresight (Tuomi 2019) and the three horizons method (Sharpe et al. 2016) are aimed at producing actionable insights for involved actors rather than scholarly analysis.⁸ All of these approaches are valuable for their intended purposes, but different tools are needed for investigating the societal dynamics of imaginaries and institutions.

I argue that the meso level of institutions and imaginaries provides an entry point to studying social change. A strict division into ‘micro’, ‘macro’ and ‘meso’ levels is somewhat artificial, and it is only one way of making sense of complex societies. Social change may certainly originate from any level. Nevertheless, the meso level enables flexibly considering structures, discourses and processes at different levels, from everyday life to global policies. If the object of study was a singular and undifferentiated ‘society’ and its ‘dominant worldviews’, this would be an inflexible starting point, since it assumes that we can study society as a totality with certain characteristics or system variables and that there are worldviews that are dominant across social spheres. In addition to the problem of justifying these assumptions, this level of abstraction makes empirical research difficult. Likewise, if the object of study were individuals and their attitudes, this would limit the discussion to atomised individuals with ostensibly stable characteristics and make it difficult to investigate broader societal dynamics.

An abductive qualitative approach is appropriate for studying institutions and imaginaries because it permits novel interpretations on unfolding processes rather than having fixed methodological steps. Abduction means the interpretation of

⁸ Causal layered analysis is also a workshop method that could be added to this list.

observations based on hypothesised overarching patterns that would explain it (Alvesson and Sköldbberg 2009, 4). Abductive reasoning does not seek final truths, but instead it is a continuous hermeneutic process of interpreting, creatively reinterpreting and seeking new observations and theoretical frames (Tavory and Timmermans 2014, pp. 10–12). Tavory and Timmermans (2014 Ch. 6) state that abduction-based qualitative research is compatible with a mechanism-based notion of causality that separates explanation from empirical regularities and prediction, as I explained in the theory chapter. Tavory and Timmermans (2014, 135) argue that “Peirce’s semiotics provides researchers with irreducible building blocks from which they can construct mechanism-based accounts of causality — a continuous and intelligible process that allows us to trace patterns of meaning-making as they emerge in action”. They focus on micro-level actions but the same principle holds also for other levels of human action, although increased complexity needs to be taken into account. In their exposition of cultural political economy, Sum and Jessop (2013, 9) advocate critical realist ‘retroduction’, a continuous and open process of asking “what must the world be like for X to happen”. For empirical research purposes, this seems very similar to the more established notion of abduction.

4.3 The ‘context, actor storylines, imaginaries and latents’ (CASIL) approach

Before turning to methods, it is important to clarify the conception of the phenomenon that is studied. The anticipatory institutional change process is modelled in Figure 4. Two interrelated complexity reduction processes are identified: semiosis and structuration. For the sake of simplicity, the temporal phases are divided into reproduction/gradual change and crisis, although in reality multiple processes take place simultaneously at different levels.⁹ At the beginning, there is an institution, such as the European data protection framework, and a discursive space that includes sedimented ways of understanding a phenomenon such as privacy. When the reproduction of this order comes under question, a crisis emerges that brings with it “a remarkable proliferation of alternative visions rooted in old and new semiotic systems and orders” (Jessop and Oosterlynck 2008). These competing imaginaries enter into a process of strategic contestation, such as the public consultation on the GDPR, which influences which parts of which imaginaries are retained in discourses, routines, identities as well as institutionalised into rules. As discussed in the previous chapter, negotiation over plausibility plays a key role in the process. In addition to the actual institutional transformation, there are many

⁹ ‘Crisis’ is used here in the general sense of a decisive and unstable situation where a change in some direction is liable to happen soon.

counterfactual possibilities that could have actualised. After new rules are instituted, the process begins again. Underlying the explicit imaginaries is continuous variation in social practices, which may also increase during times of crisis.¹⁰ In studying such an anticipatory institutionalisation process, I argue that four stages are necessary: 1) investigating the historical context, 2) identifying actor storylines, 3) analysing the imaginaries embedded in the storylines and 4) identifying latent future possibilities. Together these elements constitute a flexible ‘toolkit’ for qualitatively studying anticipatory institutional change. Named after the elements, the novel approach is titled *context, actor storylines, imaginaries and latents* (CASIL). The stages and suitable analysis methods in each stage are discussed below.

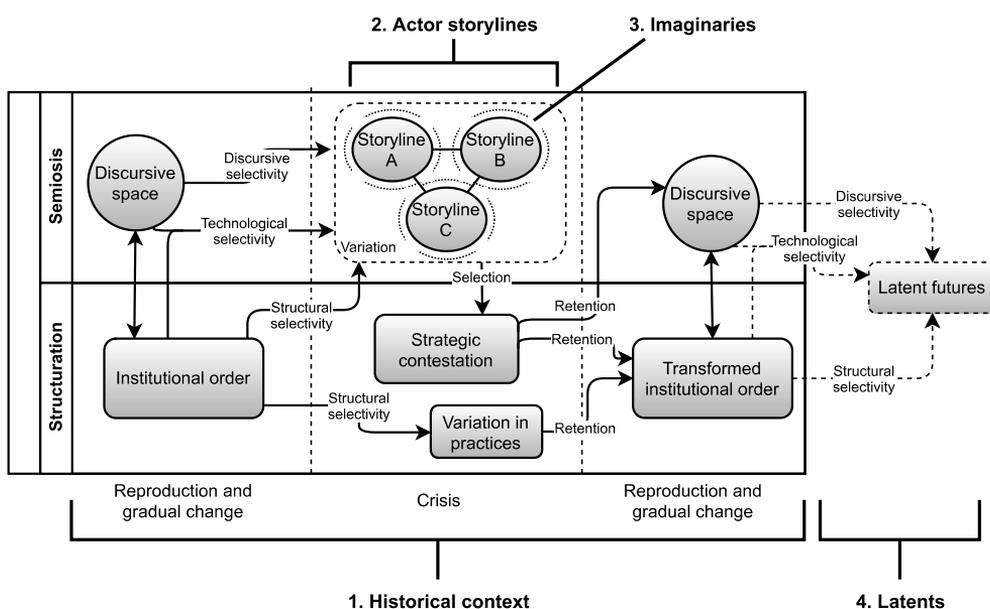


Figure 4. Model of anticipatory institutional change.

4.3.1 Historical context

A temporal dimension is necessary for investigating causal mechanisms and historical processes. Cultural political economy offers a generic model of

¹⁰ Poli (2017, 1:52) makes a distinction between representational/abstract anticipation and presentational/concrete anticipation reflects the difference between explicit consideration of imaginaries and continuous variation of social practices. See also Ahlqvist and Rhisiart (2015) on construction of futures through socio-technical practices.

mechanisms of the co-evolution of cultural meanings and social practices and institutions. The primary mechanisms are continuing *variation* in discourses and practices, *selection* of particular discourses and *retention* of some resonant discourses in institutional rules and/or imaginaries (Jessop and Oosterlynck 2008). CPE also makes a useful distinction between relatively stable reproduction, when imaginaries and rules are sedimented, and crises when they are brought into question. In order to avoid an overly sharp distinction between reproduction and crisis, it is useful to also consider the possibility of gradual institutional change, such as institutional drift (Mahoney and Thelen 2009). Temporality should be viewed in strategic-relational terms (Sum and Jessop 2013, 48–54), as different steps in evolution rather than precise months or years. The simplified process in Figure 4 includes an initial institution that is opened to question, leading to the articulation and selection of different imaginaries, some of which are retained.

In methodological terms, the first step then is to investigate the broader context in which the imaginaries and institutions are placed. In the case of privacy protection, this requires contextualising the European privacy protection regime and its reform process and investigation of relevant aspects of the institutional context such as the prevalence of veto points and slow historical processes such as the proposed ‘Eurolegalism’ (Kelemen 2011; Mahoney and Thelen 2009). The broader discursive context is provided by the debate on the digital transformation. Then, a suitable historical event, or a set of events, needs to be selected to anchor the in-depth study of imaginaries and institutions. The choice of event depends on the research aims, but generally institutional openings provide a proliferation of imaginaries. In this dissertation, the event is the data protection reform in the European Union. The purpose of the temporal dimension is to understand and explain the process of change and identify latent possibilities rather than predicting its evolution into the future. The evolutionary processes described by cultural political economy are unpredictable, in the ontological sense discussed by Ilkka Tuomi (Tuomi 2019). This means that their outcomes may be understood and explained afterwards, but they cannot be predicted beforehand. Particularly in a field as dynamic as the sociotechnical change around privacy and surveillance, fixed scenarios have a significant risk of becoming obsolete at the next turn of events. However, we can make sense of anticipatory imaginaries and dynamics, and identify latent possibilities.

Ideally, the consideration of historical context should also include an analysis of historically specific power dynamics, including forms of economic power and soft power, which influence how imaginaries and practices are selected and retained. The approach presented here focuses on uncovering and analysing the key storylines, imaginaries and latent possibilities in a situation. This approach emphasises power as embedded in the sociocultural system of imaginaries and institutions. A deeper

analysis of political and economic power and hegemonic struggles is a fruitful complementary future direction.

4.3.2 Actor storylines

The second necessary stage involves identifying the range of relevant actor storylines in the particular case under study. In practice this stage is closely tied to the identification of relevant deeper imaginaries underlying the storylines. They are analytically separated here for the sake of clarity. The relevant storylines are generally contextual, that is, relative to the specific phenomenon, particular actors and the point in time rather than the more detached and abstract images of the future in foresight reports. Storylines are also relational, as indicated by the connecting lines in Figure 4. This means that they are part of an intersubjective cultural system rather than isolated ‘particles’ of meaning, and thus they need to be understood in relation to one another (Norton 2014).

Methodologically, there are no clearcut lines for identifying relevant imaginaries and styles of anticipation. Instead, it is an abductive reasoning process where empirical material concerning a certain event or process is closely read and preliminarily coded using thematic analysis and some preliminary theoretical frameworks (Braun and Clarke 2006). It is useful that the material comes from already existing documents, as in my study of the EU data protection reform, because then the imaginaries are actually articulated during the process rather than recounted to researchers afterwards. After coding the material, different clustering approaches can be attempted such as ways of using the future or expressed views on a specific aspect such as threats to privacy. Clustering is also a creative abductive process. For large datasets, it is possible to use computational methods such as discourse network analysis, but potential loss of qualitative richness needs to be considered, and methods need to be adapted to the temporal study of imaginaries (Leifeld and Haunss 2011).

The study of storylines is by necessity a snapshot. Storylines do not necessarily ‘travel’ through time, so that we could study storylines at point A and then study the same set of storylines at point B. Instead, storylines and imaginaries evolve and co-evolve over time, as actors creatively work with ideas and institutions (Carstensen 2011), new imaginaries come into being through variation and some imaginaries may practically disappear. This means that significant analytical simplifications are necessary for empirically studying actual change processes. Therefore I have utilised Weberian ideal types as simplified versions of storylines and imaginaries that are intended to capture their essential elements (Clegg 2017). These simplifications may, of course, always be contested.

4.3.3 Imaginaries

Thirdly, it is important to investigate individual actor storylines in depth, make their embedded assumptions explicit and identify their underlying imaginaries, which are not usually directly expressed. Three methods for this are utilised in the dissertation: causal layered analysis, the anatomy of plausible futures and the five dimensions of futures consciousness. *Causal layered analysis* (CLA) is a relatively established futures research method that can be used to investigate the layers of assumptions in futures thinking. In CLA, the phenomenon, trend, image of the future or imaginary is divided into four layers of depth:

1. Litany: the surface description of the phenomenon
2. System/social causes: systemic causes that are used to explain the phenomenon
3. Worldview/discourse: actor-invariant ways of framing issues
4. Myth/metaphor: shared cultural narratives and often unconscious beliefs about the phenomenon (Inayatullah 2004)

CLA is intended as a dynamic method where the process moves up and down the layers as well as horizontally across different worldviews (the range of relevant worldviews) (Inayatullah 2004). However, CLA itself does not indicate any selection criteria for relevant worldviews because these depend on the context.

Drawing on CLA and other layered approaches, I present an *anatomy of plausible futures* (Figure 5) for investigating different kinds of anticipatory assumptions behind statements about futures. The outer layer, expectations about the future, is similar to the litany layer in CLA. However, the deeper layers of causal layered analysis tend to relate to the phenomenon under study, and it is also useful to identify more general underlying patterns such as ‘myths of the future’ (Boschetti, Price, and Walker 2016). Furthermore, we may identify an additional layer that refers to the way of using the future behind the expectations and the change archetype: the general aspects of futures thinking or the formal characteristics of a narrative that are unrelated to the topic and do not directly concern development patterns over time. This is similar to Tuomi’s (2019) use of Mikhail Bakhtin’s concept *chronotope* as “the background that makes meaningful interpretation possible”, defining “the ways in which events, action, and agency can be described as meaningful elements of a story”.

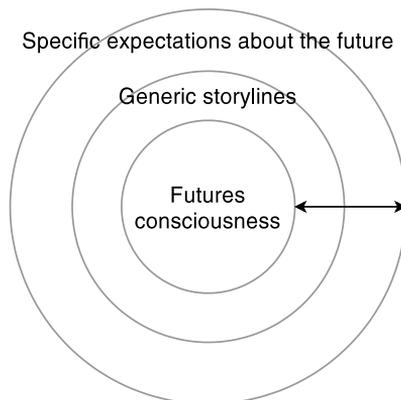


Figure 5. Three-layer anatomy of plausible futures (Minkkinen 2019b).

I have suggested that the *five dimensions of futures consciousness* may be used to identify such general features on this layer (Ahvenharju, Minkkinen, and Lalot 2018; Minkkinen 2019b). The five dimensions are: 1) time perspective, 2) agency beliefs, 3) openness to alternatives, 4) systems perception and 5) concern for others.¹¹ The futures consciousness dimensions represent different aspects of a future-oriented actor's sensemaking. Each relevant imaginary as a product of sensemaking may then be qualitatively studied using the five dimensions as a frame. In this context, futures consciousness may be defined as a phenomenological first-person relationship to futurity. The operationalisation of the five dimensions in the case of article III is discussed in the synopsis chapter.

Considering the breadth of imaginaries, there are also generic social imaginaries that underlie thinking on a broad range of phenomena but these change slowly, over decades and centuries (Taylor 2004). The use of simplifying ideal types (Clegg 2017) is necessary because in reality the range of imaginaries is extremely broad. On privacy, Perri 6 (1998a, 280) discusses four influential cultural traditions that influence thinking on privacy and private life: civic republicanism, liberalism, egalitarianism and fatalism. Similarly, we have identified four different metaphorical frames for privacy: privacy as the dodo, as the hemline, as savings and as the foundations of our home (Douglas 2006; Minkkinen, Auffermann, and Heinonen 2017). Causal layered analysis and the anatomy of plausible futures are useful because they help to investigate whether different statements represent different worldviews or simply another aspect or variant of the same worldview.

¹¹ The process for deriving the five dimensions is presented in the synopsis chapter under article IV.

On the deeper level, we may consider different change archetypes and ‘ways of using the future’ (Miller, Poli, and Rossel 2018) or ‘styles of anticipation’ (Groves 2017) that are similar across various topics. Several researchers have drawn attention to generic archetypal narratives of change, which include social crisis, eco-crisis, techno-optimism, power and economic inequality, social transformation, market domination (continued growth), institutional reforms, deep transformation, local focus and decline (Boschetti, Price, and Walker 2016; Dator 1979; Hunt et al. 2012). These archetypes relate to the content of futures but on a generic and formal level, differentiating for instance between continued growth narratives and policy push narratives. Ways of using the future or styles of anticipation, in turn, refer to different ways of approaching the future such as predicting, simulating, imagining, setting goals and so on. The literature on ways of using the future, like the literature on anticipation in general, is emerging and at the time of writing there is no definitive theory or list of such approaches to futures. Riel Miller and his colleagues (Miller, Poli, and Rossel 2018) provide a starting point by distinguishing between three ways of using the future:

1. Optimization: ‘colonising’ the future on the basis of closed anticipatory assumptions that inform extrapolation,
2. Contingency: preparing for anticipated surprises, and
3. Novelty: novel futures that are unknowable in advance

Anderson (2010) discusses precaution, preemption and preparedness strategies for dealing with contingencies, while De Smedt, Borch, and Fuller (2013) identify seven modes futures thinking: intuitive, conventional, eventuality, predictive, visionary, technocratic and evolutionary. From the perspective of cognitive psychology, a taxonomy of future thinking has also been presented that includes prediction, simulation, intention and planning (Szpunar, Spreng, and Schacter 2016).

In terms of methodology, all the presented frameworks (CLA, anatomy, futures consciousness and ways of using the future) represent relatively flexible structures for qualitative analysis and thematic coding. In practice, the range of actor storylines (breadth dimension) and the underlying imaginaries (depth dimension) are different axes for coding. The dimensions are intended more as supports to abductive reasoning and iteratively increasing understanding of imaginaries rather than strict frames for content analysis. All of them help to structure the anticipatory assumptions that are used by actors to make sense of a complex reality in a future-oriented way.

4.3.4 Latents

The dimension of futurity and future possibilities apart from discursive imaginaries is also important, as discussed in the theory chapter, since this points to the ways in which the future is more than discursive, for instance, through action opportunities given by institutional structures. Latent possibilities are always bound to particular historical situations in continuously evolving systems, and once identified, they may in turn influence the imaginaries promoted by actors. This makes institutional change complex, because the timing of action is often crucial, and actors may promote competing change projects or have competing interpretations on windows of opportunity and appropriate strategies. Identifying possibilities must be done cautiously with careful argumentation because they are not directly observable, and likewise there is no simple way of verifying afterwards whether certain counterfactual possibilities existed. There is no definite guarantee that the analysis is exhaustive. However, the four types of selectivities identified by Sum and Jessop (2013) provide a framework for identifying latent possibilities in an analytical manner. The selectivities are summarised in Table 5.

Table 5. Selectivities and latent possibilities for agency.

Selectivities	Possibilities for agency
Discursive	Possibilities and constraints provided by the discursive space
Structural	Possibilities and constraints provided by specific structural features
Technological	Possibilities and constraints provided by “knowledging technologies” (combinations of discourses and structures)

In the table, discursive, structural and technological selectivities are cross-tabulated with the potential for agency for societal actors or actor coalitions. These action opportunities are differentially distributed for different actors, for instance policymakers, companies and civil society actors. Discursive selectivities mean opportunities provided by the established ways of discussing particular topics such as privacy. These discourses can be utilised for reframing and novel combinations, and for institutionalising them in law, rules, codes of conduct and so on. Structural selectivities are potentials deriving from particular features of the institutional order, such as rights and actor roles inscribed in law. Technological selectivities are a more complex combination of discursive and structural features, so-called “knowledging technologies”, such as economic discourses with organisations that support them. These yield a powerful influence on actors, even modifying, creating and marginalising actor positions, but they can also provide space for reconfiguring imaginaries and the institutional order.

Possibilities and mechanisms remain latent ('latent futures') until they are activated. The actualisation of potentials is contingent on at least three factors: specific actors' capacity to take advantage of opportunities (agential selectivity), the decisions they take based on strategic calculation and the contestation process among different actors. Contingent external events may also play a defining role. Moreover, identification of potential always raises a question: "Potential for what?" In principle, there are limitless possibilities for advancing different projects, but in practice actors' future-oriented projects are likely to be dependent on their interests and their role in the system (e.g. the privacy protection system). Nevertheless, the identification of potentials requires some sense of direction, which in single-organisation foresight is provided by the goals of the organisation. In this dissertation, the general normative direction is given by the emancipatory project of critical futures studies as reduction of injustice and avoidable suffering and promotion of flourishing, and the notion of privacy as 'breathing space' for everyday anticipation that was discussed in the theory chapter.

The four stages of the context, actor storylines, imaginaries and latents (CASIL) approach and relevant methods are summarised in Table 6. The next chapter summarises the original studies in the dissertation, and the discussion chapter identifies latent possibilities for future privacy.

Table 6. Stages and methods of the 'context, actor storylines, imaginaries and latents' (CASIL) approach.

Stage	Methods
1. Historical context	Literature review, document analysis, cultural political economy (semiosis/structuration, change mechanisms, selectivities)
2. Actor storylines	Thematic coding, discourses relevant to a phenomenon, ways of using the future
3. Imaginaries	Thematic coding, causal layered analysis, anatomy of plausible futures, five dimensions of futures consciousness
4. Latents	Cultural political economy (selectivities)

5 Synopsis and Discussion of Studies

This section provides a brief synopsis of each original study in the dissertation, followed by a discussion on the relevance of the findings for understanding anticipatory dynamics in the European privacy protection system.

5.1 Synopsis of the original studies

In Table 7, the studies are positioned in the privacy dynamics model in the theoretical framework chapter and the model of anticipatory institutional change in the methodology chapter.

Table 7. Position of the original studies in the theoretical and methodological frameworks.

Article	Privacy dynamics	Context, actor storylines, imaginaries and latents (CASIL)
I	Overview and earlier version of the model	Historical context
II	Variation in practices and discourses	Analysis of the range of imaginaries
III	Variation, selection and retention of plausible futures	Historical context, actor storylines and imaginaries
IV	Variation in practices and discourses	Tool to analyse imaginaries
V	Selection and retention of plausible futures	Comparison of contexts, storylines and imaginaries, and a tool to analyse imaginaries

5.1.1 Article I

Minkkinen, M. (2015). Futures of privacy protection: A framework for creating scenarios of institutional change. *Futures*, 73, 48–60. <https://doi.org/10.1016/j.futures.2015.07.006>

Article I contextualises privacy protection as a social phenomenon and presents a framework for building scenarios that are based on actors, mechanisms and chains of events. The article problematises typical heuristic scenarios that are based on

intuitive notions about macro-level dynamics. Historical social science is seen to provide tools for more rigorous investigation of privacy futures, although in such investigations the time horizon is by necessity relatively short. The article argues for process tracing as a suitable method for bringing historical perspective as a basis for building future paths that emerge from the historical development, either by path-dependence or path-creation.

While the approach presented in the article is theoretically justified, it is rather demanding and time-consuming for scenario work, which in turn is often pragmatic in nature. The two first steps alone, analysing systemic dynamics and process tracing, may take months if not years of study if conducted rigorously. The article should thus be read as an opening into critical and historical social scientific scenario-building with the intention of understanding future potentials of a phenomenon and making plausible conjectures rather than directly policy-relevant scenario exercises. However, there have been arguments in favour of detailed historical examination also for scenario work in the intuitive logics tradition (Bradfield, Derbyshire, and Wright 2016). In addition, there is a large risk of reading the results as predictive (historical predictions) even though this is not the intention. The framework by itself is unable to cope with genuinely novel phenomena, and thus it should be combined with more creative methods for investigating novelty. The framework does not explicitly include sensemaking and semiotic mechanisms, although it also does not exclude them either.

5.1.2 Article II

Minkkinen, M., Auffermann, B., & Heinonen, S. (2017). Framing the future of privacy: citizens' metaphors for privacy in the coming digital society. *European Journal of Futures Research*, 5(7). <https://doi.org/10.1007/s40309-017-0115-7>

Article II discusses citizens' understandings of futures of privacy through the theoretical concepts of privacy conceptions and metaphors and the causal layered analysis method. The analysis is based on material from focus groups conducted in 2012 in three countries: Finland, Germany and Israel. Four metaphorical frames are identified:

1. Privacy as the dodo, identifying privacy as a species becoming extinct through human actions;
2. privacy as the hemline, a conception of privacy as a continuously evolving and largely pragmatic issue;
3. privacy as savings, a highly individualistic view where data is currency and privacy is unequally shared; and
4. privacy as the foundations of our home, an egalitarian view where privacy must be safeguarded as a necessary aspect of democracy.

In the discussion, we make an argument for considering an ecosystem of metaphorical frames where each frame highlights certain aspects of the complex phenomenon. Michael (2017) makes a related argument discussing the ‘ecology of futures’. Moreover, we highlight two key themes in the focus group discussions: individual control and trust in collective privacy protection. Individual control could perhaps be better termed as ‘human agency’, because it reflects the concern over the possibility of influencing futures consisting largely of dominating elements. This is a critical theme because the empowerment of citizens was one of the aims of the EU data protection reform. While the General Data Protection Regulation provides strict safeguards in some ways, the empowerment aspect of the reform has been criticised (Blume 2014). Here it is crucial to distinguish two levels of empowerment: 1) empowerment of individuals to manage their own privacy (privacy self-management) and 2) empowerment of individuals to influence the future shape of digitalising society more broadly. While the second type of empowerment is clearly necessary, many scholars question the privacy self-management model (e.g. van der Sloot 2014). The article thus argues that the privacy debate should be placed in broader context of the desirable ‘digital society’ and it should include the full cast of privacy actors including citizens, policymakers, technology developers and companies.

The article also makes a contribution by operationalising causal layered analysis to study imaginaries or cultural frames using cultural theory and particular concept-specific themes on the system level. The litany layer of CLA is interpreted as the raw text, and the system layer is divided into six sub-questions (conception of privacy, perception of threats, responsible actors, solutions, control over sharing and development of privacy over time). These questions were used as criteria for clustering the focus group participants. The worldview layer is interpreted through the four ways of perceiving social relations in cultural theory: individualism, hierarchy, egalitarianism and fatalism (Boschetti, Price, and Walker 2016; Douglas 2006). Finally, the metaphor layer is seen through Lakoff and Johnson’s theory of metaphors as conceptual mappings between fields (Lakoff and Johnson 1980).

Through the lens of cultural political economy, the four metaphorical frames can be interpreted as a type of discursive selectivity, sedimented imaginaries that tend to reoccur in privacy discussions. The future emerging from the interplay of these frames, other discourses and structural-institutional factors remains unpredictable.

5.1.3 Article III

Minkkinen, M. (2019). Making the future by using the future: A study on influencing privacy protection rules through anticipatory storylines. *New Media & Society*, 21(4), 984–1005. <https://doi.org/10.1177/1461444818817519>

In article III, I analyse the public consultation phase of the European Union's data protection reform as a case of 'making the future by using the future', that is, influencing institutional privacy protection rules by using anticipatory storylines. In the article, the evolution of privacy is conceptualised as gradual institutional change strategically influenced by a network of privacy actors. The resulting privacy rules, often layered on top of old rules, represent crystallised and provisional settlements of coalition dynamics that create new path dependencies (Mahoney and Thelen 2009; Raab and Koops 2009).

The article identifies two primary storylines promoted by discourse coalitions. The first storyline, promoted by industry actors, argues in favour of market liberalisation, self-regulatory governance of privacy and allowing the digital future to emerge by building trust in the digital economy. Prescriptive privacy rules are framed as obstacles to 'real' privacy. The second storyline, promoted by civil society organisations and consumer rights organisations, starts from the threat of mass surveillance and argues for rescuing privacy and human dignity with strict regulation. The coalitions thus promote different future-oriented projects. The coalitions also seem to discuss different privacy problems, as identified in the theoretical framework section. While the first coalition discusses the first and second problem, criminal data breaches and the experience of individuals, the second coalition is mostly concerned with systemic surveillance practices.

The article concludes that the second coalition was relatively successful in influencing the General Data Protection regulation due to its framing of regulators as 'heroes' during a critical juncture, its coherence with the prevailing narrative of privacy in danger (John and Peters 2017) and the legalistic privacy framework's compatibility with the current trend towards both undoing of old trust-based regulations and increasing regulation at the EU level, which Kelemen calls Eurolegalism (Kelemen 2011). In sum, we can argue that the second coalition's storyline was a more plausible horizon from the policymakers' point of view. A broader case is also made for anticipatory institutionalism, which is a future-oriented mix of historical and discursive institutionalism.

In methodological terms, the article operationalises the five dimensions of futures consciousness (article IV) to qualitatively study anticipatory assumptions in storylines. Some additional sources were used to aid the operationalisation. Cynthia Selin's (2006) distinction of five timescapes (trajectories, disruptive, path-dependence, emerging and indeterminate) was used to categorise time perspective. Agency beliefs was considered through locus of control, that is, whether the coalitions consider future outcomes as results of their own actions, the control of powerful others or outside human influence altogether (Rotter 1990). Openness to alternatives, systems perception and concern for others were considered in more open terms, characterising how the storylines discuss open and closed aspects of the

future, systemic issues and the overall ethical framework, respectively. The article also makes use of concept maps, which are a data-driven and visual way of categorising qualitative material, the main drawback being the mounting complexity and difficulty of processing large concept maps. In the cultural political economy framework, the article investigates structural (legalism) and discursive (plausibility of narratives) selectivities and the limited variation of storylines.

5.1.4 Article IV

Ahvenharju, S., Minkkinen, M., & Lalot, F. (2018). The five dimensions of Futures Consciousness. *Futures*, 104, 1–13. <https://doi.org/10.1016/j.futures.2018.06.010>

Article IV differs from the other studies because it concerns the theoretical and methodological aspects of futures consciousness rather than the topic area of privacy. However, since privacy is defined in the theory section as rules at the intersection of three types of anticipation, the different orientations to the future are also crucial for understanding privacy. The article begins from the observation that future consciousness is a broadly shared theme in futures studies but there is relatively little conceptual development beyond stating its importance.

In the 1970s, Öystein Sande (1972) presented six dimensions of future consciousness based on the Ten Nation Study conducted together with Johan Galtung. A notable promoter of the future consciousness concept is Thomas Lombardo (e.g. Lombardo 2008, 2017). For Lombardo, future consciousness is an extremely broad concept, which encompasses “the total integrative set of psychological abilities, processes, and experiences humans use in understanding and dealing with the future” (Lombardo 2008, 6). Pentti Malaska (2017) emphasises futures consciousness as a characteristic of the entire human race, produced by evolution over hundreds of thousands of years and crystallised in technologies. While such an integrative concept is useful for understanding the breadth of future consciousness, our mission in the article is to develop a simpler descriptive model that permits operationalisation as a capacity of human actors. Other notable definitions come from Rubin (2002, 906) who emphasises agency, internalised futures thinking and links between past, present and future, and from Sharpe et al. (2016) who emphasise “awareness of the future potential of the present moment”.

The article discusses six neighbouring concepts: future orientation, prospective attitude, anticipation, prospection, projectivity and futures literacy. These concepts come from various fields such as sociology, different branches of psychology and the emerging anticipation studies. All of them highlight certain aspects of future consciousness, although anticipation, prospection and projectivity may be seen as processes that follow from future consciousness. Then, the article outlines 12 lists of characterisations, each of which proposes various dimensions. When the long list of

dimensions was analysed, we were able to summarise the aspects as five dimensions: time perspective, agency beliefs, openness to alternatives, systems perception and concern for others. Time perspective concerns awareness of time and the linkages between past, present and future. Agency beliefs concerns an agent's belief in their ability to influence future events. Openness to alternatives is connected to creativity, imagination, critical thinking and being able to perceive alternative futures, not only a deterministic development path. Systems perception refers to systemic and holistic thinking that enables considering developments and consequences of actions holistically rather than only considering specific subsystems. Finally, concern for others is more related to the substantial direction of future development and links to values and ethical thinking. Drawing on the normative tradition of futures studies (e.g. Bell 2003), we argue that futures studies aims at a better or preferable future not just for oneself but also for others, for society broadly, including future generations.

In the discussion, we hypothesise that the dimensional structure of futures consciousness is similar in different environmental, cultural and historical contexts, although both the 'profiles' formed by the dimensions and the content of imaginaries may be radically different. In the cultural political economy framework, the model of futures consciousness allows the study of constituent elements of semiotic complexity reduction by actors when they make sense of future possibilities, and it is potentially linked to their agential capacities for strategic calculation.

5.1.5 Article V

Minkkinen, M. (2019). The anatomy of plausible futures in policy processes: Comparing the cases of data protection and comprehensive security. *Technological Forecasting and Social Change*, 143, 172–180. <https://doi.org/10.1016/j.techfore.2019.03.007>

Article V investigates the policymaker perspective, in contrast to the citizen perspective in article II and the stakeholder lobbying in article III. The article compares anticipatory argumentation in two fields: the EU data protection reform and the Finnish concept for comprehensive security. The policy foresight context is characterised by relatively high agency in issues of interest but also high complexity with conflicting interests, numerous strategies and compartmentalised government structures (Volkery and Ribeiro 2009). In this context, making sense of anticipatory assumptions in future-oriented processes is important because they play a significant part in influencing the emerging future.

In the article, I present a heuristic framework for structuring anticipatory assumptions, which consists of three layers at different levels of generality. The first layer consists of explicit statements regarding the future, similar to the litany layer

of causal layered analysis. Underlying these expectations is the second layer, generic storylines or scenario archetypes, a limited number of which have been found in empirical studies (Boschetti, Price, and Walker 2016; Dator 1979; Hunt et al. 2012; MacDonald 2012). The final layer is the futures consciousness that underlies the expectations and storylines, and it can be studied using the dimensions in article IV as a frame for qualitative analysis. The dimensions together constitute a particular orientation to the future, which may be for instance towards optimising planning, preparation in the face of contingency or appreciating novelty, using the typology presented by Miller and colleagues (Miller, Poli, and Rossel 2018). The layers illustrate the difference between images of the future and imaginaries. The outer layer, specific expectations, is similar to Bell and Mau's (1971, 23) definition of images of the future as "an expectation about the state of things to come at some future time". The generic archetype layer and futures consciousness, in turn, indicate underlying beliefs and sedimented meanings that warrant the term imaginary.

Key policy documents are used as empirical material for studying the two cases of EU data protection (two communications from the European Commission) and Finnish comprehensive security (the *Government's common drivers for change* report). The study found that the data protection case presents an 'institutional reforms' narrative (Boschetti, Price, and Walker 2016), which frames regulators as reactive agents, is strongly path-dependent and focused on the present and recent past and highlights strengthening of fundamental rights. The comprehensive security case, in turn, features a narrative of potential future crisis with focus on consequences for Finland, a relatively long time horizon, limited agency, limited consideration of alternatives and focus on the survival of Finland in the context of great changes. The data protection case exhibits a planning orientation to the future, while the comprehensive security case exhibits a preparation orientation (Miller, Poli, and Rossel 2018). The article highlights transparency and reflexivity of anticipatory assumptions and responsible use of the future for policy, and suggests the use of the heuristic three-layer model interactively in futures workshops for policymakers.

From the perspective of cultural political economy, the generic future archetypes and types of futures consciousness both indicate discursive selectivities, sedimented types of discourses or imaginaries, which are relatively stable but may evolve over time.

5.2 Discussion of findings: Europe navigating between growth and loss

What do the studies tell about anticipatory dynamics in the European privacy system? Taken together, the articles investigate the different parts of the complex change process. In the cultural political economy framework, articles I and III

investigate ‘material’ structuration and institutionalisation. Article III also includes the semiotic dimension of actor storylines and investigates their interplay with the structural features of the GDPR process. Articles II and V, in turn, are focused on the semiotic elements of change, by investigating metaphorical frames and the anatomy of future expectations in policy documents, respectively. These articles do not directly relate to non-semiotic features, although article II draws policy implications and article V argues that reflexive, well-considered future-oriented policies are likely to be effective. Article IV provides a structure for understanding futures consciousness that is always present in some form in social action. The five dimensions provide a sensemaking frame and reduce the complexity of orientation to the future while, we argue, maintaining its essential components.

The studies also highlight different actor perspectives. Article II elicits non-expert citizens’ perspectives on the future of privacy in general. Article III contrasts the ideal-typical storylines of industry organisations and civil society organisations specifically during the public consultations on the data protection reform. Article V, in turn, highlights the decision-makers’ perspective by looking at communications from the European Commission. These actor perspectives come from different contexts and they are not directly commensurable views on the same process. Nevertheless, they contain similar storyline elements and anticipatory assumptions. The overall temporal landscape (Tavory and Eliasoph 2013) is a seemingly inevitable socio-technical rupture, with increasing digitalisation that places significant stress on societal values and institutions. None of the investigated actors self-identify as the creators of this rupture, and instead it seems to come as given from the outside by technological affordances. Another element of the temporal landscape is the speed of change and competitive dynamics that make it difficult to foresee or plan the future. In this landscape, different actors navigate with different trajectories and projects (Mische 2009; Tavory and Eliasoph 2013). Policymakers are left in a somewhat reactive role (article V), citizens struggle between maintaining individual control and trusting collective instruments (article II), and other privacy actors emphasise allowing the digital age to emerge or reaffirming privacy as a fundamental right (article III).

I would argue that the broader story of the reform is the search for a European model of digitalised society. ‘European’ in this context means rooted in values, thinking and history that are often connected with Europe rather than geographically exclusive to Europe. In this search, there are two primary imaginaries to draw on, while the policymaker perspective provides a third one. The first imaginary is an epic story of continued growth and the promise of economic success, while the second imaginary is a tragic story of losing something important: privacy, human autonomy or aspects of European values in general. The imaginaries are summarised in Table 8 and discussed below.

Table 8. Imaginaries of continued growth and tragic loss.

	Continued growth imaginary	Tragic loss imaginary
Generic storyline	Epic, causal progress	Tragedy, impending catastrophe
Style of anticipation	Optimisation, calculation	Contingency planning, precaution and pre-emption
Temporal orientation	Present future as a resource	Awaiting the collapse
Meaning of changes in privacy	Benign sociocultural evolution	Fundamental transformation
Institutional change	Institutional drift and conversion	Between institutional drift and legalism

The generic storyline of the continued growth imaginary is a causal progress narrative (MacDonald 2012), where present trends promote benign progress if institutions allow them to bear fruit. The connected style of anticipation is calculative optimisation of institutionalised privacy rules to reap maximum economic and societal rewards from the ongoing transformation. In particular, privacy as savings (article II) and as a means to foster trust (article III) represent this kind of optimising orientation. From this perspective, privacy is a necessary stabilising or regulating factor that enables continued growth. The future, in this imaginary, is primarily a resource for gaining benefits in the present. This is most clearly visible in profitable products based on predictive analytics, which turn futures into data, generate predictions based on them, and provide present profit through acting on those predictions. However, foresight and future-oriented action aimed at securing continued growth may also be viewed in this manner. Security, from this perspective, means securing the conditions for continued growth. The ‘hemline’ and ‘savings’ metaphors as well as the industry storyline frame changes in privacy as benign sociocultural evolution. Institutional change based on this imaginary takes the form of either institutional drift, where privacy rules are de facto weakened due to rapid increases in surveillance practices, or institutional conversion, where privacy rules are primarily intended to stabilise and secure continued economic growth (Mahoney and Thelen 2009).

The ‘tragic loss’ storyline, in contrast, frames the ongoing transformation as a tragic and potentially catastrophic sequence of events, which threatens shared values, as articulated by the ‘dodo’ metaphor of a species made extinct by human action. The concomitant style of anticipation is contingency planning, which focuses on pre-empting and staving off threats, reinforcing privacy rules and regulating ever-evolving surveillance practices, ready for the potential collapse of important societal values. Privacy is viewed in systemic terms, and therefore changes in privacy indicate a fundamental transformation in the social order, where datafication and

surveillance change the roles of citizens, public authorities and companies. This also means that privacy cannot be optimised on an individual basis in a society broadly operating on surveillance logics. Institutional change, seen through this imaginary, is poised between drift towards diminished privacy and the continuous race to regulate surveillance practices.

The position of EU policymakers is between these imaginaries, trying to navigate a responsible path to a desirable digital society. Thus a third imaginary features 'Europe' as a potential hero. Implicit in the data protection reform process is an image of a European vision of the digital age, parts of which are articulated in EU policy papers such as the Comprehensive Approach to Data Protection and the Digital Single Market strategy (European Commission 2010, 2015). Europe, in this imaginary, represents a humanistic alternative to the commercialism and market orientation of the United States and the state-led one-party rule of China. The European Union has the potential to be a proactive hero by developing sustainable and ethical forms of digital economy, but the hero is faced with a dilemma. On the one hand, the EU needs to be economically successful to remain, or become, a credible actor with a voice on the global stage. The continued growth imaginary represents a kind of instinctual drive towards progress understood as economic growth. On the other hand, to have something positive to say, Europe would need to maintain its commitment to democracy and human rights. The tragic loss imaginary, then, acts as a regulating conscience, a kind of metaphorical 'super-ego' that demands prudence. The GDPR process, as well as the Copyright Directive in process at the time of writing, indicate that the EU has aspirations of agency, but it is faced with pressures from increasing global competition as well as significant political instability within Europe. Because the EU is not self-evidently a powerful actor, it must steer between these imaginaries to maintain its contingent sense of agency. On the level of structuration, institutional rules are thus likely to contain elements of both imaginaries, like the GDPR, which is both a "cause for celebration for human rights" (de Hert and Papakonstantinou 2016) and a "monster text", which "does not empower data subjects" (Blume 2014). Discourses and practices that skilfully combine these elements are likely to be viewed as plausible and thus institutionalised.

Four aspects are underrepresented in these imaginaries. Firstly, there is no positive vision of private life in a desirable future society. Such a vision would need to systemically connect privacy to other social issues and articulate a more general view of desirable everyday life with digital technologies. Such a vision could be used as a basis for imagining a transformation in surveillance practices, the drivers for surveillance and privacy protection, since these are intimately related. To what extent should policymakers take a stand on defining the values of a good digital society or should visions come from civil society? This is, of course, a complex question where

political ideologies have different positions. In the next chapter, I will suggest ‘privacy as breathing space for futures’ as one element of a positive vision. Secondly, there is little recognition of the ability to influence the ongoing sociotechnical rupture. The onward march of privacy-invasive technologies and practices is taken as a landscape-level development beyond the influence of individual actors, leading to either tragedy or acceptance. While there are valid reasons to avoid overregulation of economic and technological innovation, it should be remembered that this is a political choice. Thirdly, technologies and discussions on datafication and predictive analytics have significantly progressed since the time when the empirical material was gathered, and the prevalence and power of predictive analytics should lead to rethinking and re-evaluating privacy imaginaries. Fourthly, there is limited orientation towards constructing genuinely novel futures beyond resilience to threats or improving economic performance (Miller, Poli, and Rossel 2018; Tuomi 2019). This differs from visioning in the sense that the goal is constructing novel futures rather than committing to a shared vision. All four underrepresented aspects relate to the *role of citizens* in the digital transformation, which leads to critical questions about the ongoing transformation. Who is digitalisation for? What kind of digital society and everyday life do different citizen groups want beyond coping in the digital age? What alternative ‘digitalisations’ exist as opposed to digitalisation as a necessity from above? The role of human imagination and the societal negotiation on plausible futures mean that future outcomes cannot be known a priori and perhaps should not be locked as endpoints for rigid pathways. Nevertheless, it is important to maintain societal conditions that enable imagining and constructing future horizons beyond continuation of present trends. This is where privacy as breathing space for anticipation has a crucial role, and the next chapter will outline latent potential for envisioning future privacy.

As a limitation, it must be noted that the empirical material in this study is from 2009 to 2012, although the later stages in the GDPR process may also be counted as evidence for article III. Many events have taken place and debates have progressed since then, and it would be interesting to compare the findings with more recent material. Crucial events and processes include the revelations of government surveillance made by Edward Snowden, the controversial data practices and increasingly concentrated power of the so-called Big Five technology companies,¹² the Facebook-Cambridge Analytica scandal and numerous high-profile data breaches. The speed of change is always a dilemma for social science: if studies are made rigorously, they may appear outdated; if they are made quickly, this generally means less analytical rigour and innovation. I believe that the layered structure of

¹² The Big Five include Google, Amazon, Facebook, Apple and Microsoft.

CLA provides a useful analogy for looking at social change. While the litany may change extremely quickly, sometimes within one day, the phenomena behind the surface are unlikely to change as fast. Similar arguments about the ‘death of privacy’ and similar ‘panopticon’ images are repeated continuously (John and Peters 2017). In other words, the semiotic practices around privacy may be more stable than it would seem at first glance. The institutional structure of privacy protection also exhibits significant continuity from the first data protection laws in the 1970s to the 1995 EU Data Protection Directive and the General Data Protection Regulation (Mayer-Schönberger 1997). Moreover, considering the theoretical and methodological contributions rather than the content, innovations in theory and methodology also develop over a longer period of time than surface phenomena, and contributions will not become obsolete when empirical material ages.

6 Discussion

6.1 Latent possibilities for future privacy

In this section, I will indicate latent potentials for future privacy, which stem from different aspects of the privacy protection system. John and Peters (2017, 291) state: “When a social quality, such as privacy, is only understood in the cultural contexts of its loss, it seems that only its loss – and not degrees of change in quality – can be declared definitively.” Yet potential qualitative changes in privacy present a more fruitful starting point for future-oriented inquiry than investigating whether privacy is ‘dead’. Therefore, a more fruitful question is: “What could be the future privacy and what are the conditions of its birth?” Through this exercise, I will attempt to understand the cultural contexts of the change and renewal of privacy in the digital age.

In causal layered analysis, reframing at the myth/metaphor or worldview/discourse layers is a key part of the analysis, and reframing is also part of many scenario methods such as the Oxford scenario approach (Inayatullah 2004; Ramírez and Wilkinson 2016). Reframing is an intervention into the investigated system and it gives a sense of direction to the investigation of present potentials for the future. Such an intervention is always normative to some extent, and in this dissertation the key normative commitment is to human flourishing and agency. This is in line with the dual causality discussed in the theoretical framework: causal mechanisms and selectivities indicate the structurally inscribed opportunities while the final causes of actors’ projects indicate possible directions of change. Given the strategic contestation around privacy, indicating potential for future privacy is not a neutral task. By necessity, it ties into and influences the negotiation on futures of privacy, making the researcher part of the debate. In addition, I argued in the theoretical framework that the focus on causal mechanisms means that explanation is severed from prediction, and we can only analytically identify latent possibilities in the present. Therefore imagining far-reaching heuristic scenarios of privacy protection would not be coherent with the theoretical framework. As Groves (2014, 217) states: “Instead of the bold gaze towards the horizon [i.e. continued growth], or the despairing look backward

[i.e. tragic loss], we have a more difficult, piecemeal road to follow in moving forwards”.

Based on the understanding of privacy as an enabler of everyday anticipation in the context of surveillance, I propose a novel metaphor for privacy: *breathing space for futures*. The latent potentials identified in this chapter then point to the realisation of privacy as breathing space for anticipation but without attempting to predict or envision (‘colonise’) the emergent outcomes of negotiation processes through which it may be achieved. The intention, then, is to generate futures rather than representing them (Poli 2017, 1:70–72). Through the concern for the enabling conditions of human flourishing, the ‘horizon of care’ (Groves 2014, Ch. 8) reaches far into the future even though future outcomes are not predicted or envisioned.

In Table 9, the latent possibilities for future privacy are cross-tabulated with agential selectivities in the columns and other, structurally conditioning selectivities in the rows. For the sake of simplicity, only two kinds of agential opportunities are considered: top-down and bottom-up. These are heuristic labels that refer to change stemming from actors in more central parts of the privacy protection system and from more marginal actors, respectively.¹³

¹³ Horizontal peer-to-peer agency could be seen as an alternative to both top-down and bottom-up agency. In contrast to bottom-up agency, horizontal approaches may operate with different logics altogether rather than targeting the institutions and policies at the top to enact change. While this approach is touched on in the discussion on experimenting with alternative practices, focused discussion on horizontal approaches is beyond the scope of this dissertation.

Table 9. Latent possibilities for future privacy.

	Latent possibilities for top-down agency	Latent possibilities for bottom-up agency
Discursive selectivities		
Different privacy conceptions and discourses	Discursive interventions that speak to many conceptions while emphasising privacy as a societal issue	Space for discussion about privacy beyond fatalism and endism
Broader discursive frames	Strategic connections to human rights, sustainability and cybersecurity frames	Coalitions between privacy advocates and CSOs with a broader agenda
Generic futures archetypes	Skillful use of 'intentional transformation' narratives	Interweaving 'power and economic inequality' with positive narratives
Structural selectivities		
Crisis tendencies in data-driven accumulation	Strategic intervention opportunities (e.g. anti-monopoly), chance for leadership in alternative business models	Possibility of undermining legitimacy of surveillance while promoting a positive vision of alternative digital age
Opportunities provided by the European privacy regime	Space for conversion strategy to emphasise fundamental rights at the expense of the digital economy	Rights and affordances available for strategic high-profile use
Technological selectivities		
Information-processing imperative	Emphasis on human sensemaking and values in addition to data	Exposing limits and perverse outcomes of datafication
Competitiveness and growth imperatives	European vision of wellbeing in the digital economy, chance to promote competition rather than monopoly	Experimenting with living out alternatives
Privacy self-management	Conversion strategy to emphasise collective privacy	Conversion strategy to emphasise collective privacy, potential of data activism
Dominant ways of using the future	Develop foresight beyond planning	Visioning in civil society

6.2 Discursive selectivities

6.2.1 Different privacy conceptions and discourses

On the level of discourse and semiotic practices, the crucial question is how the social and economic imaginaries around privacy and datafication compete and

potentially merge with each other or broader imaginaries. The diverse privacy imaginaries investigated in articles II and III leave space for both top-down interventions and grassroots discussions that seek to conceptualise privacy beyond individual property and control. The imaginary of privacy as a collective and social value has been articulated several times but it has yet to reach prominence as a discourse or in institutional arrangements (Baruh and Popescu 2017; Cohen 2019; Regan 2002).

One particular privacy discourse that should be mentioned is the recurring discussion about the “death of privacy”, or the “end of privacy”. This was also articulated by the metaphor of privacy as the dodo, an extinct species (Minkkinen, Auffermann, and Heinonen 2017). John and Peters (2017) provide an empirical analysis of ‘endist’ discourses, concluding that modern privacy has always been defined negatively, founded on the institutional conditions of its demise such as advancing technologies. The genre of tragedy thus seems to be inherent in privacy discourse. The crucial challenge and potential, then, is how to overcome this ‘endist’ tendency. In order to be successful, actors need to skilfully use existing metaphorical frames and combine them in creative ways to articulate a positive conception of privacy beyond fatalism and alarmism. Floridi provides one attempt: “the respect of each other’s personal information does not have to lead to a world of solipsistic lives, it can be the basis of a society that promotes the value of relations as something to which those who are related wilfully and fruitfully contribute, from their periphery.” (Floridi 2016, 312)

6.2.2 Broader discursive frames

Privacy can potentially be articulated with a number of discourses in novel ways. Human rights is possible obvious field of discourse, supported for instance by the report on the right to privacy by the United Nations High Commissioner for Human Rights, and the Charter of Fundamental Rights of the European Union (European Union 2012; United Nations 2014). Security is another broader field of discourses. Privacy and security are often discussed in terms of a trade-off, which security tends to win as a collective existential need (Peissl 2003). However, discourses on human security, sustainable security and cybersecurity may just as well include privacy as an aspect of security. The risk with utilising security rhetoric is that this may shift the meaning of privacy towards protection from criminal activities rather than surveillance and domination as such.

In addition to security, articulation between privacy and the sustainability discourse is crucial, since sustainability is a powerful imaginary in the context of climate change. In particular, the social and cultural dimensions of sustainability could be connected to a conception of privacy as protection of human dignity and

everyday anticipation. Perhaps the strongest prospect for future privacy would be if privacy, security and sustainability discourses were all articulated into a coherent and compelling story, and they were institutionalized into an Agenda 2030 style global programme, also supported by bottom up movement. There is the potential for visionary policy design and change from above, particularly in international arenas such as the United Nations and OECD since the European framework is institutionalised by the GDPR. These broader frames and institutional backing would bring legitimacy to the project of renewing privacy protection and potentially constituting privacy as an object of global governance. The articulation of privacy and human rights, cybersecurity or other issues also suggests potential alliances between civil society organisations. When combining privacy with other discourses, the critical question is whether privacy is a stable enough boundary object that enables joint action without losing its meaning altogether.

6.2.3 Generic futures archetypes

Generic futures archetypes provide scaffolding for constructing compelling and plausible imaginaries, and it is possible to frame privacy from surprising archetypal perspectives beyond tragic loss of shared values or market liberalisation. In particular, the intentional variants of policy push and transformation narratives may be used by policymakers. However, their plausibility entails trust in the competence of policymakers to put forward such reforms. On the bottom-up side, the archetypes of power and economic inequality can be used in cautionary accounts, but they should be combined with a positive message to avoid fatalism and rearticulating the ‘tragic loss’ storyline. In this sense, some kind of ‘privacy populism’, making use of the public’s concerns, may be a resource for privacy advocacy.

6.3 Structural selectivities

6.3.1 Crisis tendencies in data-driven accumulation

A prominent discourse around privacy protection is related to *trust* in technologies and organisations processing data. This was noted in the industry discourse coalition in article III. Data privacy problems are seen by many as a key obstacle to global acceptance of information technologies and the Internet (De Hert and Papakonstantinou 2013). While generalised trust is important, I would frame the debate around the stronger concept of *legitimacy*, because such significant power issues are at stake. As van Dijck (2014) argues, what is at stake is the credibility of the entire datafication ecosystem where academia, corporations and the public sector all have a stake. Zuboff (2015) argues that the logic of accumulation based on

datafication and surveillance spread largely without the knowledge of citizens, and therefore the social contract is largely implicit. This is particularly pertinent given the scope of datafication for everyday life, social relationships, family life and so on. Awareness about the full implications of social media, for instance, has accumulated only slowly, and the legitimacy of the model remains largely untested. Legitimacy is central because in Max Weber's terms, authority should only be called authority if it is legitimate. Otherwise, it is domination, which is more coercive in nature, even if subjects do not immediately experience it as such (Clegg 2016). From the emancipatory perspective in critical futures studies, this difference is crucial.

There is a growing set of scholarly and popular texts that heavily criticise the business models of large technology firms and note the negative impacts of datafication and social media (e.g. Couldry and Yu 2018; Zuboff 2019). A new vocabulary for critiquing the current datafication-driven accumulation logic seems to be emerging, highlighting the contradictions and often secretive operations of the logic. However, it is uncertain to what extent these discourses will be selected and retained and integrated into habitual ways of discussing the digital economy and into institutional plans, rules and so on. The agency of key policy-makers is crucial because they may use tools such as anti-monopoly legislation to question data-driven accumulation. Another important factor is whether privacy is viewed as a relatively disconnected individual interest or connected to discourses on human rights, sustainability and human security. If the implicit social contract is broadly problematised and undesirable phenomena of the digital age are viewed as indications of deeper systemic problems, the business models of large technology firms could face a legitimacy crisis. Some aspects of this are arguably visible at the time of writing in the wake of the Facebook-Cambridge Analytica scandal where user data was utilised to profile millions of users and micro-target political advertisements in a manner similar to information warfare (Cadwalladr and Graham-Harrison 2018).

A potential crisis in the datafied economy could be compared to the global financial crisis in 2008, and complex data-driven prediction products may parallel complex financial products as causes for crisis. From the futures perspective, crises are not only destructive, but they are also productive moments when new imaginaries may be articulated (Jessop and Oosterlynck 2008). The emergence and influence of novel imaginaries depends on the capacity of social actors to make sense of the crisis. Civil society actors, public actors and companies with alternative business models could be able to articulate a novel vision of the digital age. There are many potential actors that could show leadership in envisioning a desirable digital society: for instance cities, forward-looking companies, small states and coalitions of different kinds of actors. On the other hand, incumbent actors may be able to survive crises if they successfully rearticulate their vision, possibly in a modified form. This also

depends on the construal of the crisis, for instance, whether data-driven surveillance is seen as broadly illegitimate or simply having gone too far. In any case, a potential crisis is likely to lead to a ‘hyperprojective’ situation and a struggle between actors (companies, regulators, policymakers) for path-creation and influencing the future (Mische 2014).

If the surveillance-based logic of accumulation does reach a crisis, one crucial question is how far the logic has spread by then from its initial roots in Internet advertising. For instance, if ubiquitous sensors in smart cities and many similar examples are seen as part of the same apparatus, this may promote a more radical response than if the logic is seen as unique to particular industries. This is related to the strength of technological selectivities such as “regimes of truth” (Sum and Jessop 2013, 216) in reinforcing the prevailing system the event of a crisis. If the surveillance-based logic is widespread, technological selectivities are powerful and possibly supported by discursive innovations, the system may deflect the crisis.

Even in the absence of a crisis, some companies may differentiate themselves with their pro-privacy stance and business model. However, they need to find alternative sustainable ways of generating revenue, which is challenging if data-driven business continues to advance. There is a significant risk of either being pressured to adopt business practices based on datafication or being marginalised. If such companies are successful, strategically placed pro-privacy companies may act as exemplars of alternative approaches to business in the digital age. However, they may also remain niche options for a marginal class of ‘privacy-aware’ consumers.

6.3.2 Opportunities provided by the European privacy regime

The European Union privacy framework and the newly instituted General Data Protection Regulation provide several kinds of opportunities for action. In the short term, new major data protection rules are not likely to be instituted in the European Union. However, in Mahoney and Thelen’s (2009) framework this leaves room for gradual institutional change of the *drift* or *conversion* types. In institutional drift, rules remain the same but their impact changes due to changes in external conditions, which generally means increasing stress on existing institutions. Some amount of institutional drift is highly likely in the European data protection case because technological systems and surveillance practices are advancing at such a rapid pace. Conversion, in turn, provides an opportunity for agency. Conversion means a situation where formal rules remain the same but they are interpreted and enacted in new ways, when actors exploit the ambiguities of institutional rules and redirect the institution. Due to the complexity of the GDPR, strategic attempts at conversion are highly likely to occur in the short term. Two key objectives of the EU data protection

reform were “strengthening individuals’ rights” and “enhancing the internal market dimension”, that is, ensuring free flow of data between member states (European Commission 2010). There is an inbuilt tension between these goals, and actors are likely to strategically emphasise either aspect. In particular, actors in strategic positions in the privacy protection system can make use of a conversion strategy to emphasise the fundamental right to data protection, acting for instance through courts, data protection authorities or privacy-related policymaking processes.

For citizens and civil society actors, the data protection framework also provides rights and other affordances that can be used strategically. For instance, collective-action lawsuits may be brought to courts on the basis of GDPR infringements. Particularly if such strategic use of affordances receives broad media coverage and it is backed by appropriate privacy discourses, it may influence the conversion of the institutional order towards the fundamental rights emphasis.

The privacy actor network also includes a network of privacy advocates, in Europe and globally. Bennett (2010) asks whether the privacy advocacy network could become a social movement. At present, the advocacy network is focused more around influential figures, who are networked and attend conferences for instance, but no broader collective movement. It could be compared to ‘new social movements’ such as the environmental movement or the movement to promote rights for sexual minorities. An additional question is what social movements in general will look like in the future (Bennett 2010, 206). From a resource mobilisation perspective, the resources of the privacy advocacy network mostly consist of expert knowledge, which can be utilised for example in campaigns. According to Bennett, privacy advocates continuously have to argue about balancing privacy with various interests like security, efficiency, personalisation and so on (Bennett 2010, 210). In other words, there is discursive selectivity that weakens the message of privacy advocates and strengthens the notion of privacy as an individual, even selfish, interest. The unclear nature of privacy harms is also a challenge. Moreover, the contextual and subjective nature of privacy makes collective action difficult, particularly when privacy advocates may value their private life over collective action (Bennett 2010, 212).

It remains to be seen whether the privacy advocacy network is able to strategically utilise the affordances in the European privacy regime. One critical factor here is the ability of such groups of activists or advocates to engage in strategic calculation to reorient discourses and institutions, to persuade, to mobilise the public’s private concerns, to displace opponents and rearticulate imaginaries at the right time (Sum and Jessop 2013, 217). Certain critical moments, such as data breaches or scandals such as the Cambridge Analytica scandal, may provide opportunities for activists to strengthen their imaginary and gain popular support.

However, numerous scandals have already taken place and have not yet destabilised the datafication trend.

The relevance of ordinary citizens' agency remains uncertain. It crucially depends on digital skills of citizens, particularly higher-level strategic skills and information skills (van Deursen and Mossberger 2018) to utilise technologies in appropriate ways at the right time to further their ends. A deeper question than skills is the impact of datafication on citizens, that is, what kind of persons a datafied society 'produces'. For instance, datafication may lead to a "modulated democracy" where people are influenced more by subtle environmental nudges rather than rational arguments, and rely increasingly on technological artifacts for sensemaking and anticipation (Cohen 2013). In such a society, individuals could have less capacity for critical sensemaking, and it could be extremely difficult either to mobilise them for activism or for their agency to make a difference on the structural level. A more positive vision is that alternative practices may emerge around Big Data, enabling new forms of critical agency and publics as 'knowing' rather than 'known' (Kennedy, Poell, and van Dijck 2015). Such visions need to seriously consider issues of digital divides since certain groups always flourish even in oppressive surroundings, and, ultimately, the desirability of a datafied social order (Couldry and Yu 2018).

An interesting special case is presented by individuals in key positions such as Max Schrems, whose activism led the Safe Harbor agreement between the EU and US to be declared invalid, and Edward Snowden whose revelations sparked broad debate about government surveillance. Emirbayer and Mische (1998, 1007) hypothesise that actors "who are positioned at the intersection of multiple temporal-relational contexts can develop greater capacities for creative and critical intervention". Schrems was a law student at the time of his best-known campaigning, while Snowden worked for an NSA contractor. Both occupied strategic positions in the privacy/surveillance system, central but not at the core, in order to discover relevant information and they possessed significant knowledge and skills, either legal or technical. It is likely that after Snowden's revelations, scrutiny of contractors is tighter, but complex arrangements with many contractors as well as knowledgeable citizens using their rights and skills in unexpected ways remain as potentials within the privacy protection system. Of course, the ethics of whistleblowing also remains a contested topic.

The European privacy regime may also act as an exemplar for broader adoption. De Hert and Papakonstantinou (2013) sketch a scenario where an international data privacy organisation is established, preferably as an agency under the United Nations. Such an agency would then be comparable to UNESCO or the World Intellectual Property Organization, which are broadly recognised as legitimate global players. The authors note three obstacles to such an organisation: lack of global

privacy conception, lack of international institutional cooperation and difficulties in identifying the proper legal instrument (De Hert and Papakonstantinou 2013). All of these problems relate to the complexity of the global order. On the other hand, the authors list three enabling factors: commonly felt problems related to technologies and political developments, pressure from the public, and shortage of resources coupled with the need to globalise information technology (De Hert and Papakonstantinou 2013). In principle, a policy push similar to the Agenda 2030 for Sustainable Development could also promote global institutionalisation of privacy protection. However, this depends on the existence of visionary policymakers or a coalition of influencers who are able to retain the novel privacy imaginary in the context of significant resistance from competing actors and imaginaries, most likely emphasising the rigidity of binding rules in the context of the fast-moving digital economy. Such efforts would also need to contend with highly lucrative institutionalised business models and industries around Big Data. Thus it is a question of reconfiguring the digital economy, not only privacy protection institutions. Success would be more likely if accompanied by companies that promote alternative business models, providing economic plausibility. The key challenge for imagining top-down regulation of datafication is that corporate, academic and state institutions all have a stake in broad access to data and public acceptance of datafication (van Dijck 2014).

6.4 Technological selectivities

The ‘technology’ in technological selectivities is understood broadly, referring generally to expertise and knowledge apparatuses that combine discourses and structures and are aimed at normalising certain social practices (Sum and Jessop 2013, 222). In this way, they operate similarly to the surveillance practices that are the substantial focus of this study. However, the selectivities discussed here are not the surveillance systems themselves but the underlying drivers for establishing such systems. The crucial question is the extent to which these technologies leave space for reorienting them or adopting different kinds of tactics. Power is never absolute, and there are always gaps in systems that allow varying social practices.

6.4.1 Information-processing imperative

The information-processing imperative, identified by Cohen (2012), is a set of discourses and structures that promotes the view that more information is required, for efficient governance, security, economic competitiveness and so on. This is connected to the calculative way of making uncertain futures actionable through data and modelling (Anderson 2010). This imperative is deeply rooted into contemporary

polities, societies and economies, to the extent that questioning it seems nonsensical. The process of datafication, in which the social world is increasingly viewed through data, has thus far occurred largely without questioning. Critical comments are often about biases in data or incomplete data rather than the massively increasing collection of data itself (Couldry and Yu 2018). Moreover, datafication is normalised to the extent that it is often viewed as an automatic process determined by technological advances (van Dijck 2014). However, in reality it is the result of numerous human choices and innovations driven partly by currently prevailing imaginaries. The practice of scholarship is also founded on the notion that more research and more data are necessary. The information-processing imperative clearly has many benefits, such as policies based on evidence and advancing medical practices that improve quality of life. However, the information-processing imperative leaves space for a more discerning approach to data collection that recognises, for instance, that ever-increasing data on current human behaviour patterns cannot provide knowledge about behaviour under more desirable social arrangements but may be used to control populations. The information-processing imperative may conceivably be challenged by counternarratives that emphasise the power of intuitive human sensemaking and the importance of values in decision-making. The approach of responsible research and innovation may also provide an inspiration by emphasising anticipatory consideration of risks (von Schomberg 2013). Civil society agents may also expose limits and perverse outcomes of datafication in specific cases.

6.4.2 Competitiveness and growth imperatives

Discourses and practices around competitiveness and economic growth are so ubiquitous that they are often invisible, providing the underlying reasoning of many day-to-day activities as well as state strategies. In relation to sustainability, they are often softened somewhat, emphasising fair competition and carbon-neutral growth, for instance. However, the underlying dynamic remains the same, requiring continuous search for novel growth opportunities. In the GDPR process, the discourse on competitiveness of Europe in tightening global competition was central, particularly for the industry coalition (Minkkinen 2019a). Some commentators are concerned about the competitive position of Europe in the development of machine learning due to relatively strict data protection rules (e.g. Koerner 2018). The conventional competitiveness frame provides some potential for privacy advocacy, for instance by promoting fair competition rather than monopolistic development driven by data accumulation. A more radical top-down alternative would be promotion of a European vision of wellbeing in the digital economy, which emphasises cooperation and solidarity at the expense of competition. Another

possibility is remaining within the discourse of competition and emphasising wellbeing and sustainability, for instance, as competitive factors. Civil society actors, in turn, have some space for experimenting with alternative practices such as platform cooperatives. These approaches are, however, always subject to criticisms of implausibility and economic unsustainability, and an economic downturn may decrease space for the search for alternatives.

6.4.3 Privacy self-management

The so-called privacy self-management approach, briefly discussed in the sections on conceptualising privacy ([chapter 3](#)) and study number II ([5.1.2](#)), has been influential in privacy protection instruments for decades (Solove 2013). The approach is founded on a notion of privacy as individual control over their personal information, and it relies on procedural elements such as notice and consent, which are supposed to provide an adequate level of protection. Privacy self-management can be described as a technology because it involves both influential discourses and institutional rules, and it positions the individual as the active protector of her own privacy, giving agency but also laying the responsibility on individuals.

Within academia, the privacy self-management paradigm has recently come under heavy criticism, and Mantelero (2014) even calls it a “crisis of the traditional data protection framework” due to Big Data analytics. There are many reasons for the inadequacy of privacy self-management, including evidence that people do not read nor understand privacy policies, the fact that people cannot comprehend the cumulative effects of relations with hundreds of service providers, the context dependence of privacy preferences, the unclear purposes to which big data may be used and business models that rely on influencing individuals’ privacy preferences (Yeung 2017). van der Sloot (2014) argues that the focus on control rights for individuals does not address the issues of big data profiling and predictive analytics. For him, general obligations for data controllers, enforced by data protection authorities or consumer organisations, would be more effective. Austin (2015) makes a similar argument, stating that privacy law should focus on power-over (the power of the actor conducting surveillance) and power-to (the capabilities of self-presentation and social interaction provided by privacy), which shifts the focus on the surveilling party rather than placing the responsibility on the citizens. Hull (2015) calls privacy self-management a “successful failure” because it “completely fails to protect privacy” but it achieves something else: it establishes a model of ethical subjectivity where individuals are given the impossible task of controlling their information disclosures. The basic problem for individuals is that they “frequently find themselves trapped in processing conditions they do not understand and have no easy way to control.” (De Hert and Papakonstantinou 2013, 307).

From a critical perspective, self-managed privacy and surveillance can be seen as parts of the same institutional order where privacy legitimates and stabilises surveillance. Coll (2014) argues that privacy, defined in individual-centric legal terms, is a tool of governance in informational capitalism that produces ‘subjects of privacy’ who diligently protect their data in prescribed ways. There is a paradox at play here: if privacy is seen as breathing space that provides gaps in semantic practices (Cohen 2013), defining privacy exactly and prescribing specific private spaces and rights closes the gap and inserts privacy as a smoothly functioning part of the surveillance ecosystem. This interpretation fits the legalism discussion, where explicit legal rules are seen as a necessary corollary to economic liberalisation and the breakdown of old trust-based relations (Bignami and Kelemen 2017). In the case of privacy protection, the liberalisation of the flow of data requires legal safeguards to stabilise and legitimate continuous data flows. Just as modern work created the need for leisure (Gardiner 2000, 84), perhaps pervasive surveillance creates the need for privacy as its counterpoise. This would mean that privacy advocates need surveillance actors to constitute their identity and, conversely, surveillance actors need privacy advocates to legitimate the surveillance regime.

If privacy is predominantly seen through privacy self-management, what space is left for transformational agency to promote alternative views of privacy? Firstly, the privacy self-management discourse, while influential in institutionalised privacy, does not exhaust the meanings that individuals give to privacy. Control over personal information is not necessarily the primary concern for citizens, and protection of the home as a private space and the importance of privacy for democracy are also present in citizens’ understanding of privacy (Coll 2014; Minkkinen, Auffermann, and Heinonen 2017). Therefore, both top-down and bottom-up actors may engage in a conversion strategy to emphasise these more collective understandings of privacy as a societal condition, or as Cohen (2019) puts it, “turning privacy inside out”. The GDPR also includes elements, such as collective-action lawsuits, that point beyond self-management, as discussed above. Privacy discourses and the privacy regime thus provide affordances for shifting the responsibility from individuals to surveilling parties.

Secondly, citizen-led data activism is an interesting form of bottom-up agency. On the one hand, it often relies on the importance of data and the notion of the capable individuals of privacy self-management. It is likely that privacy self-management discourses partly constituted the subject position of a ‘data activist’. On the other hand, depending on how data activism evolves, it may have broader implications and potentially diminish alienation in the face of datafication, perhaps even constituting a bottom-up ‘spatiotemporal fix’ (Sum and Jessop 2013). Lehtiniemi and Ruckenstein (2019) discuss the MyData data activism movement as one case of citizen-led negotiation of desirable data practices. They identify two

diverging imaginaries, technological and socio-critical, and suggest the potential for constructively merging the two, focusing on collective and cooperative-based governance of data and the creation of data commons. The current predominant MyData imaginaries, however, are more focused on technological solutions and individuals' control over their data rather than systemic impacts of datafication or privacy as an enabler of everyday anticipation. A more critical stance towards privacy self-management may challenge the data activist identity.

Federated social networks such as Mastodon, which consist of a network of servers with open standards and no centre, provide another example of technological activism. More broadly, the term 'Fediverse' is used to refer to the family of such federated platforms. Interestingly, the Fediverse is an imaginary that includes technological and social layers and, for some, radical political aspirations. Crucially, both the MyData movement and the Fediverse skilfully utilise technological affordances, and both of them are less clear about the underlying social and political vision. In the case of the Fediverse, the distributed nature may make a unified vision beyond decentralisation difficult to achieve and perhaps undesirable. Technologically driven solutions are potentially effective, but they risk framing privacy as a technical issue rather than a societal one, which may alienate non-technically oriented people and disregard systemic effects of datafication and surveillance. Such developments may also be subsumed under the dominant datafication process, as options that cater to the minority of 'privacy-minded consumers' but do not challenge the regime.

6.4.4 Dominant ways of using the future

Groves (2017, 37) suggests that conflicts over imaginaries can actually be conceptualised as tensions between "heterogeneous ways of knowing and taming an uncertain future". This is clearly connected to the notion of privacy as the intersection between surveillance, everyday anticipation and societal negotiation. Utilising the model in article V, the underlying futures consciousness is at least as important in these conflicts as the specific expectations about the future. This leads to the question how everyday anticipation and deliberative societal future-making processes could be strengthened in relation to data-driven predictions. Central actors, such as policymakers, could promote foresight practices beyond calculative prediction and planning, emphasising participation and collective sensemaking. In counternarratives, the focus on *human* anticipation seems to be central. For instance, Shoshana Zuboff's recent book's subtitle is "The fight for a human future at the new frontier of power" (Zuboff 2019), and Douglas Rushkoff's recent manifesto is titled *Team Human* (Rushkoff 2019). Ilkka Tuomi also promotes a constructivist chronotope of foresight in which the future does not simply happen, but it is the

outcome of human action, agency and interaction (Tuomi 2019). Within civil society, anticipation and visioning practices can also be promoted, providing variation in modes of anticipation. However, the crucial question is whether alternative ways can be selected and retained in institutionalised settings and whether ubiquitous predictive surveillance diminishes space for other types of anticipation by acting as the ‘always-on’ default mode of future orientation.

6.5 Policy implications: strategic tradeoff between seeking plausibility and taming technologies

The central strategic question that arises from the possibilities analysed above is the extent to which privacy advocates aim at explicitly taming the technological selectivities. Agency directed at discursive and structural opportunities is required in any case. Regulation, increased awareness as well as checks and balances for datafication and surveillant attention are necessary to ensure conditions for everyday anticipation and human flourishing in the digital age. Privacy is not only a problem if individuals articulate it as such, but the power effects of surveillance affect individuals in any case. However, regulation of surveillance alone may prove ineffective if the underlying roots of surveillance are left untouched. For instance, strategic efforts to convert the privacy regime to strictly enforce fundamental rights may lead to an ‘arms race’ where data companies continuously circumvent regulation efforts with new innovations. If competitiveness in the global economy is paramount and more information is continuously sought for policy, there is also a continuous stress on privacy regulators to stay on top, and privacy self-management may continue to operate as a “successful failure” (Hull 2015).

Moreover, there is a recursive logic in surveillance where regulators need ever more information on data processing of watch the watchers. The Finnish case of the intelligence law reform gives an example of this logic. There was recently a dispute because the Finnish Security Intelligence Service expressed the need to conduct security checks on members of parliament who are charged with monitoring its expanded surveillance activities (Pietiläinen 2018). In other words, the monitor wanted to monitor the monitor of the monitor. While this “wilderness of mirrors” may be necessary in some cases, it risks only increasing the amount of opaque surveillance. Ramírez and Ravetz (2011) warn about “feral futures” – out of control situations that may result from attempts to tame and control risks.

How could surveillance technologies be tamed? Explicitly questioning the technological selectivities is a risky strategy because it is heavily politicised and may alienate many potential allies, diminishing the privacy coalition. All of the technologies in question are crucial for maintaining certain identities and subject positions. The information-processing imperative goes straight to the heart of

Enlightenment thinking and ostensibly enables enlightened, evidence-driven decision-making, scholarship and social progress generally. Growth and competitiveness provide the drive for many contemporary societal activities, including a great deal of research and innovation, as well as fostering successful, agential citizens from those who are able to compete. Privacy self-management forms the bedrock of international privacy rules as well as the identity of many privacy advocates. Finally, ways of using the future are inscribed in think tanks, consultancies and foresight approaches.

There is thus a tradeoff between strategic action aimed at easier, more explicitly exploitative practices, risking partial optimisation and inefficiency, and action aimed at fundamental knowledging technologies, which risks perceived implausibility, diminishing the privacy advocacy network and, at worst, damaging societal institutions for questionable benefits. A similar tradeoff is undoubtedly present in many forms of activism. While there is no simple solution to this dilemma, I believe that there are possible paths to responsibly question even more fundamental beliefs. However, critique should be well-aimed and specific about what is critiqued, offering solutions if possible, and also well-timed, making use of strategic openings. Effective agency to promote future privacy is likely to benefit from both top-down and bottom-up agency, as well as their coalitions, and a narrative and an organisational structure with multiple layers, leaving space for more moderate and radical voices. 'Future privacy' can then operate as a boundary object that contains different aspirations of future society but enables coordinated action.

To promote bottom-up agency, political participation and social inclusion in the years to come, digital skills need to be taught broadly within the population. Importantly, skills need to encompass not only use of technologies but also critical thinking, the ability to question technologies and construct technological artefacts as well as the ability to make strategic use of technologies in appropriate ways for citizens' own projects. A vision of active citizenship in the 21st century could include critical public discussion of the benefits and drawbacks of different algorithms in different kinds of systems as well as the ability to choose between several algorithms to receive different results. In addition, society needs to be fair towards those unable to acquire the cognitive skills for strategic and creative use of technologies and for today's notion of privacy self-management.

6.6 Future research directions

This dissertation suggests three primary directions for subsequent research. Firstly, more studies should be conducted on how surveillance and privacy work as anticipatory processes. While some studies exist (Amoore 2013), studies should be connected more explicitly with the discussions in futures studies and anticipation

studies, if we are to develop anticipatory practices to more desirable directions rather than only critiquing them. Research could also be conducted on systemic links between privacy and other fields such as security, wellbeing and environmental issues, beyond simplistic trade-offs where privacy is conceptualised as an individual interest.

Secondly, the specific analytical approach and methodological toolkit, the context, actor storylines, imaginaries and latents (CASIL) approach, can be developed further, critiqued and applied to different phenomena and cases. Complex social phenomena such as work, family and mobility are examples of potential topics. Conducting studies on different topics with a similar, though not necessarily identical, approach could help the accumulation of a critical mass of scholarship in futures studies. There are currently many one-off reports on particular approaches that are not adopted more broadly, and many methods that are connected strongly to one institution. The links between partly overlapping, potentially competing or complementary methodologies are often not explicated.

Thirdly, the dissertation includes a vision or, indeed, imaginary of critical-analytical futures studies as reflexive study of how futures operate in society. This notion of critical-analytical futures could be summarised in a provisional definition: *Critical-analytical futures studies investigates the relationships between anticipation, semiosis, structuration and latent possibilities in particular spatiotemporal contexts.* It is thus not the study of alternative futures as such. Insofar as alternative imaginaries are studied, they are viewed as part of a temporal process that also includes other factors. The theoretical foundations of critical-analytical futures studies could be elaborated, drawing on critical futures studies, social theory, philosophy of science and other sources to consolidate and question appropriate approaches to futures studies that are both critical and analytical. Significant work could also be made to operationalise critical-analytical futures studies in simpler and more accessible ways.

The critical-analytical approach also suggests three provisional levels of futures consciousness based on the level of complexity and reflexivity. First-order futures consciousness means that an actor is oriented towards the future and capable of pursuing meaningful projects. Second-order futures consciousness means being aware of storylines, imaginaries and visions that exist in society and being able to critically assess them. Third-order futures consciousness means the ability to pursue one's projects in the context of many competing or complementary future-oriented imaginaries and projects — a set of complex strategic coordination skills (Tavory and Eliasoph 2013). These levels are related to the typology of anticipatory assumptions suggested by Miller (2018b, 31–34) but more oriented to the strategic-relational approach adopted in this dissertation. The connections between critical-analytical futures studies and the emerging field of anticipation studies open many interesting questions and directions for future research.

7 Conclusions

In 2013, I began planning a dissertation on ‘futures of privacy’. In one early presentation, I even inadvertently added the definite article: *the* futures of privacy. Over the course of the dissertation work, I gradually realised that there is no singular ‘level of privacy’ that applies equally in all spheres of life at all times and that could be projected into alternative futures in the same way as, for instance, the shares of different energy sources in energy scenarios. Attempts to ‘rigorously’ measure privacy, for instance through privacy concerns, and turn it into a calculable phenomenon like energy production, are misleading in my view. There is no singular system variable called ‘level of privacy’, but privacy is not reducible to individual experiences and concerns either. Instead, privacy is a social institution that consists of many types of rules that regulate surveillance practices and facilitate anticipation in everyday life. Instead of determining driving forces, there are numerous local and global negotiations, which are future-oriented and have a bearing on the possibility of maintaining private life in different spheres of life. Privacy is thus situated at the crossroads of three types of anticipatory practices: surveillance practices, anticipation in everyday life and societal negotiation on plausible futures. Therefore, the question I began with, ‘futures of privacy’, evolved from a concern over possible dystopian outcomes, to the question of the current situation’s influence on modes of anticipation in the present.

This focus on the anticipatory present rather than futures means that my dissertation repeats a pattern that is often irritating for futures researchers. In many books and articles, consideration of the future is a short section at the very end, which usually considers future research directions and a limited number of key issues (e.g. Bennett and Raab 2006; Bennett 2010).¹⁴ Initially I was convinced that futures researchers need to begin where others end, that is, we need to consider the future systematically and at length. During the dissertation work, I realised the extent of reflexivity involved in discussing futures. If we accept the theoretical premise that imaginaries significantly influence social reality, then promoting an imaginary

¹⁴ The popularity of such short sections also makes ‘future’ a very difficult search term from scholarly databases.

makes one an advocate. Alternative scenarios ameliorates the situation somewhat, but there is still significant selectivity involved when considering how trends lead to outcomes, which outcomes are mutually compatible and how to choose a limited set of scenarios. While this is useful in pragmatic scenario exercises in management or policymaking, I would argue that futures researchers need to consider the ontological unpredictability of sociocultural evolution. In systems terms, each step, such as the introduction of a new privacy law, rearranges some aspects of the system, making certain imaginaries and paths possible. Although general mechanisms may be involved, each situation is historically unique, pregnant with particular potential futures.

While frustrating for those seeking answers about the future of privacy, this dissertation has demonstrated that critical-analytical futures studies, as meso-level investigation of the co-evolution of imaginaries and institutions, provides a novel and necessary lens for understanding the future potential inherent in the current debate on privacy. Why is it necessary? In short, the evolution of privacy is at an impasse. There is a sense of something valuable being lost but no sense of agency or pathway forward apart from technology-oriented visions of continued growth and datafication. Such visions place increasing stress on individuals to either continuously manage their privacy or give up. In this kind of future, efficiency may be increased, but human flourishing is at serious risk. While alternative long-term visions may provide inspiration, their link to the current historical situation is often tenuous. Regaining a sense of agency primarily requires an analysis of the latent possibilities in the present situation and an understanding of predominant orientations to the future rather than more representations of long-term futures. This dissertation provides tools to understand the nature of the impasse and suggests provisional ways forward. Beyond that, it is the task of future-oriented social actors outside academia to make the future.

There are at least two general directions for developing critical futures studies on the basis of the framework in this dissertation. Firstly, we can analyse a historical situation with particular imaginaries, institutions, selectivities and potential for strategic action, taking into account that action is necessarily connected to promoting certain values that should be transparent. This is the critical-analytical approach adopted in this dissertation, which could be tested with equally complex topics like climate change and security in subsequent studies. Secondly, critical futures studies can contribute to broadening future horizons, essentially increasing the variation in imaginaries and questioning rigid selection processes that tend to reduce diversity. In a similar vein, futures studies can also promote the anticipatory capacities of actors, either decision-makers or citizens, to enable more multifaceted use of the future in making choices. Of course, further development of critical futures studies is, like all things, uncertain and contingent on many selectivities.

Privacy plays a double role in this thesis. On the one hand, privacy is simply a topic, one possible case of institutional change for critical-analytical investigation. On the other hand, as I argue in the theoretical framework, privacy is not simply another topic for future-oriented investigation. Instead, privacy is a prerequisite for a particular style of anticipation, open to human agency, imagination and the potential inherent in everyday life. In contrast to the narrow view of privacy as an individual interest and the polar opposite of public issues, I have argued for a systemic understanding of privacy protection in society. Properly understood, privacy protection is a prerequisite for maintaining an open, forward-looking society, which consists of citizens who are primarily future-oriented moral agents rather than sources of data. To overcome the deadlock between the continued growth and tragic loss imaginaries, new strategies are needed for ensuring privacy protection, but advocates need to consider plausibility and navigate between promoting increased regulation of surveillance practices and trying to tame the root causes of surveillance. Miller (2011) states that “to meet our desire to respect the moral imperative of acting to create a better future we need to change *how* we think about the future not what” [emphasis added]. If we take this exhortation seriously, we also need to take privacy seriously as protection of open and distributed anticipation in the context of predictive surveillance.

In many ways we already live in a world without privacy and most people would not describe their life as dystopian. So why not simply move on and enjoy the benefits of datafication? There are two counterarguments. First, the readers of this dissertation are not likely to experience the heaviest consequences of surveillance and may overwhelmingly experience the benefits of personalisation and convenience. Marginalised groups particularly in non-democratic societies, in contrast, may experience persecution of family members, limited mobility and many other effects. Even in democratic states, socially excluded individuals can suffer from discrimination on the job market, microtargeted payday loans and a society that has categorised them as problems. Critical theorists would argue that many more suffer from unfulfilled flourishing. Secondly, according to many commentators on issues of climate change, biodiversity and use of natural resources, we are in a world on the edge where new solutions are direly needed. We need not only acceleration and optimisation of the current system but deceleration and transformative social innovations. Solutions that ensure a desirable human future are not likely to be built without breathing space.

Abbreviations

CASIL	The methodological approach promoted in this dissertation: a meso-level study of context, actor storylines, imaginaries and latents.
CLA	Causal layered analysis, a futures research method developed by Sohail Inayatullah that draws on poststructuralism and critical theory.
CPE	Cultural political economy, a framework for analysing co-evolution of imaginaries and institutions.
Critical-analytical futures studies	The approach to futures studies promoted in this dissertation. It can be defined as the investigation of the relationships between anticipation, semiosis, structuration and latent possibilities in particular spatiotemporal contexts.
Evolutionary mechanisms	In cultural political economy, three general evolutionary mechanisms are identified: continuous <i>variation</i> in discourses and practices, <i>selection</i> of certain discourses and practices to make sense of phenomena and <i>retention</i> of certain discourses and practices in routines, institutional rules, ways of talking and so on.
GDPR	General Data Protection Regulation, a European Union data protection framework, which was implemented on 25 May 2018.
Selectivities	Structured constraints and opportunities that exist in a context for sense-making and strategic action. Selectivities can be divided into structural, discursive, technological and agential ones.

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