Analysis as Therapy

The therapeutic function of ex ante analyses in infrastructure policy processes

Lars Dorren

Faculty of Social Sciences
Department of Political Science

Analysis as Therapy

The therapeutic function of ex ante analyses in infrastructure policy processes

Proefschrift voorgelegd tot het behalen van de graad van doctor in de Sociale Wetenschappen: Politieke Wetenschappen aan de Universiteit Antwerpen

Te verdedigen door

Lars Dorren

Promotoren: Prof. dr. Wouter Van Dooren, Prof. dr. Koen Verhoest

Antwerpen, 2021

Members of the doctoral committee:

Prof. dr. Steven van Garsse

Prof. dr. Thomas Schillemans

Members of the doctoral jury:

Prof. dr. Tom Coppens

Dr. Hannah Knox

Dr. Valérie Pattyn

This research was funded by the Flemish Government as part of the Research Centre Governance Innovation (2016-2020).

Contents

Acknowledgements

I always thought writing this section would be the easiest part of writing a dissertation. It turns out it is not. One of the great privileges of doing research – or perhaps of life in general – is that you get to meet so many wonderful people, all of them equally important in their own unique way. Some have been with you for your entire life, with some you only have a single conversation that offers you just the right perspective at just the right moment. I have been thinking long and hard about a way to write these acknowledgements that reflects the fact that every person mentioned in them is equally important to me in their own right. Nevertheless, I ultimately had to face the fact that written words do appear in a certain order, whether I like it or not.

I'll start with where the project started: a job interview in Antwerp, a little over 4.5 years ago. I remember how on the way back, I felt like I had a good conversation rather than a formal interview. That feeling never left. Wouter and Koen, I'd like to thank you for your enthusiasm, guidance and support, but also for the freedom to let me find my own place in our field.

For the fact that I even went to that job interview in the first place, I have to thank Thomas Schillemans. It was he who asked me if I had ever thought about a career in science when he was still my thesis supervisor. As a member of my doctoral commission, he once gave me a piece of feedback which has guided the choices I've made in my work ever since: 'Je bent een beetje eclectisch, daarmee kun je iets moois maken'. My commission was chaired by Steven Van Garsse. Steven, for someone who is 'een beetje eclectisch', your comments on the practical and judicial implications of my research or the lack thereof in my writing, have been of key importance. Hannah Knox, Valérie Pattyn and Tom Coppens took the time to read and evaluate this manuscript as members of my doctoral jury. I want to thank them for inspiring me through their own work and their comments on mine.

Next to thank is a group of people who I have promised not to mention by name. I owe an immense amount of gratitude to all the people who took an hour out of their day to let me

interview them, those who graciously invited me to yet another meeting where I'd sit in a corner and watch, or those who believed in the project enough to help me negotiate access.

During my time in Antwerp, I've had the pleasure to work in the friendliest research group one can imagine. I'm happy to have met you all, and hope our paths keep crossing. I'd specifically like to thank Eva Wolf and Vidar Stevens for the energizing collaborations and inspiring talks, and my office roommate Zeger Verleye for our stimulating conversations and indulging me in the tremendous amounts of stories and knowledge he carries with him.

Now venturing outside the circle of people I have met at the University of Antwerp, I'd like to thank Mirijam Böhme and Robert van Putten as two co-authors whose sharp minds left their mark on my research beyond our writing together. In addition, I want to extend my gratitude to everyone who participated in the CIPA network, with a special thank you to co-organizer Lianne Visser and her contagious enthusiasm and drive.

I'm grateful to Joram Feitsma, Jules de Kort, Lennart van Loenen, Fieke van Schaik, and Kim Smeenk for asking questions, showing interest, and just the kinds of conversations one needs to find the energy to carry on. I thank my parents, Joep and Saskia, and my sister Julia, simply for being there. I cannot express how much I value each and every one of you. My gratitude goes out to Eva, for showing me the meaning and value of thinking freely, and enthusing me with your sense of wonder about the world.

Lastly, I want to acknowledge the contribution of those of whom I don't know many by name. Those who maintain buildings or clean them, those who take care of administrative matters, those who indirectly fund research through taxes. Academia is a privileged world, which would fall apart within seconds if it were not for these people, enabling us to do our work on a daily basis.

The Hague, 29 January 2021

1

Introduction

Why analyses are interesting

Hi Lars,

How nice, I'll definitely read [the reports you send me]. Are you ready for your doctoral defense now? [...] We are currently in an exciting phase in [the study process]. It looks we will end up with 2x4 lanes instead of 2x5, and a lot of financial discussions between stakeholders. By October 1st, we'll also have about 3000 pages of text to put on your bookshelf, where you can read it's not an asphalt-only solution ☺.

Regards, [anonymized]

To me, as an outsider, this is a strange e-mail. It was sent to me by the project manager of one of the three large infrastructure projects I have been following over the past four years. What makes it strange is how it casually mentions a study outcome which is no real surprise to anyone involved, yet was arrived at through a very intensive and costly process. The '3000 pages' refer to the results of an explorative study of which the first phase is nearing completion, and about which I witnessed a substantial number of meetings. At the time of writing, the study has been running for over a year, and its next phases will likely take a couple of years more. When eventually completed, it will have costed about 2.5 million euros. The study's purpose is to compare a number of policy options to solve congestion on a busy stretch of highway. Even though the study also includes several

options which do not come down to simply adding an extra lane in each direction, it is no secret that the models used in these kinds of studies tend to generally favor adding lanes (Dorren et al., 2018). What's more, the minister of Infrastructure ultimately deciding on this particular project is known to favor adding lanes over other solutions, and is affiliated with a political party which has a longstanding tradition of favoring highway expansion. This means that even if the study would have shown that other options were more cost-effective, it would likely have had little impact on the minister's choice (Mouter, 2016, 2017). So why conduct these costly and time-consuming studies? That is the question this book seeks to answer.

Despite their cost and limited direct impact on policy decisions, this particular type of predictive study, hereinafter referred to as the *ex ante analysis,* is a popular instrument in infrastructure policy processes. Its use is widely recommended in advisory reports (Andres et al., 2015; Andres et al., 2007; Brown et al., 2006; European Conference of Ministers of Transport, 2005; OECD, 2012, 2015a, 2015c; World Bank, 2014a, 2014b; World Economic Forum, 2012a), government guidelines (Infrastructure and Projects Authority, 2017; Ministerie van Infrastructuur en Milieu, 2016a; Vlaamse Regering, 2014) and management handbooks (Klaassen & Hakvoort, 2015; Priemus et al., 2008; Priemus & van Wee, 2013; Sowden et al., 2011; Taylor, 1947; Wegrich et al., 2016). Their popularity is a direct response to some of the difficulties that often occur during the planning phase of large infrastructure projects. Their costs tend to escalate, realization might take much longer than planned, or they mainly serve the political career of individual decision makers (Flyvbjerg et al., 2003; Hall, 1980; Wegrich et al., 2016). When reading advisory reports or government guidelines, the expectation seems to be that ex ante analyses can improve decision-making by providing 'unambiguous, factual accounts that can straightforwardly be transferred and applied to policy or practice' (Nutley et al., 2007, p. 123). Ex ante analyses do so by providing information which allows decision makers to compare policy options along a predetermined set of dimensions. Generally, this involves quantifying the impact of each policy option, so that they can be ranked (Klaassen & Hakvoort, 2015). Two often-occurring examples of ex ante analyses are the environmental impact assessment and the cost-benefit analysis. An environmental

impact assessment is a legally required part of decision-making processes that are expected to have a significant environmental impact in European Union member states (dir. 2011/92/EU). It compares policy options based on their impact on dimensions such as air quality, water quality and sound emissions. A cost-benefit analysis maps a policy's impact on the economy by predicting costs and benefits. The EU requires member states to conduct a cost-benefit analysis if they want to apply for certain subsidies (European Commission, 2014; European Investment Bank, 2013). In addition, they are a popular tool for assessing the costs and benefits of projects at the national and regional level (Ministerie van Infrastructuur en Milieu, 2016; Mouter, 2014b; H. M. Treasury, 2017; Vlaamse Regering, 2014).

So far, it seems a very sensible thing to spend a considerable amount of resources on sophisticated ex ante analysis. However, previous research has shown that the predictive value and level of neutrality of ex ante analyses are actually limited – something of which policy makers themselves are aware (Dorren et al., 2018; Mouter, 2016, 2017). The attitude of policy makers is confirmed by scientific studies, which criticize this so-called 'linear' conception of knowledge use (Weiss, 1979) for two reasons. First, the linear portrayal of knowledge use falsely expects ex ante analyses to depoliticize policy processes by appearing politically neutral whilst actually being full of value-related decisions (Flinders & Wood, 2015; Jasanoff, 1990; Putnam, 2002). For example, Stone (2012) writes:

> *'Is (or are) a Siamese twin(s) with one head and two lower bodies one person or two people? [...] There are no objective answers to this question, because nature doesn't have categories: people do.' [...] Is a person born in Denmark to a Danish mother and a Turkish immigrant father a Dane, is our economy in a recession or just a normal downturn? Has the nation whose drone kills civilians violated international war treaties? What is an Islamic political party or leader? [...] There are, to be sure, more or less objective facts underlying all these situations. [...] But these facts are not the ones that matter in politics. [...] What communities decide about when they make policy is*

meaning, not matter. And science can't settle questions of meaning'
(Stone, 2012, p. 381).

In other words: the measurements contained in ex ante analyses are not an objective reflection of the world, but a product of value decisions about the definition of concepts such as 'noise', 'nuisance' and 'benefits'. And even if adopting a more practical definition of objectivity, such as the idea of objectivity as being influenced by scientific values rather than political values (Douglas, 2009), study outcomes still do not speak for themselves. As an example of how assessments are a matter of interpretation and perspective, Bovens and Hart (1996) describe how the Sidney Opera House, famously plagued by cost overruns of over 1.300%, was seen as a financial fiasco during the many years of its construction. The budget of 7 million A$ needed to be extended to about 102 A$, and the Opera House became a theme dominating elections. However, since then, it has become major landmark and a world-famous building. Whether the costs of the building can be called 'reasonable' is a matter of perspective: '102 million USD for a music hall' sounds different from '102 million USD for a future UNESCO World Heritage Site'. But even then, there is no objective way of assessing whether the building has been worth it. This depends on the value one attaches to, among other things, music, landmark buildings and city marketing.

The second ground for criticism of the linear vision of the use of ex ante analyses is their limited ability to predict the future. Ex ante analyses have limited predictive power because of the way in which they are, by definition, a limited model of reality. They reduce the complexity of the world to something that can be captured in computer simulations. Ex ante analyses usually predict policy impact based on likely future developments. However, delays and cost-overruns are usually caused by unlikely events (Anheier, 2016; Leijten, 2017; Taleb, 2010). For example, Leijten (2017) describes how a tunnel project in the Netherlands was delayed significantly because the tunnel got flooded during construction, likely due to savings on materials. Similarly, the Dutch government predicts the necessity of infrastructure investments based on scenarios in which there is low or high economic growth (Minister van Infrastructuur en Milieu, 2017). Events such as an economic crisis or a pandemic, which have a significant and arguably lasting impact on the way people use

infrastructure, are not taken into account. An ex ante analysis does not predict these sorts of events, as it is based on likely scenarios. Nevertheless, these are the types of events determine the course of processes and have a great impact on the duration and costs of a project.

What this brief discussion of the neutrality and predictive power of ex ante analyses shows, is that it is unlikely that they are valued because they provide unambiguous answers or guarantees about the success of policy projects. Even though thinking about the potential impacts of policy is an essential part of policy making, the question arises why this has to happen through these complex methods, which are not necessarily the best predictors of policy impact. Even though alternative methods of policy appraisal are available, these types of studies apparently bring something to a policy process which is appreciated up to the extent that lawmakers feel it should be a mandatory part of policy processes. Existing research on knowledge use offers two competing explanations for the popularity of ex ante analyses beyond legal requirements. The first explanation seems popular in critical theory-informed studies of state action. These studies recognize the limitations of ex ante analyses, and explain their popularity by portraying civil servants as somewhat naïve people who fail to recognize the limitations of ex ante analyses or pay insufficient attention to them (Frissen, 1999, 2013; Scott, 1998; Trommel, 2009). The downside of these studies is that they often operate at a relatively high level of abstraction and lack empirical grounding. As such, these studies run the risk of commenting on theories of knowledge use rather than existing practices (Feitsma, 2019, p. 5). Since this group of theories explains the popularity of ex ante analyses as a consequence of the naivety of policy makers, I will refer to their proposed explanation as the *naivety thesis.*

A second group of theories also recognizes the limitations of ex ante analyses, but instead explains their popularity by pointing towards ways in which these analyses are useful regardless. For example, Boswell (2017) argues that studies such as ex ante analyses function as 'useful myths'; people are aware of their limitations, but they are built on a set of principles with which everyone can agree, allowing the policy process to move forward when actors' positions vary widely. Mouter (2016) describes how the impact of ex ante

analysis on the actual decision might be limited, but that politicians value the instrument as a means to hold decision makers accountable. Stevens (2011) and Boswell (2009) write that politicians and civil servants are reluctant to have research dictate decisions, but that they rely on studies to legitimate policy ideas and craft convincing 'policy stories' which will allow them to build support for policy ideas. These theories generally do not so much focus on the costs of analysis use, such as making processes needlessly complex or hampering debate by excluding certain arguments from a policy discussion because they do not fit an analysis' model (Parsons, 2002). As such, these studies explain what benefits lead policy makers to value ex ante analyses, but do not offer the meso-explanation that would describe why these benefits outweigh the costs that come with analysis use. As this set of theories center around the practical usefulness of ex ante analyses, I will hereinafter refer to this explanation as the *usefulness thesis*.

What neither the naivety thesis nor the usefulness thesis go into in much detail, is why we seem to specifically value ex ante analyses over other types of knowledge. Laypeople's' knowledge or the gut feeling of expert civil servants could technically provide similar reflections to ex ante analyses. Take, for example, professional knowledge, defined as a tacit form of knowledge which guides a professional in their work, and which cannot always be put into words (Brink, 2015, p. 29). Relying on this form of knowledge means that decisions will not always be the result of a conscious weighing of costs and benefits, but might instead be taken on the basis of certain intuitions shaped by specialized training and years of working in a particular organization. Based on this intuition, most civil servants working on the project related to the email that opened this chapter were able to more or less predict the outcome of the study. Nevertheless, these forms of knowledge appear to be valued less than ex ante analyses (Brink, 2015; Brown, 2009, pp. 91-92; Callon et al., 2011; Putten, 2020; Triantafillou, 2015).

In other words: there is something about ex ante analyses that makes people more inclined to rely on them rather than the professional knowledge of civil servants. So far, we have established that it is unlikely that this difference in popularity can be explained solely based on the quality of the predictions made by ex ante analyses. Even though they often

use sophisticated methods, ex ante analyses do not provide guarantees, nor politically neutral knowledge. We have also established that academic literature offers two explanations for the popularity of ex ante analyses: the naivety thesis and the usefulness thesis. The first lacks empirical grounding, the second focusses on the benefits of ex ante analyses but pays little attention to potential costs. In other words: the question why we value ex ante analyses still stands. What drives us to spend substantial amounts of time and money on a study of which we can already guess the outcome, and might not even really influence our decision?

The answer to this question likely consists of two components. First, it can be expected that the context in which policy makers work, as well as their behavior, has certain characteristics which make ex ante analyses a better fit compared to other policy instruments. Even though policy makers see the 'evidence-based' way of policy making as an ideal (van Twist et al., 2015), their context does not always allow them to act in accordance with that ideal. Policy makers' ambition to work according to the highest standards of evidence production, gets hampered by the fact that they have limited time and resources to do so, resulting in a practice which is much more pragmatic than it might appear at first sight (Feitsma, 2019). In this context, policy makers engage in 'satisficing' (Simon, 1976): fulfilling their goals as well as they can, given their circumstances. In addition, research use is likely impacted by the 'path dependency' of policy processes (Lindblom, 1959, 1979). Policy makers have a tendency to select policy options which are in line with existing policies, even if an ex ante analyses would show them that other options would be superior. As such, policy makers' context and use of ex ante analyses likely are the key to at least partially understanding the popularity of ex ante analyses.

The second component in explaining the popularity of ex ante analyses are these analyses themselves. Actor-network theory suggests that predictive analyses have some sort of agency in and of themselves (Callon, 1991; Mouritsen & Kreiner, 2016). They change 'a material substance into a figure or a diagram which is directly usable' (Latour & Woolgar, 1986, p. 51). In the work of Latour & Woolgar, who studied knowledge production in scientific laboratories, scientists literally present a material substance – such as boiling

water – to an instrument – such as a thermometer – which then produces a figure – a temperature measurement – to the scientist. The scientist then takes this outcome as a given, and rely on it in the next steps in their study. The measurement outcome, in other words, influences the actions of the scientist, independent of whether the scientist particularly likes that outcome, or wants to adhere to it (Callon, 1991). Predictive analyses are arguably more complex than a thermometer, but essentially perform a similar function. The analysis changes or 'translates' data from several sources into a number that other actors then have to relate to in their decision making (Callon, 1991). As with the thermometer, the agency of an analysis consists of its ability to independently produce something that influences the actions of other actors. People can choose to ignore the analysis, but would still be relating to it in doing so. The presence of the analysis influences their available actions: if they would choose to ignore it, other actors will likely call on them for an explanation. In other words: if we want to understand the popularity of ex ante analysis, we would not only have to look at the people who use them, but also at the way in which the presence of analyses steers the behavior of people in policy processes.

Chapter overview

In the remainder of this book, I will explain the popularity of ex ante analyses by first reflecting on the naivety thesis and the usefulness thesis as found in academic literature on analysis use. Subsequently, I will add to these explanations by looking at analysis users and the context in which they operate, and then focus on how specific features of ex ante analysis interact with these users and their context, to ultimately arrive at an account of why we specifically value ex ante analysis.

The book will be structured as follows. Chapter 2 reflects on the naivety thesis based on interviews with policy makers about their perception of their own practice. As said, when reading policy documents and advisory reports, it seems as if there generally is a clear link between the outcome of an ex ante analysis and the policy decision. This approach to the policy process fits what critics of that approach have called 'modernist thinking' (Bauman, 2000; Frissen, 2013; Ophuls, 1997; Scott, 1998; Trommel, 2009): the belief that we can control the world as long as we study it properly. If writings about policy practice resemble this thinking, does that make policy makers naïve modernists? This chapter uses

interviews with civil servants to show that this conception of policy practice is an oversimplification. During the interviews, policy makers initially rehearse a modernist-seeming description of their practice, but their beliefs appear much more nuanced when questioned further. Besides the theoretical point that policy makers are driven by a desire to act rather than an unshakable belief in ex ante analyses, this chapter also makes a methodological point. It shows how civil servants' conceptions of their practice are often a summary view of an ideal policy process, which in practice never occurs.

Chapter 3 describes how this conclusion led me to base the rest of this book on ethnographic observations, rather than interviews. Adopting this methodology has allowed me to move beyond participant reconstruction, and maximize context sensitivity and capture the messiness of policy practice. The chapter describes how and why three large infrastructure projects that were used as sites for data collection in this study, and describes these cases in detail. Lastly, the chapter describes how data were analyzed, and how this analysis has informed the subsequent chapters.

Chapter 4 relies on these observations to reflect on the thesis that ex ante analyses are popular because of their usefulness. Already briefly alluded to in this introduction, research on knowledge use suggests that ex ante analyses might be popular policy tools because they are useful despite their shortcomings (Boswell, 2017; Mouritsen & Kreiner, 2016). For instance, they might be useful because they are based on principles which bind policy makers together in controversial policy processes (Boswell, 2017), or because they help policy makers imagine what effects they would like their interventions to have (Mouritsen & Kreiner, 2016). This chapter explores the process effects of ex ante analyses by combining the data collected for this study to data gathered as part of a study by Eva Wolf (Wolf, 2019; Wolf & Van Dooren, 2017a, 2017b, 2018a). The chapter shows how ex ante analyses do indeed have certain productive effects, but that their presence also leads to considerable amounts of friction and disappointment as they create false expectations about the nature of the policy process. The central position of ex ante analyses in policy processes makes it appear as if these processes are scientific processes. What is a political struggle about the right policy decision gets presented as a technical

exercise which can be solved by employing the right analysis, causing participants to rephrase their arguments in the language of specific ex ante analyses. What is an administrative process in which the process of conducting an analysis has to happen within budgetary and time limits, appears to participants as a process in which conducting the study becomes an aim in and of itself. Lastly, the prominence of ex ante analyses creates confusion about the hierarchy of policy processes. The processes surrounding ex ante analyses convey a certain horizontality. They suggest that if you contribute good facts, you can influence the decision-making process. However, the policy processes these ex ante analyses are used in, are hierarchical. No matter the analyses outcomes, the minister is mandated to decide and will do so, sometimes ignoring study outcomes. This confusion can easily turn into a conflict in which parties attack each other for breaking process rules which were never the actual rules of the process to begin with.

Having concluded that nor the idea that policy makers are naïve, nor the idea that ex ante analyses are exceptionally usefulness can explain why this particular instrument is so popular, the next chapters offer an alternative explanation by studying the specific characteristics of analysis users, their environment and the analyses themselves.

Chapter *5* how civil servants use and interpret ex ante analyses, and how these interpretations change over time. In this chapter, I do so by following one particular analysis in one of the three processes this study follows. This ex ante analysis was a monitoring rapport. Its purpose was to predict and monitor the impact of a set of short- to medium-term measures, which had to reduce traffic on a particular piece of road whilst preparations for more major interventions were made. Over the course of eight months, I observed how people primarily interpret the outcomes of this analysis in light of their prior convictions – in this case their attitude to project management. The impact of these convictions is substantial; peoples' interpretation of the outcome of the analysis only changes once they are put under pressure by deadlines, and have to come to an agreement as a group. In addition, they use analyses very pragmatically. For example, project management team members were observed to treat analyses outcomes as a hard target when they wanted to motivate employees to put in more of an effort, but were seen to

relativize those same analyses when they wanted to convince other team members that the amount of progress the project was making, was enough.

In chapters 6, the focus of the book turns to analysis instruments themselves. Which features of ex ante analyses enable this particular behavior? These have a broader scope, and draw on patterns observed across all three cases. Chapter 6 describes how ex ante analyses can be used pragmatically because they have certain chameleonic features. That is, they change 'appearance' based on what their environment requires them to be. As such, analyses can be interpreted and used in many different and seemingly contradictory ways. To the features that enable this use, are the fact that analyses use methods and models which will always have limitations, and allow the analyses to be relativized as such. At the same time, the outcomes of analyses seem very exact. Costs and benefits are predicted in cents, sea-level changes in millimeters. This makes outcomes seem very exact and absolute, and allow outcomes to be used as if they convey absolute certainty. In addition, ex ante analyses appear to possess inherent agency, meaning they have an impact on the policy process that is attributed to the analyses itself, rather than the people working with it. A clear example is the way in which people discuss analyses outcomes: it is generally 'the analysis shows' rather than 'the analyst has calculated'. The chapter also describes how trust in the instrument is not necessarily come from the substantive content of an analysis, but based on how complex an analysis appears to be, whether its outcomes match personal experiences, and whether or not the analysis is perceived to be the result of personal preferences. An analysis in which its origin in human action shines through too much, is thought to be overly 'political' or 'irrational', and its quality as a source of information becomes questioned.

Chapter 7 builds on these observations by describing how these characteristics allow ultimately allow ex ante analyses to play the role of an impartial spectator. As described in chapters 4 and 6, preferences which are thought to be overtly 'political' or 'irrational' – personal, in other words – are seen as an undesirable influence. This drives people to look for external validation. However, as anything too closely linked to a personal preference is seen as an undesirable element, they cannot turn to other people for

validation. This is where the fact that an ex ante analysis has inherent agency and is not seen as the product of any particular individual or group enables it to be that source of validation. In ex ante analyses, process participants have found a way to separate external validation from the personal. An ex ante analysis passes judgement by ranking policy options along different dimensions, but that ranking cannot be linked to personal preferences. As such, ex ante analyses satisfy a need for external validation in a process in which the individual ultimately always is a suspect.

Lastly, chapter 8 summarizes the central argument of the book and concludes that the primary function of ex ante analyses is not informational, but therapeutic. Though decision makers might ignore an analysis outcome, they will still have gone through an often process of reflection on their policy preferences. Even if these preferences do not change during the process, ex ante analyses-based reflection provides people with the confidence to act by validating their preferences. Ex ante analyses are uniquely suited for this purpose, as it is difficult to link them to any sort of personal agenda.

2

Reflecting on the naivety thesis

Locating the belief in a modernist state[1]

Chapter overview

This chapter tests the first of two popular explanations for the popularity of ex ante analyses, namely the naivety-thesis. This thesis suggests that ex ante analyses are popular because civil servants are naïve 'modernists'. Modernism is a system of belief which entails that the world that can be understood and controlled in objective terms. The state is often described as an archetypical modernist institution. Studies describing the state as such, generally speak of the state as an abstract, coherent, singular actor. What is missing from their description of modernist states is an account of the individuals that ultimately constitute state practice: civil servants. Are they indeed the archetypical, naïve modernists who believe they can control the world through knowledge? Or is their account of their own practice more nuanced? This study explores this question by means of a thematic analysis of seventeen interviews with civil servants from The Netherlands, all involved in decision making processes on infrastructure investments at the national level. The chapter shows that modernist principles do not govern practice in the way other studies suggest. The modernist policy process seems to be an ideal type which reflects a desire to act with complete certainty rather than a reflection of beliefs deeply rooted in policy makers.

[1] This chapter is an adapted version of a journal article titled 'Locating the belief in a modernist state. On whether or not policy makers are technocrats', currently under revision.

It is not in the thinking of new things to do
It is in the counting of things that you have already done
And this is not in the things you staple together
It is in your desire to staple

David Shrigley – The Jist

Introduction

In critical policy studies, the state is often depicted as an archetypical rationalist or modernist institution (Bauman, 2000; Clarence, 2002; Frissen, 1999, 2013; Law, 1994; Scott, 1998; Triantafillou, 2013; Trommel, 2009; Van den Brink, 2007, 2015; van Putten, 2015). The ontology of such institutions is built on two core assumptions. First, that the world around us is objectively and completely knowable through scientific research. Through research, the modernist state will produce an objectively best policy solution. Second, that we can, on the basis of our objective knowledge, meaningfully control and manipulate this world, having full control over the effect of our actions. These critiques of government practice describe the state as a technocratic institution in which the administrative division of government perceives itself as acting neutrally based on objective knowledge.

When considering the amount of insights into the fallibility of human reasoning and human action at both the individual and supra-individual level, it is difficult to imagine that modernist beliefs are upheld to a great extent in practice. Studies in policy analysis, but also psychology and organization sciences paint a picture of government practice is shaped by 'bounded rationality', 'satisficing', short-term goal chasing and pragmatism (Feitsma, 2018; Flyvbjerg, Bruzelius, & Rothengatter, 2003; Kahneman, 2014; March & Olsen, 1975, 1983; Simon, 1976; Tversky & Kahneman, 1974; Walgrave & Dejaeghere, 2016). These studies make the modernism of a state not only look naïve, they also make it difficult to imagine that anyone who works in what has been called the 'swamp'

(Lindblom, 1959) or 'garbage can' (Kingdon, 1984) that is the policy process actually upholds these beliefs.

Studies that describe the state as a modernist institution only partially account for this supposed naivety. These studies have a tendency to talk about states as coherent wholes, and speak of 'citizens' and 'civil servants' as archetypes. What these studies do not do, is locate where and how modernist ideals reside within a state. Institutions – such as the state – consist of a set of routines, rules, beliefs and practices which are enacted by individuals (Thornton & Ocasio, 2008). Research does, in fact, suggest that in their decision making, civil servants and politicians do consider more than just study outcomes (Dorren, Verhoest, van Dooren, & Wolf, 2018; Mouter, 2016, 2017). In order to understand the state's alleged modernism, we need to know if and if so, how, modernist ideals are upheld and put into practice by individual civil servants.

This chapter presents the results of an attempt to locate the modernist state in the practice of policy making in order to answer a very basic research question: are policy makers modernists? To do so, the chapter will first briefly explore the contents of the two core beliefs that characterize modernist states: the idea that the world is objectively knowable and the idea that this world can be controlled. Then, it presents the results of a thematic analysis of reflective interviews with 17 policy makers who are all involved in decision making processes on infrastructure investments at the national level in the Netherlands. Analysis of these interviews suggest that whilst in policy documents, archetypical modernism is very much present, civil servants are not primarily interested in knowing or controlling. They first and foremost want to act. This raises the question what theories of the modernist state actually describe. Should we understand modernism as a system of believe, or primarily a narrative to legitimize acting?

The naivety of modernism: two questionable core beliefs

The modernist state is described as the product of fear of uncertainty (Bauman, 2000; Habermas, 1987). This fear leads humanity to want two guarantees in life: regularity and control (Bauman, 2000). In modernist thinking, scientific knowledge is able to provide

both of them. By uncovering the rules that govern the world, science lets humankind know what to expect. The assumption is that the world around us can be studied, and the outcomes of those studies correspond with a 'real world' that is objectively observable and knowable. When applied in a policy process, this means that scientific studies would point to a solution that is objectively right or best and fundamentally a-political (Nutley, Walter, and Davies, 2007, p. 128; Weiss, 1979).

However, measurements and research findings are not objective in the sense that they speak for themselves (Stone, 2012). How they are understood depends on all sorts of value decisions. Collecting data requires defining categories first: when do we speak of a serious traffic issue? What makes an income 'low'? Then, understanding findings also requires making value decisions: what constitutes a high number of people with a low income? Even basic concepts such as 'a fact' ultimately are an expression of certain values such as the definition of 'observation' (Putnam, 2002, pp. 30-31).[2] Saying that studies allow governments to make decisions based on what is 'best' or most efficient *as opposed to* what is politically desirable or valued presupposes the existence of some kind of knowable, observable reality that exists outside of the subjective interpretations of different actors. As Putnam and Stone show, however, concepts such as 'neutrality' and 'objectivity' are in fact value laden themselves. This means that the modernist promise of objectivity is either impossible to achieve, or at least overambitious.

The second core assumption of modernist thinking is that of the possibility of control. If science does indeed uncover the rules that govern the world, these rules can be used to act meaningfully. That is, they enable policy makers to act knowing that their actions will have the intended effect. The idea that science provides control over one's environment presupposes that government action has a substantial impact on a government's context, and that this impact can be predicted by studies such as impact assessments and cost-benefit analysis. Control on the basis of studies is difficult because of the holistic and

[2] Although this concept might seem rather straightforward, its definition has varied greatly throughout history. For instance, Putnam argues that according to Hume's definition of 'observation', modern day scientific findings about bacteria would not count as being observation-based (Putnam, 2002, p. 23).

chaotic nature of the world. 'Holistic' means that one cannot 'determine the properties of units on the basis of the details relating to their constituents because the constituents do not determine the properties of [the] whole' (Rescher, 1998, p. 2). This means a study – which can only try to model reality and leaves things out by definition –will never fully encompass the real world. Substantive empirical and theoretical research shows that because of this feature of complexity, government projects take longer than expected, cost more than predicted or have unintended side-effects (Bovens & 't Hart, 1996; Hall, 1980; Marks & Gerrits, 2017; Scott, 1998; Taleb, 2010). Policy processes and their outcomes are generally not determined by what can be planned and expected, but by what is unexpected (Taleb, 2010). Policy makers often find their projects in a state of bounded manageability, where there is a lack of 'monitorability, predictability and controllability' (Leijten, 2017, p. 16).

Even though the knowability and the controllability of the world are contested, students of modernism diagnose that these two promises continuously motivate government action. In fact, all these authors describe how confrontation with the problematic character of the idea of a knowable and controllable world have led states to radicalize. Bauman (2000) claims that the modernist state is especially the product of the contestation of modernist principles. As people are aware that the world is without guarantees and cannot be controlled, they expect the state to 'manage' their fear of uncertainty. Creating order is one of the central ambitions of the modernist government (p. 55-70). Trommel (2009), building on the work of (Coser, 1974), describes how a confrontation with the fallibility of the modernist state have moved states to increasingly penetrate the private lives of citizens in order to discipline them into 'useful subjects'. This act of disciplining has the objective to force a situation in which the state is in control after all., Confrontations with the 'brokenness' of the world causes the state to even more fanatically strive towards 'wholeness' (Frissen, 1999, 2013). Scott (1998) similarly observes that states have a tendency to counter their fallibility by forcefully make the world resemble their models of it. Sometimes, Scott argues, with grave consequences. Think, for instance, of the famines that were the result of Mao and Lenin attempting to plan the development of the economy.

Modernism in Dutch infrastructure decision making

To locate modernist thinking in government, this chapter analyses Dutch infrastructure policy processes and the civil servants involved in them. In several ways, these processes can be understood as a 'most likely' case to find archetypical modernists.

Dutch infrastructure policy is generally part of the MIRT or 'Multiannual Program for Infrastructure, Environment and Transport' ('Meerjarenprogramma Infrastructuur, Ruimte en Transport' or 'MIRT'). The MIRT contains all planned infrastructure investments by the national government until 2030. In the MIRT, decision making on which projects to add is a joint process between so called 'MIRT regions'[3] and the ministries of Infrastructure and the Environment, Economic Affairs and the Interior.[4] Decision making processes on investments follow a set of elaborate procedures that dictate the structure of these processes. Procedural guidelines are documented in what is called the 'rules of play' of the MIRT (Ministerie van Infrastructuur en Milieu, 2016).[5] These rules of play divide the infrastructure decision making process into four steps in which government works from a wide array of possible solutions to a traffic problem to a single preferred solution. For each of the four steps, a highly detailed 'information profile' has been designed, containing all information that should be available before the government can proceed to the next step. These include different types of studies, but the rules of play also state when and where public consultation should take place, which organizations should be involved at what points, and at what stage of the process specific regulations come into play. The MIRT does not only contain projects that are currently running. Its rules and procedures are also employed to plan ahead. The MIRT is linked to the 'infrastructure fund', which contains a fixed amount of means until 2030. Currently, all these means have already been assigned to specific projects (Minister van Infrastructuur en Waterstaat, 2018).

[3] For the purpose of the MIRT, the Netherlands has been divided into five regions. On region consists of two or three provinces. Provinces form the regional Dutch government, below the national level and above the local level.

[4] Translations as found on government.nl.

[5] Own translation. Original Dutch title: 'Spelregels van het MIRT".

In the elaborate procedures surrounding Dutch infrastructure planning, studies and analyses take a central role. The Netherlands is 'commonly regarded as one of the strongholds of policy analysis' (van Nispen & Scholten, 2015) with a longstanding tradition of integrating analyses in policy processes, a wide array of independent agencies evaluating policies. Every couple of years, the Dutch ministry produces a market- and capacity analysis (Ministerie van Infrastructuur en Milieu, 2017). Based on different economic scenarios, this analysis predicts the ability of Dutch infrastructure networks to cope with mobility demands in 2030 and 2040. The analysis shows where the most severe congestion is to be expected, which forms the basis of the investment priorities of government (Dorren et al., 2018, pp. 47-49). The analyses used range from cost-benefit analyses and environmental impact assessments to compare different project alternatives to public-private comparators to predict which will be the most beneficial contract forms for the construction stage of the project. All these instruments come with their own manuals and have to adhere to standards set and managed by the national government.

When solely regarding procedures as written down in the rules of play, Dutch infrastructure policy processes do indeed seem to be set up in accordance with modernist beliefs. Knowledge production and application play a central role in deciding what projects to invest in. Additionally, the Dutch government plans ahead. Doing so based on studies that predict mobility demands in 2030 and 2040 also suggests confidence in the predictive power of these studies. In other words, Dutch infrastructure policy procedures strongly reflect both the idea that studies can indicate which policy option is 'best', and that these studies provide control.

Despite the procedures' apparent modernist layout, the rules of play of the MIRT also stipulate that studies are there to inform decisions, not dictate them. The minister of Infrastructure ultimately decides, and they have been known to not always follow study outcomes (Dorren et al., 2018; Mouter, 2016, 2017). Modernism does not appear to be a set of rules that govern government decision making in an absolutist sense. The next section of this chapter will outline how policy makers were interviewed in order to better grasp what it does look like.

Talking to policy makers

This chapter is based on a total 13 interviews with 17 respondents. All of these respondents worked with a Dutch planning system called the MIRT. As the MIRT is presented as a cooperation between the national government and regional and local government, respondents from all these levels were included. An initial sample was collected via LinkedIn searches. Additional respondents where suggested by the respondents from the initial sample. In terms of regional governments, I selected respondents that were in contexts that differed in terms of the amount of funding they received from national government. This means that I conducted interviews in provinces that received large amounts of funding over the past years, and provinces that received very little in comparison.

Respondents were located at five different types of organizations. Respondents at the regional or local level worked for the administration of the provincial or municipal governments. At the national level, respondents worked at either the ministry of Infrastructure and Water Management, one of the minister's executive agencies, or the national court of audit. Respondents had two main functions. The first group of respondents played an advisory role in the process of selecting and executing infrastructure investments. These respondents either advised on content or on processes. Content advisors conducted analyses or providing 'expert judgements' on which options should be considered. Process advisors produced studies on how to optimize decision making processes or analysis processes. The second role respondents had was the role of strategist. strategists were engaged in the process of negotiation between the national government and regional governments on which investments should be prioritized. Table 1 contains an overview of the distribution of respondents by organization type and function type.

Table 1: Distribution of respondents by function type and organization type.

Level	*Organization type*	*Function*	*Number of respondents*
National	Ministry	Advisory (content)	1
		Advisory (process)	0
		Strategist	4
	Executive agency	Advisory (content)	2

		Advisory (process)	2
		Strategist	0
	Court of audit	Advisory (content)	0
		Advisory (process)	2
		Strategist	0
Regional/local	Province	Advisory (content)	2
		Advisory (process)	0
		Strategist	3
	Municipality	Advisory (content)	1
		Advisory (process)	0
		Strategist	1

The respondents were interviewed by means of a topic list. The interviews were divided into two parts. In the first half of the interview, respondents were asked to describe the way in which the processes of the MIRT lead to a list of concrete investments, and their role in that process. In the second half of the interview, this information was used to focus more specifically on the ideas of knowability and control.

Analysis

All interviews were transcribed literally by three student assistants. Analysis was inspired by Boyatzis' (1998) principles for thematic analysis. Interviews were loaded into NVivo 12 and coded in two rounds. In the first round, 'knowability' and 'control' were used as codes to identify pieces of conversation that dealt with one or the other. As the theoretical framework of this chapter has demonstrated, knowability and control are two concepts which are very much linked together. Focus was put on the primary message of the statement. For example, a statement such as:

Maybe this new way of working will mean the end of cost-benefit analyses.

was coded under 'knowability' because it primarily focusses on the way in which a certain new way of working will impact an advisor's ability to conduct proper analyses. It impacts, in other words, their ability to know and predict even though this also implies that this knowable new reality will also mean that it is less controllable. A statement such as:

Well, this captures the development of the area over the past decades, and now you have to decide with the best knowledge and the best intentions.

was coded under 'control'. In this statement, the focus is not so much on the studies themselves, but on what grounds for action they offer. This respondent suggests that you have to do the best you can, rather than to act on the basis of known certainties.

In a second round of coding, all text under 'knowability' and 'control' was reviewed and coded again under summarizing sentences that specified the content of each piece of text. Summarizing statements where, in a last round of analysis, grouped together based on the degree with which they were in agreement with modernism. Results were displayed in overview tables, describing the number of times each summarizing statement occurred. There are two important nuances to make concerning these numbers. First, the interviews were quite loosely structured. The fact that a certain statement is not linked to all interviews, does thus not necessarily mean that not all interviewees share that view. Second, 'number of references' refers to each instance in which a statement relating to a summarizing statement was made. In this context, 'instance' refers to a piece of text enclosed by two pieces of text with a different topic. A high number of references can mean that many respondents discussed something briefly, whilst a low number of references can mean that respondents talked about a topic at length. However, the numbers do serve as an indication: a high or a low number does provide an indication of a possibly interesting pattern. The analysis does not stop at the numbers, it exists in reading the excerpts behind the numbers. This is what has led to the set of conclusions presented in the remainder of this chapter.

The practice of modernism

The picture painted by the data in relation to the concepts of control and knowability is quite complex. Individual respondents made statements signaling belief in and statements problematizing modernisms two core ideas. This section shows how knowability and control are seen as something that can be strived for and something of which mainly other actors are capable. Policy makers display a certain modesty when it comes to their own

ability and the ability of their direct peers and do recognize that there is more to policy making than just factfinding and implementation.

Knowability

The idea of knowability in the modernist sense supposes that there is a world out there that is objectively knowable and can be discovered through rigorous study. 'Sticking to the facts' or 'just doing the rational thing' are expressions often associated with this vision of the world. And indeed, a quick glance at table 2 suggests that the respondents in this study have a vision of the world as something that is objectively knowable. The summarizing statements that have been collected in relation to the idea of knowability as described here have been divided in four groups of sentiments: 'the world is knowable', 'the world is knowable, under certain conditions', 'studies do not provide objective, universal truths' and 'People are not so much concerned with obtaining objective, universal truths about the world'. The first three sentiments represent different levels of believe in the idea of an objectively knowable world, in decreasing order. The fourth sentiment covers statements which suggest that perhaps, policy makers' prime concern is not to produce policies based on objective knowledge about the world. Going over each of the sets of statements, it appears that policy makers do certainly rehearse the modernist idea of a world which can be known objectively, yet simultaneously nuance this very idea by listing factors which complicate or problematize it. How exactly they connect these conflicting ideas, becomes apparent when going over each of the four categories of statements in detail.

Table 2: Number of interviews and number of times each summarizing for excerpts coded under 'knowability' appeared in.

Sentiment	*Statement*	*In number of interviews*	*Number of times the topic came up*
The world is knowable	Studies provide objective knowledge	6	20
	Studies provide an adequate picture of reality	5	20

	One can distinguish between objective and political or emotional matters	5	14
	Rules and principles for studies ensure quality	5	11
	Others (experts) provide essential parts of the study	4	14
	Study outcomes are a solid ground for action	4	7
The world is knowable, under certain conditions	Models are limited, which can have a quite substantial impact on the rest of the policy process	8	27
	A technical analysis has to be complemented by other forms of knowledge	8	22
	Studies require sufficient capacity	2	3
	One-size-fits-all in terms of models is not possible	1	1
Studies do not provide objective, universal truths	There is simply not enough time to study a project in all its nuances	5	11
	The outcome of a study is relative to its inputs	2	4
	Studies have difficulty dealing with the irregularities of the real world	1	4
People are not so much concerned with obtaining objective, universal truths about the world	The role of ambitions (knowability)	10	34
	The completeness of a study depends on what the people making it can come up with	5	10
	Studies are used strategically in political arguments	2	5
	Gut feeling and experience sometimes weigh more than study outcomes	1	1
	Study results need to be translated in order to be comprehensible for non-technicians	1	1

The knowable world within reach

The statements connected to the sentiment that the world is knowable express an explicit belief in the objective knowability of the world. In half of the interviews, respondents explicitly state that they believe that the use of models and technical instruments make policy processes more objective. A similarly sized group explicitly distinguishes between 'objective' or 'rational' decisions, and 'emotional' or 'political' grounds for making a certain decision. They make statements such as:

'On the basis of facts and figures, you can often prove that 'you may want to [stop adding extra lanes to a highway], but you will never get all those people to use the railway or the bus' [...] So on the basis of facts and figures, you can, well, maybe mediate political preferences a bit.'

When looking at what 'knowing' means in the context of these statements, it seems that respondents mostly refer to facts and figures as produced by analyses. They talk of cost-calculations and estimating effects by means of economic models or 'studying' in general. Reflections often stay at a high level of abstraction, with statements like:

This is where a study helps: on the basis of all available knowledge we have at this moment and in a situation of limited means, [you can answer the question] what are the two, three, four, five large programs or interventions that we would want to do that would have a sustainable impact on the region? [Which projects] help realize certain policy goals and solve certain bottlenecks?

These statements suggest a scientific outlook on policy processes: you study, you gather knowledge, and you can judge which projects are best. Other respondents describe this process of analyses as a 'very rigorous exam'. A final point of interest in this section of the table is the relatively high amount of statements that claim that 'others provide essential parts of the study'. In other words: it is often not the respondent themselves who 'knows', but others who are more of an expert. This also holds for respondents who were themselves seen as experts. Most of these statements were made in the beginning of each interview, when respondents were asked whether or not studies played a major role in infrastructure decision making in general.

Knowledge does not come easy

Something interesting happens when respondents are questioned further on what exactly the functions of model-based studies are. Statements supporting the idea of a world which is objectively knowable were typically made in the beginning of each interview. When asked for specific examples, respondents often started nuancing this image. Even though respondents seldomly make statements that studying is fruitless, they do recognize that

the possibilities to study policy options are not endless. Often, their remarks concern practical limitations. These remarks suggest that knowing the world in the modernist sense of the world would be possible, if only enough time and resources were available, and if we were only able to develop the right models. However, something else is happening as well. When reading further through table 2, we see that in 8 of the interviews, respondents mention that the models used in studies are limited:

> *You need to prove it is a bottleneck. For that, you need the NMCA[6]. Quite the discussion, because that system is a point of discussion, because it only measures whether car traffic can get from A to B quickly, or ships. But we found out that it does not really take into account shifting between modalities. So, for example, at ferry terminals, whether people and busses can reach those properly. Or whether there aren't way too many people waiting for those ferries. The whole thing does not take that into account.*

Or, as another respondent said about the same instrument:

> *It is very difficult to, in the Dutch model, provide a place for cross-border traffic.[7] You can hardly make that work. So, what happens is: you have all these within the borders of the Netherlands and lot of them turn red[8]. Whilst all the roads to the border, [...] they don't turn red! Whilst they can be pretty busy too.*

At the same time, respondents declared that the model discussed here – the NMCA –is rather central to decision making. If this analysis does not indicate that something is an issue, it is much harder to get it attention for it – even though it might be an issue in practice. Policy makers from regions that, according to the NMCA, have a low number of bottlenecks indicated that it was very difficult for them to get the attention of the national government. Policy makers from regions with many bottlenecks said that the NMCA has

[6] National Market and Capacity Analysis (Nationale Markt- en Capaciteitsanalyse, own translation).

[7] Because of the limited availability of data for cross-border traffic.

[8] In the maps generated by the model.

a bias towards road infrastructure, which means it is difficult to get funding for the rail solutions some actually prefer.

It therefore makes sense that a second statement endorsed by the majority of the respondents is the idea that technical analyses should be complemented by 'other forms of knowledge'. It appears that what is meant by 'knowledge' in this context does not necessarily refer to 'knowledge' as something obtained through studies in the scientific sense of the word:

> *Respondent: [Have people] think along from the beginning about what should be happening in the region, gather ideas, that helps enormously. [...] You try to prevent that people get surprised, or that government gets surprised, by things that live in the region. So you can come to the best plans.*
>
> *Interviewer: Doesn't that make the process less rational?*
>
> *Respondent: On the contrary, I would say. Because you make a better plan. So, you add more rationality, and more public support. [...] Citizens can have all sorts of great ideas about how you should adapt something to the environment that engineers and all sorts of clever people at the ministry hadn't thought about yet. [...] If you start that early on in the process and keep creating space for it, then it leads to the best plan. In terms of support, but also in terms of content.*

In fact, it seems that to 'know' does not necessarily mean knowing as a result of studying, there are also things you 'just know':

> *Interviewer: But what if the study shows that it is a great idea?*
>
> *Respondent: Yes, well, that's what they're doing now, and we agreed that we'll discuss it in the next [meeting].*
>
> *Interviewer: Yes, seems difficult.*

Respondent: And then it is up to the [ministers and governors], I mean, I can already predict the reaction of the civil servants here. [...] It is just very hard to find a rational argument for investing [in that project]

In this passage, the respondent describes a situation in which a study outcome does not really matter, as people in their department 'just know' that the project being studied will not be a success. This links to what other respondents call 'doing things qualitatively':

You can do these things in a quantitative manner, wherever you can. But you also do things qualitatively. You talk to all stakeholders to get a taste of what it is exactly that we want.

In other words: knowing can mean 'finding out through rigorous study', but it can also mean that civil servants ask local people or people who have experience with similar projects whether or not they believe something is a good idea. Gathering 'knowledge' is thus not only a scientific enterprise, but also a social one.

Decision making is done by human beings

In fact, the social dimension features so prominently in the interviews that it justifies a fourth category of statements. These statements do not so much relate to the research process as a scientific enterprise, but to the social dimensions of knowledge use and -creation. In this set of statements, conveying the sentiment that 'people are not so much concerned with obtaining objective, universal truths about the world', three statements stand out. First, it is interesting that respondents do not always simply 'do', but oftentimes 'try'. Respondents do not appear to think of themselves as people who have the ability to actually read and map a 'real world' and include all necessary knowledge. Instead, they 'do their very best'.

A second point of interest is that ambitions play a substantial role in processes of knowledge creation and use. Ambitions often determine whether knowledge is gathered in the first place. This influence goes further than just determining whether a certain problem gets studied or not. It also shapes the entire study process and design. For instance, a study process often starts with the question what everyone wants out of the

process. 'You see where there's energy', one respondent called this process. Another respondent summarized as follows:

> *Respondent: So we have regional agendas, which have been drafted in agreement with the national government. They contain at least three strategic directions which are connected to challenges, on the basis of which we make MIRT-agreements.*
>
> *Interviewer: So, when you receive a signal, you first check whether it matches those priorities and then see whether it is the right moment to bring it up?*
>
> *Respondent: Yes, that's very relevant! Is it even possible? What kind of discussion do you want? What kind of decision do you want them to take? [...] Do you want them to start a study? Do you want them to explore solutions? You should all take that into account.*

In other words: what is being studied depends, e.g. which options are considered viable, depends on the ambitions or 'energy' of the people involved in the decision-making process. Ambitions are not only important when starting a process of knowledge gathering, they also matter when it comes to the adoption of outcomes:

> *There has been a study which dealt with the question 'up to what extent do the outcomes of cost-benefit analyses match with the final decision'. And then you see that many projects are being executed of which the cost-benefit analysis says you shouldn't. [...] Especially with maritime transport and railway projects...they just generally don't do very well in a cost-benefit analysis. But we do build waterways, and we do build railway projects. It's just based on a different way of thinking. A different point of departure. [The idea seems to be that] railway projects are just good for society, and terms of costs-benefit analyses that is questionable, but... (mumbles).*

In general, it can be concluded that the idea of a knowable world in the archetypical modernist sense, mainly exists at a very abstract level. It comes forward when people give

general descriptions of the way processes run. When asked for more detail, they indicate that 'knowing' something is not as straightforward as their initial statements suggest. Also, it is proceeded by 'wanting', and a study's outcomes have to be in line with the ambitions of decision makers to actually be adopted.

Control

When talking about the subject of control, the pattern that occurs is similar to the pattern observed when discussing knowability. Respondents will initially paint a picture in which they appear to believe that knowledge provides control, and will nuance this picture when asked to specify their statements. Table 3 provides an overview of the summarizing statements made about control. Interestingly, none of the respondents actually explicitly indicated that they were able to exercise control in the encompassing way theories on modernism paint. Almost all respondents did state that studies enable some control. However, the picture gets more nuanced after that. For the summarizing statements under 'control', it too made sense group them based on the sentiment they convey. The first three groups of statements ('control is possible', 'control is possible, under certain conditions' and 'control is very difficult to achieve') represent decreasing levels of belief in control. Just as they did for knowability, respondents also reflected on control by naming things that impacted their decision making regardless of a belief in control. Here, that sentiment has been labelled 'people are not so much concerned with control'.

Table 3: Number of interviews and number of times each summarizing for excerpts coded under 'control' appeared in

Sentiment	*Statement*	*In number of interviews*	*Number of times the topic came up*
Control is possible	Studies enable control	9	14
	You have control over the consequences of your policies	1	4
Control is possible, under certain conditions	More sophisticated procedures lead to more control	10	39
	Control is possible, if we find the right connections with other policies	7	14
	Budgets limit the amount of control we can exercise	5	16
	The actions of others limit the amount of control we can exercise	3	11

	Studies are a prerequisite for action	3	3

Table 3, continued.

Sentiment	*Statement*	*In number of interviews*	*Number of times the topic came up*
Control is very difficult to achieve	Studies do not provide guarantees, they are limited by default	8	15
	Unexpected things happen regardless of how well you prepare	3	6
	It is difficult to evaluate whether policy goals are actually achieved	1	1
People are not so much concerned with control	The role of ambitions (control)	10	37
	People want guarantees before they commit to a project	7	10
	At some point you just need to make a decision	6	11
	Not acting feels like it is not an option	5	7
	There is little interest in evaluations of whether policy goals were actually achieved	3	12
	A decision is usually a combination of many factors, it can be difficult to reconstruct its logic	1	1
	Studies that don't show a clear path of action do not get picked up	1	1

The (im)possibility of control

In most of the interviews, respondents seemed to endorse the idea that scientific knowledge enables control over the outcomes over one's actions. Nevertheless, civil servants seem more cautious about their ability to meaningfully manipulate the world with their actions than they are about the possibility of gathering objective knowledge about that world. The explanation given most often, is that the current procedures are not sophisticated enough enable the exercise of control:

> *The program has to be flexible. Flexible in the sense that...we can no longer look ten years into the future, so we are trying to make an estimation of what projects will be needed, but in two or three years we might very well take some projects out. Add some others.*

The subject of flexible procedures came forward in other interviews as well. Generally, flexibility was seen as a prerequisite for the exercise of (some) control. This is an interesting observation, as it complicates the archetypical modernist idea of the possibility of knowing and then simply executing. Instead, respondents indicate that it might be necessary to adapt plans in order to have some control over a generally uncontrollable situation. Another statement that is endorsed by a substantial number of respondents is that control is about finding the right connections with other policies. A similar sentiment is reflected in statements such as 'The actions of others limit the amount of control we can exercise' and 'Control is possible, if we find the right connections with other policies'. These statements suggest that complexity can best be challenged by more sophisticated studies and procedures.

As was the case for knowability, many civil servants later nuance their optimism about the ability to exercise control. This third category of statements suggest that whilst they are optimistic about the power of flexible procedures and knowledge, civil servants indicate that there are no guarantees. Unexpected things will impact your process regardless of what happens, as this statement conveys:

> *That's the biggest danger of such a study, because the perspectives that are being studied are just models made for doing calculations. They are not realities that will actually materialize. You can be certain about that. And when it comes to the...to major uncertainties...of which we know they will have the biggest impact, about those uncertainties we actually have the least amount of knowledge. There are a number of technological developments and because we know so little about them, we cannot actually put them in models. Then you would get some kind of 'Back to the Future'-like image of the future.*

Here too, civil servants also make statements that suggest that exercising control over their environment is not a belief that is firmly held. Instead, these statements suggest, people primarily seem to be driven by a desire to act. The statements connected to this sentiment suggest that people might simply not always want to or be able to take the necessary steps

to exercise control. Ambitions of others play a role in civil servants' ability to act on study outcomes. Besides that, they also seem to be a driving factor when it comes to making decisions. Quotes such as:

> *It is also a matter of looking for the right political climate. With [the parties which are in government now], it is much easier to put transport on the agenda, compared to when [another party would be in power]. Then, you wouldn't even have to start about an extra lane on [a highway]. You just won't get it done. So then you would have to focus on whether or not you can get people... public transport on the agenda. You have to look for momentum.*

And:

> *So you just see, I spend 20% of my time at the office, and 80% outside the door. Just to get an idea of [what's out there] and also to help projects move further together. Businesses here have united themselves in a [smart logistics center]. 70 or 80 businesses [...] And they just cleared one fte to innovate but also to do a bit of lobbying work. And those guys are important partners for us. If they say: we really need more capacity on the railway to Germany, that should really be a double track railway, well, those are the kinds of signals we'll put some serious work in.*

illustrate that everyone involved in policy processes is dependent on the ambitions of others. When ambitions coincide, a project has support and is more likely to get built. These two quotes also illustrate that it does not so much matter whether people believe they can do something, but whether they want to do it. The question people seem to be asking is not 'how can we, given the outcomes of our studies, meaningfully manipulate our environment to achieve our policy goals', but rather 'what do we want to do' or 'what can we get support for'?

The idea that people are driven by ambitions rather than a belief that their actions will meaningfully impact their environment in the way the planned is strengthened by the

observation that many respondents indicate that at some point, you 'just need to make a decision':

> *So [the project] is already running. So, the crux is that you are already so far in your decision-making process, that it is no longer realistic to stop these processes. And you can...there is something to say for being a predictable and trustworthy government which makes that you maybe shouldn't want to do that. It is very complex, that's what I know. [...] Interests organize around the project. So cancelling something, well, I think you would only do that if it is very far away in the future and you have not taken any significant steps from a legal perspective.*

Another respondent adds:

> *As a minister, you cannot say: 'I have been discussing [a certain trajectory] with the city for a few years, we are now going to just put it somewhere else.'*

The need for certainty – or guarantees – runs quite deep, some respondents say:

> *Respondent: If governors and ministers agree to make a financial contribution, they want to know what it is for. They want to be able to say that there should be a bike lane, and this and that. So actually, before you even start studying, an agreement gets drawn up which states what everyone pays, and then people want to be sure that those things actually gets built.*
>
> *Interviewer: So then at the start of the process, you already have some sort of...*
>
> *Respondents: Preferential solution.*
>
> *Interviewer: A sol...that concrete?*
>
> *Respondent: That concrete. And of course, that clashes with the idea of studying things from a broad perspective.*

Again, these statements complicate both the notion of exercising control based on studies, as well as the idea that civil servants believe they have full control the effects of their actions. They are not certain of the effect of their actions, they 'just have to decide' at some point. What is up for consideration in a policy process is impacted by studies, but it is also determined by guarantees people ask for in exchange for support. Regardless of what comes out of a study, people want to make sure the policy ends up matching their agenda. The interviews suggest that effectiveness is not the main criterium when making policy. Rather, ambitions and desires which pre-date the study process, are.

In addition, people do not seem very interested in whether or not they actually managed to exercise control. Presumably, people care about matters such as project delays or cost overruns. However, but once a project has been completed, the interest in its effects seems to fade. This is partially because of practical matters. Two respondents who specialize in process design stated that evaluation was made difficult because projects tend to take so long that most people who are involved in, for instance, conducting studies, tend to disappear from government before a project even gets finished. In addition, methods get updated and standards change, making evaluations based on studies that were conducted decades ago 'not very interesting' – as these respondents put it. This lack of interest is, according to respondents, due to the fact that it is not embedded in processes, which are very much 'aimed at the build-up to a project, but afterwards it kind of stops.', but also because of a broader societal disinterest:

> *Well you just won't get called out on it, and that plays a big role. From the perspective of [developing] expertise in terms of content you should maybe want to evaluate more, but well, practice is as I just described it.*

When it comes to control, then, civil servants seem to believe that studies and flexible procedures enable them to meaningfully manipulate their environment up to some extent. Policy makers see them as aides to exercise some control over policy effects. Their practice, though, seems primarily governed by more pragmatic considerations. They need to provide guaranties to all sorts of stakeholders. Additionally, they feel that there comes a point where you 'just have to decide', regardless of what you know.

Conclusion and discussion

This chapter set out to test the idea that ex ante analyses are popular because civil servants are what one could call naïve modernists. It did so by providing a practice-based reflection on theories of the state as a modernist institution through interviews with civil servants. The interviews focused on the two foundational principles of modernism: the idea that the world can be known objectively and controlled based on that knowledge. Civil servants did appear to believe in a knowable world, but knowing seemed a social in addition to a technical enterprise. Civil servants do make a distinction between political values and the preferences of civil servants and analysis outcomes. According to them, the former can be mediated by the latter. When questioned further, civil servants started describing how studies were also limited, and sometimes impacted the policy process in undesirable ways. In contrast to their statements about objectivity as opposed to political values, civil servants also indicated that study outcomes hat little impact if they did not match with the agendas or ambitions of the people involved in the process. This included not only political ambitions, but also their own or those of their department. The outputs of the analytical process have an ambiguous status. On the one hand, respondents paint a picture of analyses as a solid base for action. On the other hand, they indicate that ambitions dictate whether something gets studied and whether the outcomes of this study will have any impact, rather than a situation in which a study points towards an objectively best policy option.

The second foundational principle of modernism is the idea that studies uncover the regularities that govern the world, allowing for interventions in that world of which the impact is fully predictable. Civil servants do not appear to see themselves as having the capacity to control the world, which they describe as complex. Respondents place great trust in processes as providers of control. To them, an inability to control is most likely due to the fact that processes are not sophisticated enough to cope with a complex world. No respondent indicates that they currently have a solid grasp control over that world. Instead, it seems to be something that they feel should be strived for through studying and updating procedures. Ultimately, the belief that they have control over their environment

is not what seems to drive peoples' decision making. Rather, it appears they are motivated by a desire to act.

Knowing and controlling seem to be connected, but not in the linear way theories of modernism suggest. 'Knowing' does not so much seem to be a state that has to be reached before one can start controlling, but rather is something that comes in between wanting to act and still wanting to act – sometimes regardless of what is now 'known'. When describing government action, civil servants describe a government which wants to know and to control, but is primarily driven by ambitions, rather than a sort of science-based modernist agenda. This government is not really interested in whether it has actually managed to exercise this control outside the direct context of the realization of the project. The projected effects of a project rarely get evaluated, if ever.

The question that remains to be answered is how all this reflects back on the idea of the state as an archetypical modernist institution. At the very least, this study problematizes the idea of the state as an institution which operates according to the modernist mores of studying and then acting. Where civil servants initially describe government practice as modernist, they later contradict that description. Asking them to specify their account reveals that government practice is more about a desire to act than about following the rules of modernism. The observation that modernism reflects a desire rather than a practice has consequences for theories of the state as a modernist institution. In theories of modernism, knowing precedes acting. Policy preferences are deduced from scientific lessons. The observations in this chapter suggest that this is not the case. Instead, knowledge production seems to occur when actors in a policy process are looking for ways to validate their ambitions and desire to act.

Instead of answering our question about the popularity of ex ante analyses, which this book set out to answer, the interviews in this chapter introduced an extra layer of complexity to it. Civil servants themselves seem to be aware of the complexities surrounding ideas of evidence-based policy making and paint a picture of policy processes

in which ambitions matter more than knowledge. Yet simultaneously, they put great value in a system that appears to be based on the idea of evidence-based policy making.

One possible explanation is that modernism represents an ideal-type policy process, in which the unknown and the unpredictable do not play a role. In a world which seems especially characterized by action based on ambitions and a desire to act, a world which is described as 'messy' and a 'swamp' (Lindblom, 1979; Parsons, 2002), modernism seems an attractive way out of that very swamp. Interpreting modernism as a desire rather than a practice or a firmly held belief would also explain why civil servants easily seem to admit that other principles in fact govern their work. Another explanation could be that there is a discrepancy between the way in which people talk about their practice, and actual practice itself. Perhaps the topics in these interviews were not necessarily topics that civil servants think about on a day to day basis, and perhaps their responses were informed by an attempt to structure a rather unstructured practice because they were being interviewed about it.

So, whilst this chapter has not answered the question with which this book started, it did help specify that question in two ways. First, the way in which interviewees structured their stories, suggests that it is necessary to not only talk about their practice, but to also observe the processes they are involved in. This would allow us to see beyond reconstructions drawn up in interviews, to develop a more nuanced account of the practice in which ex ante analyses are used. Second, the picture painted in this chapter suggests that there is something about the nature of ex ante analyses which make them a particularly attractive source of validation. Both of these paths will be explored further in the next set of chapters. First, the next chapter will describe what analysis use looks like when observed directly. Then, we will take a closer look at the ex ante analysis as a policy instrument, to find out what makes it such an attractive source of validation.

3

Observing the practice of analysis use

Cases and methods

This project employs a grounded theory-inspired approach. Grounded theory is a research method which involves going back and forth between data and analysis in different coding steps (Glaser & Strauss, 1967; Strauss & Corbin, 1998). During these stages, data is coded at increasing levels of abstraction to ultimately arrive at a theory of ex ante analysis use in policy processes. In a grounded theory study, data analysis and data collection happen simultaneously, and case-selection is guided by theoretical relevance (Strauss & Corbin, 1998, pp. 211-212). As such, this study started with interviews with Dutch policy makers, to later turn to ethnographic observations in three large infrastructure policy projects spread over Flanders and the Netherlands.

There are two main reasons for moving from interviews to observations as my method of data-collection. First, the ethnographic design enabled me to witness the development of a reasoning process over time. The second advantage was that I was able to move beyond participant reconstruction. When they are asked to reconstruct a reasoning process, people tend to present an idealized, essentialist summary of the past as a coherent whole (Czarniawska, 1997; Portelli, 1991; chapter 2 of this study). An ethnographic design allows

us to move beyond how people conceptualize their practice and instead focus on practice as a day-to-day experience (Vagle, 2016, p. 58). Switching methods of data collection enabled me to observe changes in actors' positions over time, all without losing the micro-level detail needed to reflect the spontaneity of the process.

This chapter will give an elaborate overview of the study process. It explains how I used ethnographic data collected in three large infrastructure policy processes in Flanders and the Netherlands. It describes where and how this data was collected and then analyzed to find patterns in analysis use occurring across all three of the cases. As this chapter will show, each chapter in the remainder of this book corresponds to a specific analytical step. Relevant details with regards to the part of the analysis process will be repeated briefly in each chapter.

Cases

I selected three infrastructure policy processes on three projects as cases. Infrastructure policy processes can be considered an extreme case of ex ante analyses use. In infrastructure policy making, the use of ex ante analysis is relatively highly formalized and extensive (Vlaamse Regering, 2014; Ministerie van Infrastructuur en Milieu, 2016). For instance, in the Netherlands in 2008, the average infrastructure project undertaken by the national government took, on average, five years of studying before work on the final design started (Elverding, De Graeff, & Ketting, 2008).

I selected cases in the Netherlands and Flanders.[9] Although the Netherlands neighbors the Flanders region of Belgium, both areas vary significantly in terms of administrative culture. The Netherlands is 'commonly regarded as one of the strongholds of policy analysis' (van Nispen & Scholten, 2015) with a longstanding tradition of integrating analyses into policy processes; it also has a range of independent agencies that evaluate policies. Flanders has a culture in which policy decisions are 'primarily the results of political bargaining,' which hinders their ability to develop a strongly institutionalized

[9] Even though Flanders formally is a region of Belgium, its competences in the field of infrastructure are similar to those of the national government in the Netherlands.

culture of policy analysis (Fobé, de Peuter, Petit Jean, & Pattyn, 2017, p. 51). Both governments advocate the use of analyses (Departement Mobiliteit en Openbare Werken & Departement Omgeving, 2017; Ministerie van Infrastructuur en Milieu, 2016b). Studying cases within these two diverging contexts allowed me to test whether the patterns I observed were context-specific, or of a more universal nature.

Table 4 gives an overview of the cases in this study at the start of the observation process.

Table 4: Cases and characteristics

Project type	*Country/Region*	*Phase*	*Budget*	*Types of analyses (observed)*	*Analysts*	*Themes of participation sessions (observed)*
Highway project	Netherlands	*Start of the 'exploration phase'*, in which several viable alternatives are compared quantitively and qualitatively to reach an optimal solution	± €500 million	Environmental effects report, cost-benefit analysis, traffic studies, including railway traffic. Predicting and monitoring the progress of behavioral and infrastructural interventions in terms of traffic reduction.	Contract research conducted by several private firms. Studies were supervised by the project management team, who had access to in-house expertise for feedback.	Getting an overview of local situation. Making sure studies are as complete as possible. Gathering public support for the project. Informing citizens.
Maritime transport infrastructure	Flanders	*End of the exploration phase*; start of the phase in which the 'optimal' alternative is explored further in order to produce a definitive decision	± € 900 million	Environmental effects report, cost-benefit analysis.	Contract research conducted by a private firm, supervised by the project management team, who had access to in-house expertise for feedback.	Informing citizens.

Table 4, continued

Project type	*Country/Region*	*Phase*	*Budget*	*Types of analyses (observed)*	*Analysts*	*Themes of participation sessions (observed)*
Multimodal transport with a strong maritime component.	Flanders	Exploration phase	± € 900 - 1.500 million (depending on solution)	Environmental effects report, cost-benefit analysis.	Contract research conducted by a private firm, supervised by the project management team, who had access to in-house expertise for feedback.	Informing citizens, collecting feedback on preliminary versions of the analyses, building public support.

When studying these policy process cases, I paid particular attention to the ways in which process participants discussed ex ante analysis. An ex ante analysis aims to predict. It departs from a reference situation, mostly consisting of the situation 'which exists at the time the option will be realized, possibly combined with the situation which would arise if the option is not realized' (Klaassen & Hakvoort, 2015), and then predicts the expected development of certain indicators as opposed to the reference situation. Ex ante analyses are generally used to compare policy options to inform policy choices. Ex ante analyses can come in many shapes and sizes: in this study, I encountered everything from computer simulations to qualitative interviews with experts (reported as 'expert judgements'), all identified as ex ante analyses. One thing that all ex ante analyses had in common was that they all involved quantification in some capacity. For example, a cost–benefit analysis predicted the economic costs and benefits of a project in euros, and an environmental impact assessment predicted the impact of a project on a scale from -3 to +3.

I conducted approximately 200 hours of observations in 74 meetings between November 2017 and July 2019. At the beginning of our observation period, all projects were in an explorative stage. In the explorative stage, the project aims are broadly laid out. The goal of this phase is to explore and compare several ways of reaching the project's aims. I had access to two types of meetings: publicly accessible meetings and internal meetings. All

cases had publicly accessible meetings. These consisted of, for instance, information markets about the project or more focused participation sessions in which a wide range of actors were asked to give their input. For two of the three cases, I also had access to internal meetings. These primarily consisted of meetings of the project management teams of each respective project. They had been charged with overseeing the progress of the infrastructure project as a whole, and reported to a political 'steering committee'. This committee consisted of a group of high-level civil servants and politicians who oversaw the progress of the project.

All three projects were in what was called the 'exploration phase'. In this phase, governments were comparing different solutions for an infrastructural problem such as a congested highway, in order to find out which solution would be the most suitable. During this process, the project management teams met at least bi-weekly. All members of this team were civil servants, who answered to a political 'steering committee'. This committee consisted of a group of high-level civil servants or politicians who, in turn, oversaw the progress of the project. Even though the project management teams were not making the final decision about what would get built, they were charged with the responsibility to enable the political steering committee to make an informed decision. This meant commissioning and discussing a wide variety of ex ante analyses, ranging from tide studies to traffic flow studies, and from cost-benefit analysis to environmental effect reports. Besides that, the teams discussed everything from complex traffic studies to the layout of the project website, from budget mutations worth millions of euros to whether cycling would be a fun team building activity. In addition, they invited one-time presentations by experts, or met with the political steering committee of the project. The average meeting ran about three hours long. A wide variety of actors attended these meetings, from interested citizens to members of action groups, and from representatives of local business associations to NGO's. Table 5 contains an overview of these actors and their interests.

Table 5: Actor types encountered during observations, and their interest in the project in question

Actor type	*Interest with regard to the project*
Audience in public meetings (non-governmental)	This category covers a wide range of other actors attending public meetings, most of them citizens. Some joined public meetings out of interest.

	Others were concerned because the project would directly affect them, for example because they owned a house or business near a potential project site. Sometimes, the interests of these people aligned with those of local action groups, but sometimes they held opposite interests. For example, in the Flemish maritime infrastructure project, some people resented the action group for 'unnecessarily delaying the project', prolonging the state of uncertainty they found themselves in. Overall, the interest of these actors appeared more closely related to their personal situation.
Expert (not part of the project team)	During public meetings, I encountered a different type of expert. These were university professors or former government employees who often attended public meetings because they were opposed to the project, based on their expertise. I encountered one instance of such an expert who was in favor of the project in question, and was invited to join the public fora by members of the project management team.
Government employee (not part of the project team)	Sometimes, project management teams would consult government experts, for example when meeting with analysts or deciding on a communication strategy. These experts often did not display a vested interest in the project. During public meetings, these government employees would occasionally help out by moderating or providing factual information about the project.
Representative of an interest group	Public fora were attended by many interest groups, with varying attitudes towards the project. Some, such as the Dutch Cyclists' Union or an organization representing local small and medium-sized enterprises, evaluated the project from their specific perspective. Their goal was to ensure the interests of the specific cause they represented, were covered in the project. A rather specific type of interest group I encountered was the local action group. In the Flemish maritime infrastructure project, a group was established to specifically protest this project out of concern for the livability of the surrounding area. In the Netherlands, I encountered a local environmental action group protesting the project out of concern for air quality. In both cases, these groups were strongly opposed to the project. In the second Flemish (..)

Table 5, continued

Actor type	*Interest with regard to the project*
	(...) case, several action groups established to protest another project, joined the public meetings. As the project they were established to

	protest was a highway project, these groups paid particular attention to traffic effects.
Members of the project team	In the Flemish cases, members from the project management team were employed by the regional government's department for Mobility and Public Works and the department for Environment. In the Dutch case, team members were employed by the Ministry of Infrastructure and Water Management, as well as regional governments who participated in the project. Even though members' views of the project would sometimes differ from those of their superiors, team members would always support the project as a consequence of their assignment to complete it.
Chair of a public meeting	These actors chaired public meetings. In the Dutch project, this function was fulfilled by either the project manager or the head of the consortium of private parties conducting the analysis. In the Flemish maritime transport infrastructure case, the project manager chaired the public meetings I attended. In the Flemish multimodal project, this function was either fulfilled by a prominent member of the project management team, or someone from a private firm contracted to facilitate public meetings. Depending on their affiliation, these actors had more or less of an interest in defending the project against challenges.
Analyst	These actors were the ones conducting the actual ex ante analysis, or managing that process. Their interests were largely determined by their assignment: to conduct a solid analysis which compared different policy options against each other.

Data collection

Observations were recorded in field notes. Depending on whether the setting allowed it, fieldnotes were either written down on paper, or in digital form. Initially, fieldnotes would always consist of keywords and summarizing sentences. These notes were later processed into more elaborate accounts of the observation session. This happened either straight after the observation session took place, or on the next day in case the session was conducted in the evening. At some sessions, photos or short videos were taken as well, in order to provide context to the observations.

Because the majority of meetings involved a static setting where people were sat around meeting gables, the primary focus of my field notes was on what people said and how they interacted. I paid attention to tone of voice and non-verbal communication. In addition, field notes contained details on setting. They described the look and feel of the rooms in which meetings were held, their location, and any other circumstances of note.

In addition to the meetings, I also had access to a portion of the e-mail communications for each project case. I was occasionally included in the email lists that were used to circulate the documents that were up for discussion in the meetings. Even though these communications were not explicitly included my analysis, they did enrich my understanding of the content of the meetings.

I observed a total of 74 meetings, adding up to 198 hours of observations. During my time in the field, I started coding data to capture ways in which ways participants responded to analysis instruments. In February 2019 (Dutch case) and March 2019 (Flemish case), I noticed that observing additional meetings did not lead to substantial new insights. Aiming for saturation (Glaser & Strauss, 1967; Schwartz-Shea & Yanow, 2009, p. 67), I continued observing meetings until the beginning of June 2019 to make sure no major new patterns were to occur.

Coding

The coding process constitutes the core of grounded theory as a research strategy. As grounded theory has rather particular relation to existing theories, this section will first describe in what ways existing theories have informed my analysis research before outlining the different analytical steps that were taken.

Grounded theory and theoretical concepts

At the core, grounded theory is an inductive methodology, designed to construct new theories based on an analysis process consisting of several specific coding steps. The role of existing theories and the impact of the persona of the researcher on the process of theory construction are among the main focal points of grounded theory critiques (Kelle,

2005; Thomas & James, 2006). In their original description of grounded theory procedures, Glaser and Strauss (1967) write about the relationship between grounded theory and existing theory in two conflicting ways (Kelle, 2005). They first argue that a researcher should start their research without any hypotheses or ideas of relevant concepts. The idea is that doing anything other than that will lead a researcher to work towards certain theoretical preconceptions, rather than developing a theory which truly arises from the data at hand. At the same time, Glaser and Strauss also argue that a researcher should develop a sense of 'theoretical sensitivity'; the idea that one needs a certain theoretical background to see potentially relevant concepts in one's data (Kelle, 2005, p. 46). In later, separately written books and articles, Strauss and Glaser elaborate on the nature of this theoretical sensitivity in different ways. Glaser (1992) appears to hold on to the idea that being influenced by theory that is too closely related to the phenomenon one is studying – e.g. existing explanations for the problem one is studying – is something which should be avoided. Strauss and Corbin (1998) offer an account of grounded theory in which researchers can be inspired by existing theories in all stages of the research process. They do, however, also specifically describe grounded theory as a method for discovering causal relations, limiting its applicability to specific research problems and arguably reducing the breadth of theories which can inspire grounded theory research. This conception of the grounded theory treats theory as something arising from data through grounded theory processes. The researcher plays a relatively minor role, as if a neutral executer of grounded theory procedures.

This research project differentiates from both Glaser's and Strauss and Corbin's approach in two ways. It deviates from the idea of the researcher as a *tabula rasa* in the sense that it clearly and explicitly relates to existing theories of knowledge use. Among them, these theories of knowledge draw on a wide variety of epistemologies, with differing appreciations of the idea of discovering causal relations through qualitative research. As such, the project follows Bryant (2002) in adopting a grounded theory-inspired procedure, but not necessarily producing a grounded theory in the classic meaning of the term. What this means is that I follow the coding procedure proposed by Strauss and Corbin (1998), which is particularly suitable for studying social phenomena at a micro-level due to its

focus on micro-behaviors (Kelle, 2005). I differentiate from their strategy in the sense that my coding scheme is purposely inspired by the ambition to reflect on existing explanations for the popularity of ex ante analyses through ethnographic observations.

In addition, I do not treat my account of the processes I observed as neutral data. As is the case with every other process participant, my account of the processes I studied is my interpretation of what happened in these processes. Just as process participants act based on the way they attribute meaning to their environment, my analysis is a product of the way I made sense of their behavior in that environment. What differentiates my account from the accounts of others involved in the processes I observed, is that I observed these processes with the intention to see what drove other participants' processes of meaning making and place them in a wider theoretical framework (Charmaz, 2014, pp. 239-241).

Coding procedure

Coding was informed by three guiding principles. First, coding had to be able to capture the spontaneity and unpredictability of policy processes. Policy making is a process like any other, in which actions are guided by instincts and informed by goals of which policy makers themselves aren't always aware (Simon, 1976; Weick, 1995). Often, they will react spontaneously, in ways shaped by years of specialized training and adaptation to their context (Brink, 2015; Hart & Wille, 2002). It is these actions that constitute policy processes, rather than mechanistic cost-benefit calculations about each individual choice a policy process contains. Reasons for specific choices are often only provided when reflecting on a process in hindsight (Shotter & Tsoukas, 2011).

Second, coding had to enable me to reflect on the way in which their context impacts people's use and interpretation of ex ante analyses. People in policy processes are members of organizations which each have their own set of norms, routines, rules values and habits (Smets et al., 2015; Thornton & Ocasio, 2008). In addition, contextual conditions such as limited time, limited budgets or the amount of public attention for a project, can determine how information such as analyses outcomes get used (Leijten, 2017; Walgrave & Dejaeghere, 2016).

Last, coding had to take into account that it is possible for inanimate objects such as ex ante analyses to influence people's actions regardless of people's will or intentions (Callon, 1991; Latour, 2005, 2016). For example, once an ex ante analysis has produced an outcome, decision makers have to relate to this outcome. They can choose to follow the outcome, or pretend they haven't read it, but it has impacted their behavior nonetheless – and it will likely alter how others respond their decision. To adequately reflect this state of affairs, coding had to enable me to analyze the relationships between people and ex ante analyses as horizontal, rather than hierarchical (Latour, 2005). That means that it should not only reflect how people use analyses, but also how the presence of analyses structures their behavior.

These three principles informed the following coding steps. Fieldnotes were coded in NVivo 12. All coding steps were recorded in memo's in NVivo. Coding took place in three steps. The first step consisted of a round of line-based open coding[10] of a number of meetings to generate a first set of codes and observations in June 2018. During this round of coding, two types of codes were generated. This first round of coding started with assigning chunks of data to *descriptive codes* containing little interpretation (Miles & Huberman, 1994, p. 57). These codes allow me to distinguish between cases, people and topics of conversation or observation.

Then, the content of these descriptive codes was analyzed in a second round of coding, creating *analytical codes*. These codes have a more interpretive character (Miles & Huberman, 1994, p. 57). Focal point of these analytical codes were people's reactions to ex ante analyses, and to each other in the context of ex ante analyses. Reactions were at the sentence level, meaning that each sentence in the field notes was coded separately, and assigned a code which corresponded to the sentiment that sentence conveyed. This was done inductively, meaning that codes were derived from the data, rather starting the process with a predetermined set of categories. Using matrices to observe how different

[10] The process of discovering categories of reactions as existing in the data (Strauss & Corbin, 1998, p. 101).

people or groups of people responded to the same analyses over time and in different contexts, suggested that focusing on reactions did capture the spontaneity of reasoning in policy processes. For example, people were seen to attach different consequences to the same outcome at different times, or appreciate the same methodology differently depending on who they were talking to. Also, connecting reactions to other topics of conversation allowed me to assess the impact of contextual factors on these reactions, and therefore people's interpretation of analyses. Lastly, by coding for the different analyses types that were discussed during meetings, I was able to trace how particular analyses sparked specific kinds of reactions in different context, as opposed to only seeing how specific individuals interpreted analyses. This corresponds to the third aim for my coding strategy, which was to treat the relationship between people and ex ante analyses as horizontal rather than hierarchical. The open coding stage resulted in 56 different reaction types.

The analytic codes were then analyzed in a round of axial coding, meaning that codes generated during the open coding stage where grouped based on a 'relationship they share' (Strauss & Corbin, 1998, pp. 123-127). The bulk of axial coding was done to the 56 reaction types which were the product of the previous round of coding. This was done through data displays that showed which codes frequently co-occurred across all cases (Miles & Huberman, 1994), as well as by re-reading the data associated with similar-seeming codes. Codes where grouped in thematic categories which were observed to have explanatory power in our specific case. The aim in this phase of axial coding was not to arrive at codes which covered, for example, the complete spectrum of emotions as described by scientific literature. Instead, categories were created based on the explanatory power they had in the context of these three specific policy processes. In the case of codes related to reactions, this meant that some were clearly linked to an emotive state, such as fear. Others contained codes relating to a broader concept, such as 'trust'. Tables 6 and 7 show an overview of the most important descriptive codes and analytical codes after axial coding.

Table 6: Descriptive codes with description

Code category	*Explanation*

Analyses type	A set of codes meant to indicate which specific type of analyses was being discussed. Examples of codes were 'cost-benefit analyses', 'environmental impact assessment – water', 'environmental impact assessment – air quality, and 'monitoring report'.
Part of the analyses	These codes described which specific part of an analyses was being discussed. Codes include 'methods', 'conclusions' and the like.
Type of meeting	A code made to distinguish between internal meetings of the project management teams, and public fora.
Type of actor	This group of codes contains two sub-levels. Each prominent individual was assigned their own code, to group their reactions and be able to observe patterns in their reactions throughout time. These individuals were then grouped under different groups they belonged to, such as 'project management team', 'analysts', 'interest groups' and 'local resident' to be able to compare how different groups used and interpreted ex ante analyses.

Table 7: Analytical codes after axial coding, with description.

Category	*Sub-category*	*Description*
Reactions	Anticipation	A group of reactions passing positive: this category contains excitement directed towards future developments.
	Fear-Related	A group of reactions that indicate the person in question has a feeling that things are either going wrong or about to go wrong.
	Comforting, Calming	A group of reactions in which the person in question tries to mitigate the reactions of other members of the group by putting them at ease.
	Downplaying	A group of responses that apparently aim to relativize the contents of the report and the reactions of others. As opposed to the 'Comforting, calming' category, these reactions do not aim to put the group at ease, but instead they mean to question the status of the report.

Table 7, continued

Category	*Sub-category*	*Description*
Reactions	Positive	Contains all other reactions that indicated a positive attitude towards the report or statements by others.
	Surprised	Contains reactions that indicated that someone did not expect a certain development.
	Trust	A group of emotional reactions that indicate that people have faith in one another, such as agreeing with or approving someone's work.
	Unsure, Uncertain	A group of reactions linked to uncertainty.
	Content-Related	These reactions did not clearly pass judgement, but instead inquired about content in a 'neutral' way.

	Process-Related	These reactions seemed aimed at informing oneself about the process more than passing judgement.
Factors in decision-making	Availability	A choice was made simply because something was available. For example: using a specific estimate as input for an analysis, because that estimate is readily available.
	Budget	Arguing to do or not do something because of budgetary reasons.
	Completeness	Striving for – for example – a study which is as complete as possible.
	Effectiveness	Striving for a good balance between means and ends.
	Feasibility	Arguing for or against something because of how feasible it is given the circumstances.
	Public interest	Bringing up the interests of society as a whole as a reason to do something.
	Innovativeness	Arguing for a policy option or an analytical method because it is innovative.
	Custom or tradition	When people refer to 'what usually happens' in making decisions.
	Rules and procedures	Collects instances in which rules or procedures impacted decisions.
	Maintaining control	A code for when a desire to maintain control over the policy process impacted decisions or the interpretation of an analysis.
	Political agendas/preferences	Code for instances in (assumptions about) the agendas of political superiors influenced actions and decisions.
	Usefulness (pragmatism)	A code for when a choice was made based on how useful the choice outcome was expected to be. Think, for instance, of choosing a certain way of analyzing
	No reason not to	Making a decision because one sees no harm in doing so.
	Study outcomes	Citing study outcomes as a direct influence on why a decision was made.
	Time	Arguing for or against a decision because there is either plenty of time, or too little time.
	Thread of societal unrest	Making a decision with the way people will respond to it in mind.

How coding informed individual chapters

Chapter 4 analyses the way in which ex ante analyses structure policy processes to assess what Boswell (2017) calls their 'usefulness'. In this chapter, data collected for this study is compared to data collected by Eva Wolf, for a separate study on a Flemish megaproject. In this comparison, we focus on a specific ex ante analyses, namely the environmental impact assessment or EIA. These EIA's featured prominently in the cases of both studies, making them a fruitful subject for comparison. This comparison was made by seeing which codes occur in discussions around these EIA's, and comparing the patterns for each case. Data was not re-coded. Rather, we relied on the patterns emerging from existing

coding and compared those. To ensure the cases were as comparable as possible, data regarding Dutch case did not

Chapter 5 studies how people use and interpret ex ante analyses, how their use develops over time, and how it is impacted by context. To do so in a comprehensive manner, the chapter selects one specific ex ante analyses, namely a monitoring report. Discussion of this report reoccurred frequently throughout the process. Our initial coding revealed that when the monitoring report was on the meeting agenda, discussions were usually elaborate and interpretations of the contents of the report seemed to differ amongst meeting participants. This led us to expect that focusing our analysis on discussions on this report would provide the widest range of reactions to information whilst preventing variance in the type of information discussed from influencing observed reactions. This chapter features graphs which map the frequency with which certain reactions to the monitoring report occur throughout the policy process, and uses these as the basis for a description of the way in which people interpret the report differently depending on the stage the policy process is in, as well as the context they find themselves in.

Chapter 6 turns its attention to ex ante analyses themselves, to see whether they have specific properties which enable this behavior. The chapter wants to explain how ex ante analyses can be used in such varying ways, without them appearing untrustworthy. The chapter uses coding to find patterns in analysis use across cases. Consequently, these patterns are compared to our theoretical framework describing the spectrum of theories of analysis use, to verify whether it is indeed the case that a broad range of theories applies to analysis use. By studying patterns occurring across cases in this light, the chapter ultimately distils a set of properties which allowed ex ante analysis to be used in such varying ways.

Chapter 7 builds on the patterns described in the foregoing chapters. Different patterns are combined to describe how the way in which people talked about analyses, gave them an autonomy which seemed to resemble agency. Each individual chapter will contain

additional details on the specific ways in which the analysis process has led to the specific results outlined in that chapter.

Reliability and limitations

This being an ethnographic study which heavily relies on my interpretation of events, certain particularities of the research process should be addressed with regards to my role as a researcher in the research process. Whilst collecting data, I had no role other than to observe. This meant I could maintain what Ybema & Kamsteeg (2009) call a 'disengaged engaged position'. As a disengaged engaged ethnographer, one tries to familiarize oneself with a setting in order to understand it, but simultaneously makes sure that there exists a certain distance between oneself and the processes going. This distance allows the researcher to remain observant of patterns which seem obvious or normal to other process participants. In my case, it was achieved by not trying to actively participate in the processes, and postponing judgement. Not actively participating does not imply that my presence had no impact on the policy process, but that I refrained from actively engaging in discussions or providing my analyses to process participants before the end of the data collection period. Postponing judgement meant providing an as-complete-as-possible account of a meeting rather than only a selection of highlights directly related to the research question.

This does not mean that my research is not shaped by me as a researcher. With an education in public administration and philosophy and a research subject already in place, I no doubt missed things others that would have stood out to others and vice versa. A different research would have written a different book. In this method section, I provided insight in my process of interpretation so that readers can follow how I arrived at my conclusions. To improve the quality of my coding scheme, coding was discussed intensively with other academics when writing chapters 4, 6 and especially chapter 5. Throughout and after data collection, I engaged in 'member checking' to verify my observations and collect reflections from process participants (Schwartz-Shea & Yanow, 2009, p. 62). During data collection, these conversations were meant to check my understanding of the more practical sides of the policy process, such as certain jargon.

After data collection had finished, member checking involved presenting conclusions to process participants to collect their reflections on my conclusions.

I followed interactions with ex ante analyses in three projects in a specific policy context – infrastructure – which where all more or less in the same phase. Where these infrastructure projects were an interesting site to study analysis use – mandatory ex ante analyses, technically complex projects – the contents of this book are a product of me, as a researcher, in that context. This study, like any study, does not come with the guarantee that things will play out in similar ways in other contexts. It does, however, describe patterns in analysis use which might show similarities with analysis use as it occurs in other contexts. As such, it offers a framework which can be used in understanding the use of ex ante analyses in a wide range of contexts.

4

Reflecting on the usefulness thesis

How evidence-based policy making obfuscates policy conflict.[11]

with Eva E. A. Wolf

Chapter overview

Where chapter two focused on the thesis that ex ante analyses are popular because people naively believe in their powers, this chapter focusses on the usefulness-thesis. A popular explanation for governments' persisting enthusiasm for evidence-based policy making, is that it is a 'useful myth'. As such, it helps policy processes move forward in settings where progress would normally be difficult due to political contestation. The question is: is this the case, and at what cost? Previous research indicates that centering decision making around a piece of evidence such as an environmental impact assessment (EIA), could fuel policy conflict as much as calm it. In this chapter, we draw on reconstructive interviews and ethnographic fieldwork in infrastructure policy processes to understand how the presence of EIA's structures policy conflict. We find that EIA's might be useful in some respects, but also have the potential to let policy conflicts escalate by creating false expectations about the nature of policy processes. This begs the question whether the benefits of evidence-based policy making in its current form outweigh the costs.

[11] This chapter is based on an article written together with Eva Wolf. An earlier version was presented at the ECPR Joint Sessions 2020, titled 'Trusted by all? How evidence-based policy making obfuscates policy conflict.' An adapted version is currently under review at a journal. Both authors contributed equally.

Introduction

Evidence-based policy (EBPM) making is an approach to policy making which has shaped government practice in one form or another since the Second World War (Clarence, 2002; Feitsma, 2018, Fischer, 2009, Pawson, 2006). It advocates an approach in which scientific evidence is the main determinant of what policies looks like. In infrastructure policy, this movement has lead decision making processes which are increasingly centered around predictive or *ex ante* analysis such an environmental impact assessment (EIA). Under EU regulation, conducting an EIA is obligatory for planning processes that are expected to have a considerable impact on the environment. In the United States, EIAs are required for many federal activities. International organizations such as the World Bank and the OECD are strong advocates of employing EIAs in infrastructure policy processes (OECD, 2015; World Bank, 2014). The EIA therefore occupies a central place in many planning processes throughout the EU as well as beyond EU borders.

Despite their central position in planning processes, evidence such as an EIA does not necessarily determine the outcome of an (infrastructure) policy process (Mouter, 2016, 2017; Weiss, 1979). Research shows that their function varies from informing politicians to providing them with ammunition or serving purely symbolic functions (Mouter, 2016 Boswell, 2014, 2018; Cairney et al., 2016). There is, however, research that says EBPM is 'useful' regardless of whether it lives up to what policy documents and advisory reports promise (Boswell, 2017; Mouritsen & Kreiner, 2016). This supposed usefulness comprises the idea that EBPM provides actors with a set of shared principles that allows them to overcome policy conflicts. At the same time, the ambiguous role of evidence in policy processes has led to EBPM being criticized by policy scholars (Parsons, 2002; Pawson, 2006) and political scientists (Flyvbjerg, 2003; Mouffe, 2009; Papadopoulos, 2013) for narrowing the space for democratic debate under the pretense of following the evidence, fueling the very conflict it is trying to prevent (Wolf & Van Dooren, 2018).

Consequently, we wonder how ex ante analysis structures contestation within policy processes in useful (Boswell, 2017) or counterproductive ways (Parson, 2002; Pawson, 2017). We are interested in the mechanisms producing these effects. As such, this chapter

contributes to the literature on evidence-based policy making as well as the literature on policy conflicts (Verloo, 2015; Weible & Heikkila, 2017; Wolf & Van Dooren, 2018) by showing that ex ante analyses obfuscate policy conflict at several levels, drawing its usefulness into question and showing that introducing knowledge will not necessarily solve policy conflicts.

The first section of this chapter outlines our conceptual approach to EBPM and policy conflicts. After that, we discuss how we selected three EIA's in Flemish policy processes as cases, as well as our methodology. This is followed by our results section in which we discuss three major tensions in the way the EIA is used in policy conflicts. Our analysis argues that these tensions ultimately lead to EIAs obfuscating policy conflicts by misrepresenting the nature of policy processes. Although EBPM-approach enables participants to engage in policy conflict by channeling conflict in a way that prompts engagement from all stakeholders, the risk of obfuscation is that policy conflict is exacerbated rather than settled.

The costs and benefits of EBPM

EBPM is a way of policy making which finds its origins in the idea that research can 'provide discrete, unambiguous, factual accounts that can straightforwardly be transferred and applied to policy or practice' (Nutley, Walter & Davies, 2007, p. 123). Even though modern advocates of EBPM are more modest about its potential (van Twist, Rouw & van der Steen, 2015), the idea that working on the basis of scientific evidence improves policy outcomes continues to influence processes in a wide array of policy terrains, ranging from migration policy (Boswell, 2009) to forest management (Grundmann, 2009) and from health policy (Harris, Elliot & Higgins, 1999) to education policy (Honig & Coburn, 2008).

As such, EBPM has been widely studied, resulting in a myriad of accounts of how civil servants and politicians use information in EBPM-processes (French, 2019; Weiss, 1979). Accounts of the process effects of EBPM are equally varied. On the one hand, EBPM is critiqued for distracting from the essence of policy processes, being portrayed as naïve and presenting claims characterized by great epistemic uncertainty as facts (Parsons, 2002;

Pawson, 2006; Richardson, 2000). On the other hand, it is suggested that these criticisms are not a reason to abandon EBPM, but a call to arms. These studies suggest EBPM can have a more positive impact if scientists make more of an effort to connect with policy practice, if policy makers 'learn' to work with evidence in a better way, or if institutions and processes get restructured in such ways that EBPM can have more of an impact (Cairney, Oliver, et al., 2016; French, 2019; Head, 2008, 2016).

Boswell (2017) suggests that evidence-based policy making remains popular regardless, due to its 'usefulness' as a 'myth'. As a myth, EBPM enables policy makers to act in a context of uncertainty as both opponents and proponents of a policy are usually willing to commit themselves to the principle of working on the basis of evidence, evidence can be used pragmatically as a source of arguments in policy debates, and evidence ensures stakeholders remain involved by making the process appear politically neutral. Other research appears to confirm Boswell's diagnosis. For example, participants in infrastructure policy processes do frequently express that they value working 'objectively' rather than based on political values (ch. 6; Wolf & Van Dooren, 2017). In addition, predicting policy outcomes by means of studies enables actors to act under uncertainty (Mouritsen & Kreiner, 2016). Also, evidence allows actors to assemble coherent 'policy stories' in which they link policy proposals to the policy context, and which can be used to move other process participants to act (Stevens, 2011). In other words: they provide policy process participants with tools to overcome policy conflicts.

What remains unclear, is at what cost analytical instruments enable participants to overcome policy conflicts. We define policy conflict as the process that arises when two or mare parties manifest the belief that their goals are incompatible (Wolf & Van Dooren, 2017, based on: Kriesberg, 2017, p.2). We distinguish between three kinds of policy conflict (Wolf, 2019), that each focus on a different dimension of contestation. The first is substantive conflict, where participants have different visions on the content of a policy process or mobilize what they perceive of as different 'substantive facts' (Laws & Forester, 2007; Rein & Schön, 1996). Conflict of this type serves many useful functions as it enables an open discussion of the benefits and drawbacks of different policy options. In fact, it

could be argued that this type of conflict is the essence of democratic decision-making (Mouffe, 2009). Conflict can also focus on policy procedures (Breeman et al., 2013; Wolf & Van Dooren, 2018b), when actors disagree on what fair policy procedures are and whether the current policy procedures meet these demands or are, instead, biased towards the procedural goals of one of the parties (see also the procedural justice literature, i.e.: Tyler, 2000). Scrutinizing procedures keeps the policy-making system healthy. Nevertheless, conflict over procedures can distract from the policy issue at hand and may lead to a general distrust in 'the system' when conflict over policy procedures persist and procedures are persistently seen as favoring some interests over others. The third dimension of policy conflict focuses on the lreations between parties (Wolf, 2019) conflict is relational conflict. Here, participants no longer discuss content or processes, but instead attack other participants because they feel that the personal goals of the other party are incompatible with their own and the intentions of the other party are therefore the mistrusted. While substantive and procedural conflict carry both positive and negative characteristics, relational conflicts are dysfunctional. In a relational conflict, parties are focused on defeating the 'other' (Durnova, 2018; van Eeten, 1999; Wu & Laws, 2003) instead of on resolving the original source of conflict. Moreover, when the other party is seen as a personal enemy, policy dialogue between contenders stops, cutting of the possibility to move forward.

Existing research is ambiguous about the net impact of EBPM (Oliver & Pearce, 2017). Pieces of knowledge such as EIAs come with a particular logic that structures a policy process and impact the course of policy conflict as such (Verloo, 2015; Weible & Heikkila, 2017; Wolf & Van Dooren, 2018). Arguments that do not fit this logic – because the EIA's models cannot calculate their effects, for instance – will be treated differently from arguments that do (Gieryn, 1995; Jasanoff, 1990). Moreover, evidence that ends up getting used, is often the evidence that fits the position of dominant process actors (Barker & Guy Peters, 1993; Stevens, 2007, 2011; Topf, 1993). EBPM also prioritizes scientifically advanced methods, leaving less room for laymen's knowledge (Triantafillou, 2015). When evidence gathered from ex ante analysis is only used to reinforce existing arguments, it hampers discussion (Eeten, 2007). In other words: the presence of EIAs is

no guarantee that policy conflict will be productive, or that it will not escalate. This makes it vital to map the way in which it does so.

Building on existing knowledge of the constructive and destructive functions of policy conflict and EBMP instruments, this paper explores how the instrument of the EIA restructures policy conflicts. This is relevant for the theoretical development of insight into the way in which instruments mediate policy conflicts, It is also relevant for policy practice, seeing as predictive analysis play such an important role in mediating policy conflicts for the mere fact that many of them, like the EIA, are an obligatory part of policy making procedures.

Studying policy conflict by comparing past and current processes

To study how the presence of EIA's structure policy conflicts, this chapter relies on data from two studies. Besides the ethnographic data featured in this book, we relied on reconstructive interviews about a large, heavily contested, infrastructure project in the region of Flanders. The results of these interviews indicated that the EIA had a major impact on the structure of policy conflict. Based on the insight that the EIA had played such an important role, we decided to compare both datasets. This enabled us to track the role that the EIA played in policy conflicts both retrospectively (through the interviews) and real-time (through the observational data).

In this comparison, we paid particular attention to the EIA. An EIA is a type of ex ante analysis that departs from a reference situation, mostly consisting of the situation 'which exists at the time the option will be realized, possibly combined with the situation which would arise if the option is not realized' (Klaassen & Hakvoort, 2015). It then predicts the expected development of certain indicators as a consequence of different policy options. EIAs generally are a combination of different studies, each covering a particular sub-domain. Examples of sub-domains we encountered in our cases are mobility, air-quality, landscape, sedimentation and noise. EIAs rank the impact of each policy option on a scale from -3 to +3 for each sub-domain, so that policy options can be compared against one-another.

Data collection

This chapter combines two types of data: interviews and observations. Details on the way in which the observations were collected and analyzed, can be found in chapter three. The interviews, which were conducted as part of the chapter about conflict escalation in a highly contested infrastructure project, followed a narrative format. The interviewees were asked to reconstruct the policy process on a timeline through a narrative interview. Narrative interviewing is particularly suited to minimizing justifications by respondents as it focuses on events rather than opinions, attitudes, or causes (Jovchelovitch & Bauer, 2007). In the interviews, respondents were asked to reconstruct their history of the project by reflecting on the most important events they had been involved in over the years. A timeline was drawn to assist them in this. This timeline was filled out on paper together with respondents over the course of the interview. For consistency, the narrative part of the interview was supplemented by a semi-structured interview based on a topic list. One of the topics covered included the role of 'knowledge' in the policy process.

Respondents were selected based on their involvement in the policy process. 32 interviews were conducted between August 2015 and January 2016. The respondents included the main political leaders of the regional (Flemish) government and the city (7), civil servants (16), members of action groups (7), an urban planning professional (1) and a public communication professional (1). The average length of the interviews was 1h 44m, with some lasting as long as 3u 10m and others lasting 50min.

The workflow of the interview-analysis consisted of several steps. First, interviews were transcribed at-verbatim. Subsequently, data was coded in NVivo following an 'abductive' logic (Timmermans & Tavory, 2012), moving back and forth between data and theory. During the first round of coding, the interviews were coded inductively with a focus on how respondents made sense of the conflict. This resulted in a large number of descriptive codes focused on the themes that actors talked about. We also coded the events that respondents emphasized were of critical importance ('critical events') in the development of the conflict. Subsequent rounds of analytical coding grouped similar codes together and removed codes that turned out to be inconsequential.

We then compared our coding of the interviews and observations to discern patterns in the way EIA's structured policy conflict across cases. For example, in the interview data we identified a clear link between the EIA as a 'critical event' and the perceived 'fraud' this EIA constituted: different parties saw the EIA as an example of fraud because it was not perceived to be the neutral institution they had expected it to be . Similarly, our observations showed opponents of the project questioning the EIA's realism and validity. Linking the results of our pattern comparison to our theoretical framework resulted in three distinct ways in which an EIA impacts policy conflict, covered in the following sections.

Results: the EIA in policy conflicts

We found that the presence of EIAs creates tensions between the expectations of process participants and the reality of policy processes, affecting policy conflicts between civil servants and external stakeholders at three levels. First, the EIA affects policy conflict at the content level by functioning as a political instrument but also as a technical instrument. Second, the EIA affects policy conflict at the procedural level by presenting the policy process is presented as a quest for completeness on the one hand, but needs to confirm to project deadlines on the other. Finally, the presence of the EIA affects policy conflict at the relational level by making the policy process appear to be a horizontal collaborative undertaking where it is in fact hierarchical. Table 8 contains an overview of these three tensions, on which we expand in the remainder of this section.

Conflict level	*Appearance*		*Reality*
Substantive	A political instrument which either proves a political preference is univocally best, or is seen as politically biased.	vs.	A technical exercise for comparing different policy options along different dimensions. Made by expert civil servants, does not show which policy option is objectively best.
Procedural	A quest for completeness, in which an as-complete-as-possible EIA will lead decision makers	vs.	An administrative process, in which the contents of an EIA are determined by administrative criteria such as feasibility and usefulness.

Relational	A process in which there is little hierarchy among actors, because the EIA will show them what policy option to choose.	vs.	A hierarchical process in which politicians decide what policy option to choose, and in which some have more opportunities to impact the EIA than others.

Table 8: Tensions between the expectations and reality of a policy process caused by the presence of the EIA, at three levels of policy conflict.

The EIA as a political instrument or a technical exercise

In terms of content, conducting an EIA is a highly technical exercise, often involving complex computational modelling done by specialized analysts. When presented as such, the EIA appears to be a technical process that is far-removed from the meddling of politics. Nevertheless, in practice, the EIA was used as a political instrument. More specifically, stakeholders used the EIA as ammunition to argue for their preferred policies and mistrusted other parties' use and interpretation of the EIA.

The EIA as a political instrument

Despite efforts of civil servants to present themselves and their studies as politically neutral, interview respondents described at length how they felt the EIA was used as a political instrument in the conflict over the highway project. Stakeholders opposing the project specifically attacked the EIA by claiming that the measurements used for the comparison between different alternatives were faulty, and the wrong models were used. For example, one action group member explained he had proposed to use the number of people living within a certain distance of infrastructure as a measure for health impact:

> *And those people from the EIA report, who had to make the EIA, they were really impressed and said 'ok, we're going to incorporate that.' (...). And then [14 days before the results of the EIA were made public](...) they suddenly say: yes but, we are changing those guidelines. Really, 14 days in advance... (...) And then I recalculated a few things from the figures of that EIA and very clearly their preference came out very bad. That many more people lived in parts that were very polluting. I think they [initially] calculated it that way and saw that that really was not good [and therefore changed it]...*

The quote is illustrative of the way in which opponents of the infrastructure project made sense of the EIA: as a manipulated research designed to make the state's preferred project score better than alternative proposals.

Politicians, meanwhile, used the EIA to attack the alternative proposals created by action group members. They cast the EIA as an independent study research proving them the 'winner' of the years-long political debate, and action groups being unwilling to just accept their defeat. In the words of one respondent:

> *They have often said: 'We will wait and see what comes out [of the EIA], but yes, [we're sure] it will be so and so'. And if it turns out that [our preferred alternative] is indeed an option, then they say: 'It's an incorrect study, it's all wrong and a bad study that has deliberately been made in that way'. Sorry, but that's not the case. They look for things that are often not there.*

In our observations, the use of the EIA as a political instrument was more subtle, but still perceivable. Whilst happy with the important role played by the EIA in comparing different policy alternatives so that the comparison would be 'objective' and 'factual' instead of politically arbitrary, stakeholders read the EIA results in a selective manner. When quoting or criticizing the EIA, stakeholders mainly appeared to focus on parts that explicitly did or did not fit their policy preferences. For example, people opposing the project were questioning the EIA's validity by drawing attention to knowledge gaps, questioning the realism of its outcomes, pointing out methodological shortcomings or downplaying the EIA in some other sense. At the same time, we saw proponents of the two projects accept EIA outcomes without asking these critical questions, stating, for example, that the EIA 'proves' that the worries of other process participants are unjustified.

The EIA as a technical exercise

That stakeholders would look at the EIA results through a political lens may sound logical, but is contrary to the non-political purpose the EIA is designed to serve. This was stressed

during our reflective interviews by those responsible for executing the EIA (civil servants and experts), who expressed frustration about the political use of the instrument. They stressed that the interpretation of the EIA proving the preferred project of politicians superior was not a technical interpretation of the EIA, but a political one. The EIA did, after all, not draw definitive conclusions as to whether one project was 'better' than the other. It merely compared the different projects with each other on different dimensions. Politicians reached these conclusions based on their reading of the EIA, in which they prioritized some dimensions over others, as this analyst explains:

> *On mobility it is clear that [the option politicians prefer] has a greater problem-solving capacity than [a trajectory designed and favored by action groups ...] In terms of livability, it is clear that [the trajectory preferred by action groups] scores better [...]. So it's up to the policymakers, not those conducting the EIA, to say: 'We opt for mobility or we opt for quality of life.'*

In another example, politicians pressed the EIA experts to present their conclusions in a press lunch before the results were final. They were asked to include a ranking of the various proposals in which the politicians' preference ranked first, as it scored best on mobility. This one-time ranking infuriated action group members who valued livability over mobility, and saw the ranking as evidence that the EIA was politically manipulated. Experts regretted giving in to the pressure afterwards and never presented a ranking again.

In our observations, depictions of the EIA as a strictly technical exercise occurred less frequently. Instead, political and technical depictions were much more interwoven. This was largely due to the fact that much of the meetings we observed were centered around the design of the EIA. Commenting on the design of the EIA during management team meetings as well as public fora, actors automatically made links between the EIA and their policy preferences, or anticipated the way certain outcomes would affect the policy process. However, at set times, analysts and civil servants reminded other process actors of the intended purpose of the EIA. For example, when the EIA for the multimodal transport project was completed and presented at a press conference, journalists pressed a project manager to reveal a personal preference – to little avail:

Journalist: 'You have been studying for so long, you could just make a ranking of which options are the most viable [...]. Why don't you have a preference?'

Manager: 'The Flemish government gets all information [...], I'd be the last to say that I won't trust the government to make a good decision[...]'I can say for myself what I like and what I don't like, but that does not matter here'

The EIA as a quest for completeness or as an administrative process

The second tension affected policy conflict at the procedural level. On the one hand, our data showed that actors were committed to produce an EIA which was as complete as it could possibly be, corresponding to state-of-the-art scientific standards. On the other hand, actors discussed the EIA as just another step in an administrative process. In this administrative process, actors did not want an EIA that was as complete as possible, but one that was useful and finished on time and within budget.

The EIA as a quest for completeness

Reflective interviews showed that when project management mentioned striving for an EIA which was as complete as possible, they primarily did so as a preemptive strike against possible criticism. This was deemed particularly important because of the history of conflict underlying the project. In fact, many respondents admitted that this was the most elaborate EIA process they had ever been involved in. Still, civil servants from the project team wished the EIA had been more elaborate in their comparison of different alternatives in anticipation of the critique that would later be levelled at it by action group members:

Even if it provides redundant information, (...) I think that you should always assess or try to assess who will be the person, or what will be the reaction of the person who is critical (...). You should really anticipate that.

In our observations, we also found actors striving for completeness. One instance of this was the following discussion of a near-final draft of the EIA of the maritime transport infrastructure project between analysts and an employee of the Flemish administration:

> *The member of the civil servant says that she found it remarkable that the analyst was working with fifteen-year-old data. She then goes on proposing that they should have worked with calculations rather than measurements, as those would have been more trustworthy. In addition, she'd like the analyst to provide more detailed maps and replace tables with a 'qualitative description of the situation' to prevent a loss of 'nuance'. The analyst replies that this all is a lot of work, and that they already showed versions of the document to a lot of people outside the project staff. The committee member decisively says that she 'wants it to happen nonetheless'.*

In this discussion, we see how the EIA civil servant viewed the EIA as a project in its own right, in which the scientific quality of the assessment had to be as high as possible. The analyst, on the other hand, saw the EIA as a task that had to be done well, yet also on time and within budget.

The EIA as an administrative process

Despite actors' emphasis on the importance of a complete EIA, the reality of the EIA was that it had to adhere to deadlines that were certainly not based on scientific quality alone. Rather, many of these deadlines were dictated by political pacing. The reflective interviews indicated that in terms of timing, it was deemed of the utmost importance that the EIA be completed before the next electoral campaigns for the new Flemish government would start. This put a significant amount of time pressure on the end-phase of making the EIA, resulting in a first public draft version containing many mistakes- quickly picked up by action group members.

Our observations highlighted an additional way in which the EIA functioned as and administrative process at the expense of the quest for completeness. Administrators often decided what an EIA should look like based on the perceived administrative necessity of

certain measurements. Consider the following example of a discussion amongst members of the project management team of the maritime transport infrastructure project:

> *'It is a comment we get often, right? That you cannot really make a decision based on the current [EIA], as you don't have a clear picture of the nuisance [the project will cause]. On the other hand, we know that all alternatives will cause nuisance [suggesting that at this stage, it is not necessary to study how much nuisance each alternative will cause].' Another team member replies: 'yes, but we were always under the impression that it was at such a level that it would be easy to mediate.' The former team member asks for a clarification: 'so if we leave the research as is, and we proceed to the next phase...' The project manager interrupts: '...then it will definitely be an issue at a later stage'*

Contrary to what the scientific appearance of the EIA might lead one to expect, the administrators in the above scene have a pragmatic criterium for a good quality EIA: has this policy been studied sufficiently to proceed? In this case, 'sufficiently' also has a legal connotation, as it is this government's obligation to take decisions carefully. Knowingly neglecting to include relevant dimensions for comparing policy alternatives could potentially lead to legal conflict with opponents of a project.

The EIA as a collaborative or a hierarchical undertaking

That civil servants interpret the EIA as an administrative step instead of using it to evaluate the project is a consequence of the nature the nature of their mandate. The civil servants in these projects were not the ones making the ultimate policy choice. Instead, they facilitated a process in which government ministers would ultimately decide what to build. This process of political decision-making was the subject of a third tension in the function of an EIA which affected policy conflict at the relational level: that between the EIA as a collaborative process or a hierarchical undertaking.

The EIA as a collaborative undertaking

In both the interviews and the observational data, conducting an EIA appeared a collaborative undertaking to the outside observer. In our reflective interviews, respondents emphasized the collaborative nature of the way in which the EIA was conducted. All of the different stakeholders in the conflict over the infrastructure project were invited to submit their trajectory-proposals for comparison. Civil servants explained that the EIA process had purposely been designed as a collaborative undertaking to prevent stakeholders from criticizing the process only afterwards, when it was too late to adjust the process accordingly.

In our observations, those who chaired public fora used terms such as 'dialogue' and 'debate', invited people to 'contribute' and 'think along', and portrayed the meetings as 'learning opportunities'. The way in which fora were organized added to the horizontal appearance of the EIA's processes; long lists of all kinds of stakeholders were invited, from local action committees to large corporations with a direct interest in the project. These people were then asked to provide the project management team with all kinds of input that would feature in the analyses, such as their knowledge of the local flora or local traffic bottlenecks. Also, they were asked to reflect on different iterations of the project's EIA. The invited stakeholders participated in this process with great enthusiasm. Meetings were characterized by an atmosphere of openness and accessibility, were well attended and often lasted longer than planned. All this seemed to create expectations about the nature of the policy process as a whole – namely that it would be a horizontal process of choosing a best policy solution. That expectation became clear when stakeholders were surprised to find out that the process they were involved in was, in fact, not fully horizontal.

The EIA as a hierarchical undertaking

In the reflective interviews, respondents explicitly mentioned feeling misled about the nature of the policy process. While there had been ample opportunity for voicing critique on intermediate results in the earlier stages of the process, the same could not be said for the final phase. When the government unilaterally announced their own proposal for the highway trajectory as the winner of the EIA, stakeholders that were supporters of different

proposals which also scored well in the EIA felt betrayed by what they perceived as an arbitrary judgement. Their suspicions were fueled by fast pacing of the final EIA stage. One respondent reflected:

> *It [the EIA report] was submitted (...) on the 6th of February and on the 10th of February the EIA assessment committee approved it. 4000 pages, just like that, with a weekend in the middle. You cannot even - I will not even say read- you cannot even scan that.*

A similar pattern occurred in our observations Here, the horizontal-looking policy processes were in fact hierarchical in three ways. First, EIA's often involved complex, advanced models and were highly detailed. This made public fora 'overwhelming', according to participants. One could often hear participants state that they 'were no experts' or that this was 'above their level' – even though they had plenty of ideas about policy solutions. The complexity of the EIA created a *de facto* hierarchy amongst participants, where participants who better understood the EIA's language were able to participate in a different way. Second, the policy processes in which the EIA played a role were hierarchical by law. In all our cases, the mandate to decide what would get built in the end resided with the Flemish government. They could decide to follow the EIA's outcomes, but could also decide not to do so. Third, a less formal hierarchy existed between those actively participating in conducting the EIA. For example, between a civil servant in the project management team and a stakeholder attending a public forum, the civil servant would meet often and directly with the analysts, where the stakeholder would have to rely on the public forum to deliver their input. This meant that for the civil servant, it was easier ensure their concerns were reflected in the EIA.

The discrepancy between the process' horizontal appearance and hierarchical nature caused frustration amongst the stakeholders who had attended the fora once confronted with the hierarchical nature of the process. In both of the projects we conducted observations in, it caused unrest when politicians 'interfered' with the policy process. In one of the projects, where a minister requested an extra policy option was added to the EIA, other process participants voiced their malcontents by wondering out loud if this meant that 'politicians [secretly] had a say in what would get studied', and explained their

disappointment by stating that they thought 'we were going to do things the objective way this time around'. In the other project, where a minister decided to declare their preference for one of the options studied earlier than expected, citizens called the process 'a political game' in which they believed politicians thought that 'a bad decision is better than no decision.'

Analysis: How the EIA becomes a justifier that obfuscates policy conflict

Our results identify three tensions surrounding the EIA, related to the promise of evidence-based policy making clashing with the reality of policy processes. In the next section, we will demonstrate how through these three tensions, EIAs create confusion by distracting from content, process and relations. These distractions ultimately obfuscate conflict, affecting it adversely. Table 9 contains an overview of the positive and negative effects of the EIA, which we will elaborate on further in the remainder of this section.

Level	*Benefits*	*Costs*
Content	Creating a common language.	Repackaging political decision-making as a technical exercise.
Process	Transparency about procedures.	Hiding the administrative reality that determines what the EIA can be.
Relational	Creating trust among participants by means of clear-seeming procedures	Creating distrust amongst participants by making political preferences suspect.

Table 9: The costs and benefits of EIA's at the content- process- and relational levels in policy conflicts.

Distracting from content: repackaging politics as science.

The first way in which the EIA created confusion, was at the level of process content. We observed a tension between the EIA as a technical exercise and a political instrument. Even though the EIA was supposed to make policy processes more objective, proponents and opponents of policy projects mistrusted each other's readings of the EIA. Action groups accused politicians of manipulating outcomes and questioned the quality of the EIA when it did not confirm their expectations about the projects' effects, politicians accused action groups of cherry picking.

What is telling about the examples from both the observations and the interviews is that instead of arguing based on personal preferences, arguments where drafted on the basis of the EIA. Surely, this makes it easy for stakeholders to communicate – they have a

common object to discuss and a common language to do so. The EIA's ability to connect parties was demonstrated by the willingness of all process actors to engage in discussions about the EIA. However, it also puts the EIA at the center of a choice process, obfuscating people's motivations for choosing a particular option as the EIA promotes reformulating arguments for or against a project in its scientific language.

The effect of the presence of the EIA, then, is that a political discussion is restructured to appear as a seemingly apolitical technical exercise. The EIA transforms a policy conflict about advantages and disadvantages of different policy options into a conflict about the technicalities of measurements and their interpretations. This does not mean that politics disappear from the policy process. Rather, the political nature of policy processes is hidden behind the EIA's numbers, causing surprise amongst process participants when they are confronted with the political nature of the policy process.

Compromising on process: repackaging feasibility as completeness

The second way in which the EIA caused confusion with participants, was by misrepresenting the nature of the policy process. At first sight, the process of making the EIA's appeared to be a scientific quest for completeness which would inform a choice for the 'best' performing policy alternative. It was this kind of apparent procedural transparency that motivated external stakeholders to participate in the policy process with enthusiasm. It provided them with a sense of ownership of the process reflected in statement such as 'I thought *we* were going to do things the objective way' (emphasis added). However, we found that the stated aspirations for completeness were hampered by the fact that the EIA was also an administrative process, which had to be completed within a set amount of time and with limited means.

A quest for completeness and an administrative process operate according to different logics. In the quest for completeness, the EIA is at the center of the process. The administrative process, however, is part of a hierarchical system in which an administration is working to execute a political decision within set time limits. Because the time limits dictate the process, feasibility in the end trumps scientific completeness. The fact that the

EIA appeared as a quest for completeness, created false expectations amongst external stakeholders. They expected an EIA to address all their concerns in order to ensure an optimal the process outcome. External stakeholders participated with that in mind, only to be surprised when the process took turns that do not seem to follow the EIA's logic.

The effect of the EIA repackaging an administrative process governed by feasibility as a scientific process striving for completeness is that it creates mistrust towards policy procedures. The promise of the quest for completeness is more than the administrative process can deliver, yet it is what process participants come to expect.

Confusing participants: repackaging hierarchy as horizontality

The third and final way in which the presence of the EIA restructured the interaction between stakeholders was at the relational level. Its presence misrepresented the mandates of those involved by disguising a hierarchical process in which politicians choose and the EIA potentially informs that decision, as a horizontal process in which stakeholders collaboratively work on an EIA, the outcome of which determines the policy choice. By inviting actors to 'think along' in a process in which different options are compared by means of an EIA, the impression was given that one's entry to that process was to provide good ideas or solid facts to improve the EIA and the choice it leads to. However, this is a misrepresentation of the true nature of the policy process in which, ultimately, politicians decide. In addition, civil servants working closely with the analysts arguably have more of a say in the processes of the EIA than non-governmental stakeholders.

Participants' disappointment when confronted with the hierarchical reality of the policy process shows both a strength and a weakness of the EIA. It indicates that at the start of the process, the promise of the EIA provided stakeholders with sufficient enthusiasm and trust to participate. Their disappointment can be explained by the fact that are told a story of co-creation in a horizontal setting, which obscures the fact that that this horizontal-seeming process is embedded in a more hierarchical context. Interference by politicians, even though within those politicians' mandate, leads to unrest because it violates what participants thought were the rules.

The effect of this obfuscation is a process in which politicians are being mistrusted even though they are acting within their mandate when they ultimately make decisions on a policy. This effect is amplified because participants are inclined to motivate their choices based on the EIA, which replaces their original argumentation and creates an ambiance of insincerity around decision makers. In other words; with its perceived focus on content, the EIA restructures policy processes in such a way that the focus of conflict over policy outcomes easily shifts towards a conflict about the intentions of the individuals involved in that process.

The EIA as justifier that distorts policy conflict on the substantive, procedural and relational level

The EIA did serve as a conversational platform. The prominent presence of the EIA caused stakeholders to formulate their arguments in the language of the EIA. This forced them to be specific in their argumentation, and made the language of the EIA a shared language in which stakeholders could understand one-another. In addition, the EIA came with a set of transparent procedures and provided stakeholders with the trust to participate in public fora.

Its usefulness, however, came at a steep price. The fact that EIA's repackage politics as science, an administrative step as a quest for completeness and a hierarchical process as a horizontal one, obfuscated policy conflict at its several levels. On the substantive level of conflict, stakeholders rephrased their arguments in the language of the EIA. This distorted an open policy dialogue by creating confusion about why actors supported or opposed a policy alternative. If a substantive conflict can improve the democratic dialogue about benefits and drawbacks of policies, that dialogue is hindered when political arguments need to be rephrased in technical terms to be allowed into the discussion. On the procedural level, the fact that an administrative process presented itself as a study interested in completeness, created false expectations that eventually backfired. Civil servants managing the project seemed 'not objective', whilst their actual job was to deliver an analysis within a set time frame to keep- the policy process moving. If a procedural

conflict can improve the rules of the game when these rules become the topic of debate, this was not the case for the EIA. Rather than question the false expectations that the EIA projected, the EIA was seen as corrupted. Finally, on the relational dimension, politicians having a preference for one option over the other were thought to be interfering, even though it is within their mandate to develop and act on a policy preference.

The contrast between the EIA's promises and the actual policy process makes the policy process seem flawed, and points towards the other parties in the process as those responsible. They are, after all, the ones who are being 'political', nor do they strive for completeness. Action groups and politicians are accused of 'politicizing' a process which is essentially political, and civil servants and politicians are accused of foul play when they use the EIA to defend a decision taken on grounds for which the central position of the EIA leaves no room in the policy process.

Conclusions and discussion

This chapter studied ex ante analyses as a popular remedy against policy conflicts. Ex ante analyses allegedly function as a 'useful myth', enabling process actors to move forward through mutual difference and uncertainty (Boswell, 2017). This chapter asks at what cost ex ante analyses get to be useful by studying how a very popular form of ex ante analyses (the EIA) restructures policy conflict. The extend up to which the 'myth of evidence-based policy' is 'useful', appears limited when it comes to the EIA. The presence of the EIA did have positive effects. At the start of the process, the clear procedures that came with the EIA filled participants with trust in the process and other participants. Also, the EIA provided process participants with a common language and object of discussion. However, our analysis primarily shows how an instrument meant for comparing policy options on different aspects, is moved to the center of a policy process. There, it appears as a decision-making instrument rather than a comparative study. As a consequence, the EIA repackages a political process as a technical exercise in which the expectations of process participants do not match the way the policy process actually is set up. In all our cases, there was less time for scientific concerns, and more hierarchy between process participants than one would expect based on the prominence of the EIA. This led to

considerable confusion and frustration amongst process participants, providing fertile soil for conflict escalation.

This study's main contribution to the literature on policy conflicts and knowledge is that it empirically shows that it is not a given that EBPM improves policy processes. We found knowledge to complexify conflicts by obfuscating the true nature of the policy process and causing confusion amongst actors, which resulted in a situation in which other individuals in the policy process became suspect. One cannot assume that centering a policy process around evidence only has positive effects: these always come at a price.

The study also contains lessons for policy practice. Reflecting on the positive contributions of the EIA reveals that process participants value clear procedures, need a common language to discuss their preferences, and that clear procedures can enhance trust in other participants. The challenge is to facilitate these things whilst mitigating the confusing caused by the EIA. In fact, on the basis of this study, one could ask if it would not be easier to provide trust, a common language and clear procedures if the EIA would take a less central place in policy processes, thereby reducing the confusion it causes. This, we believe, would also be a fruitful avenue for future research: how can the 'usefulness' of knowledge in policy processes be optimized, whilst reducing negative side-effects? Ultimately, further research would have to point out whether the EIA and similar analyses are the right tool for the job, or whether the usefulness of knowledge in policy processes can be harnessed by other means.

Together with chapter 2, this chapter has demonstrated that neither the naivety-thesis nor the usefulness-thesis can explain why ex ante analyses are valued the way they are. Policy makers value their presence and they do have a positive impact on the policy process, yet they also severely restructure policy processes in ways which confuse participants and limit their options. Following these conclusions, the next chapters will come up with an alternative to the naivety-thesis and the usefulness-thesis by studying ex ante analyses, their users and their context, to see if there is a specific synergy between the three which can explain why this instrument in particular enjoys such popularity.

5

The process of interpretation

Observing analysis use in real-world policy processes[12]

with Mirijam Böhme

Chapter overview

This chapter looks at the way in which actors use and interpret knowledge. It is becoming increasingly popular to study this process using a behavioral approach, drawing on psychological theories and methods. An example of such a theory is the theory of motivated reasoning, which reads that policy makers are inclined to interpret information in ways that fit their preferences rather than approaching this information as a *tabula rasa*. However, as psychological research relies on experiments, the question remains what role this mechanism plays in real-world policy processes. This chapter expands on experiment-based behavioral public administration research by studying the explanatory power of motivated reasoning theory in a real-world policy process. It does so based on ethnographic observations collected during the planning phase of a large infrastructure project. Our analysis confirms that motivated reasoning does indeed explain how people interpret information, but also shows that the context in which they find themselves has a great impact on the way in which their reasoning unfolds over time.

[12] This chapter was written together with Mirijam Böhme. It is a slightly adapted version of a paper currently under review as 'The practice of motivated reasoning. Observing knowledge use in real-world policy processes.' The paper is based on the data collected and analyzed according to the procedures outlined in chapter 3 and collected and coded by Lars Dorren, but the theory, results and analyses were written jointly.

Introduction

It becomes increasingly popular to study public administration through a behavioral lens, drawing on psychological theories to explain behavior in an administrative context (Grimmelikhuijsen et al., 2017; Kasdan, 2018). A popular example of such a theory is the theory of motivated reasoning. Motivated reasoning implies that policy makers are subconsciously inclined to accept information that confirms their attitudes and match personal experiences (Bækgaard et al., 2019; Bækgaard & Serritzlew, 2016; Christensen, 2018; Christensen et al., 2018; Gigerenzer & Gaissmaier, 2011; Jilke, 2018; Redlawsk, 2002; Tversky & Kahneman, 1974).

One of the particularities of behavioral (public administration) research is its reliance on experimental methods (Moynihan, 2018). Relying on experiments means studying mechanisms in a stylized experimental setting, rather than a real-world context., This makes it difficult to see how the mechanisms uncovered in these experiments would translate to real-world contexts. That policy makers engage in motivated reasoning during an experiment, does not tell us up to what extend they will do so in real-life settings, how the influence of motivated reasoning mechanisms holds up against contextual factors that influence decision making, how and why attitudes change over time and how this impacts the policy process.

Researchers in both public administration (Davis et al., 1966; Jones & Baumgartner, 2012; Lindblom, 1959, 1979) and psychology (Gigerenzer & Brighton, 2009; Hertwig & Grüne-Yanoff, 2017) have argued the importance of context in understanding reasoning in policy processes. This chapter uses concepts from motivated reasoning theory as analytical concepts to analyze one year of ethnographic observations collected during the planning phase of a large infrastructure project. We followed a program management team as they witnessed the development of and then had to interpret a report monitoring the progress and predicting the output of a set of sub-projects. As such, the contribution of this chapter is threefold. First, this approach allows us to analyze if and how policy makers engage in motivated reasoning in a real-world policy context. Second, it shows how the interpretation of this information affects the development of the policy process. Third and last, an

ethnographic approach allows us to reflect on the explanatory power of motivated reasoning theory in a real-world context.

This chapter will first expand on theories of both the impact of motivated reasoning on knowledge use, and the nature and impact of context in policy processes. Then, we explain how we collected and analyzed our data. In the subsequent results-section, we observe that, in accordance with motivated reasoning theory, policy makers are likely to perceive and use the information in reports selectively depending on their preferences. The decisiveness with which they do so, makes it that the policy process comes across as illogical and incoherent at times. Policy makers' interpretation of information only changes under heavy contextual pressure.

Engaging with evidence in policy processes: the practice of motivated reasoning in a complex context

In this chapter, we concentrate on a piece of evidence that is introduced to a policy process to 'inform the development and implementation of policy' by evaluating 'the effectiveness of policy options to inform decisions on what policy action to take' (Sanderson 2002). This evidence usually takes the form of a technical, legal, or scientific report and evaluates a specific part of the policy. It is meant to support and inform deliberation among policy makers and provide a factual basis for the policy decision to ensure quality (Nutley et al., 2007).

However, the policy process seldomly is this orderly and linear (Schlaufer, Stucki, and Sager 2018; Cairney 2016; Gerrits 2012). In most policy processes, objectively best or obvious solutions do not exist. Rather, policy making is a process of deliberation, interpretation, and sense-making (Bevir & Rhodes, 2010; Feldman, 1989; Pressman & Wildavsky, 1973; Stone, 2012; Yanow, 1996). Policy makers operate in a network of different organizations in which customs, (organizational) interests, and habits play as much of a role as the evidence contained in reports (Halpin, 2011; Jones & Baumgartner, 2012; Thornton & Ocasio, 2008). In this complex network, policy makers are expected to rely on a multitude of rules of thumb or 'heuristics' when making decisions, one of

which is motivated reasoning (e.g., Nørgaard 2018; Linde and Vis 2017; Sheffer et al. 2018).

Motivated reasoning theory describes a heuristic which people use to value and process information. It is based on the idea that people are inclined to reason towards certain goals (e.g., Kunda 1990; Lodge and Taber 2000; Taber and Lodge 2006; Redlawsk, Civettini, and Emmerson 2010; Taber, Cann, and Kucsova 2009). This drives them to subconsciously evaluate information in such a way that it confirms their prior attitudes and beliefs. People who encounter information that agrees with their prior attitudes will accept that information as true without taking a considerable amount of time to confirm its quality or truthfulness. If people encounter information that is at odds with their prior attitudes, they will initially reject that information. They might also try to discredit the information source or seek out alternative information that does confirm their prior attitudes.

Motivated reasoning is brought about by the way in which people 'affectively tag' concepts (Bargh, 1994; Fazio et al. 1986; Lodge and Stroh 1993). An affective tag is an emotive association with a concept. Affective tags can be positive or negative and strong or weak depending on the experience one has had with that concept (Lodge and Taber 2000). These tags explain how people intuitively react positively or negatively to new information they receive on, for example, a policy proposal. The extent to which people engage in motivated reasoning depends, among other things, on the strength of their attitudes (Lodge and Taber 2013; Stickland, Taber, and Lodge 2011). The affective tags connected to a concept can be weak – in the most extreme case leading the individual to be non-attitudinal towards the concept – or they can be strong and thus provide the basis for strong attitudes (Converse 1970, Bargh et al. 1992).

As a heuristic, motivated reasoning is more likely to occur in some contexts rather than others (Gigerenzer & Brighton, 2009). Specifically, motivated reasoning is believed to transpire in situations of information overload or high complexity (Eagly & Chaiken 1993, Walgrave & Dejaeghere 2017). Long and complex policy processes are likely to be such contexts. Policy is increasingly designed in collaborative arrangements (Ansell & Gash,

2007). In collaborative arrangements, policy makers represent organizations which themselves are complex constellations of different seemingly independently moving parts (Orton & Weick, 1990; Weick, 1976) that can have different, conflicting goals and their own routines, rules values and habits (Thornton & Ocasio, 2008; Smets, Jarzabkowski, Burke, & Spee, 2015). This results in a situation in which a piece of information is likely to have different meanings to different actors in a policy process.

Understanding analysis use: following an analysis through a policy process

We used theoretical sampling to select instances that would 'maximize opportunities for comparative analysis' with regard to the interpretation of information (Strauss & Corbin, 1998, pp. 211-212). We first coded a portion of the meetings we had observed to identify discussions which would lend themselves well to an analysis information interpretation. A piece of information that recurred throughout the year was a monitoring report featured in the Dutch case. This report was drawn up by an external consultant who occasionally presented an updated version of the report to the team or attended a meeting to ask them for input. The aim of this report was to give an indication of the performance of part of the program and present a methodology to monitor progress and update the projected output. With this information, the management team would be able to ensure the program aims were met.

Discussion of this report reoccurred frequently throughout the process. Our initial coding revealed that when the monitoring report was on the meeting agenda, discussions were usually elaborate and interpretations of the contents of the report seemed to differ amongst meeting participants. This led us to expect that focusing our analysis on discussions on this report would provide the widest range of reactions to information whilst preventing variance in the type of information discussed from influencing observed reactions. Counting the number of times each category of reactions occurred in our data throughout the year allowed us to make displays of frequently occurring codes over time (Miles & Huberman, 1994). These reaction pattern displays formed the basis of our

analysis, which is presented in the next section of this chapter. Table 10 rehearses the different reaction categories that were the output of the coding process.

Table 10: Reaction categories that were the result of axial coding, with examples from data

Category	*Description*	*Example*[13]
Anticipation	A group of reactions passing positive: this category contains excitement directed towards future developments.	Someone saying this way of evaluating projects will be a great example for other programs.
Fear-Related	A group of reactions that indicate the person in question has a feeling that things are either going wrong or about to go wrong.	Someone expressing that they feel there will be negative political consequences to a budget increase.
Comforting, Calming	A group of reactions in which the person in question tries to mitigate the reactions of other members of the group by putting them at ease.	Someone stating that there is no need to worry yet, as the analyses are all based on assumptions anyway.
Downplaying	A group of responses that apparently aim to relativize the contents of the report and the reactions of others. As opposed to the 'Comforting, calming' category, these reactions do not aim to put the group at ease, but instead they mean to question the status of the report.	Someone stating that they don't know where these numbers come from, and that they have a feeling they have been made up.
Positive	Contains all other reactions that indicated a positive attitude towards the report or statements by others.	Someone stating they are impressed by the progress that has been made
Surprised	Contains reactions that indicated that someone did not expect a certain development.	Someone stating that they thought the report was not finished when they first read it, even though it was supposed to be.

Table 10, continued

Category	*Description*	*Example*
Trust	A group of emotional reactions that indicate that people have faith in one another, such as agreeing with or approving someone's work.	The project manager often calls people 'a star' when he wants to encourage them.
Unsure, Uncertain	A group of reactions linked to uncertainty.	Someone stating that they don't know how they should proceed from here.
Content-Related	These reactions did not clearly pass judgement, but instead	Someone asking the analyst on what page can a certain

[13] All examples are derived from data that is part of this book.

	inquired about content in a 'neutral' way.	piece of information be found.
Process-Related	These reactions seemed aimed at informing oneself about the process more than passing judgement.	Someone asking when something is due.

Results

The analysis presented in this chapter centers around the reasoning of policy makers concerning one specific policy instrument: a monitoring report. The monitoring report was meant to monitor the progress of a group of short-term measures, which were part of the infrastructure project. The report was made by an external analyst, who regularly sent updated versions of the report to the policy makers in the project group. The goal of these short-term measures, monitored by the report, was to keep traffic flowing as the policy makers worked on long-term measures. The central indicator used in the report was the reduction of the number of cars on specific trajectories during rush hour, hereafter referred to as 'traffic reductions'. Some of the short-term measures were managed by members of the project team, but most of them were managed by project staff who did not regularly attend the weekly meetings we observed. The majority of these staff members are employed by the regional government.

Analyzing our coding, we found substantial differences between reaction patterns displayed by members of the regional government and members of the national government. Whereas national government representatives reacted to the report mainly by expressing fears, regional government representatives' main reaction was to downplay the importance of the report. These two distinct reaction patterns are displayed in figures 1 and 2. Figure 1 presents the type (indicated by the different colors) and the absolute number (indicated by the height of the bar) of reactions displayed by members representing regional governments; figure 2 presents reactions as displayed by team members of the national government. Each number on the horizontal axis corresponds to a single meeting.

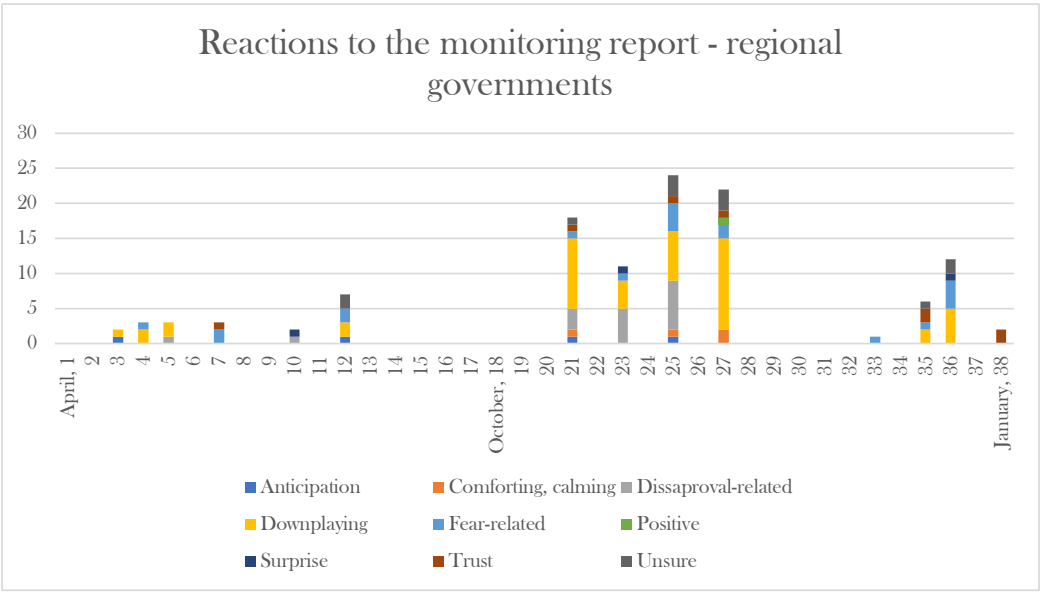

Figure 1: Coded reactions to the monitoring report by regional government representatives, in absolute numbers, per meeting.

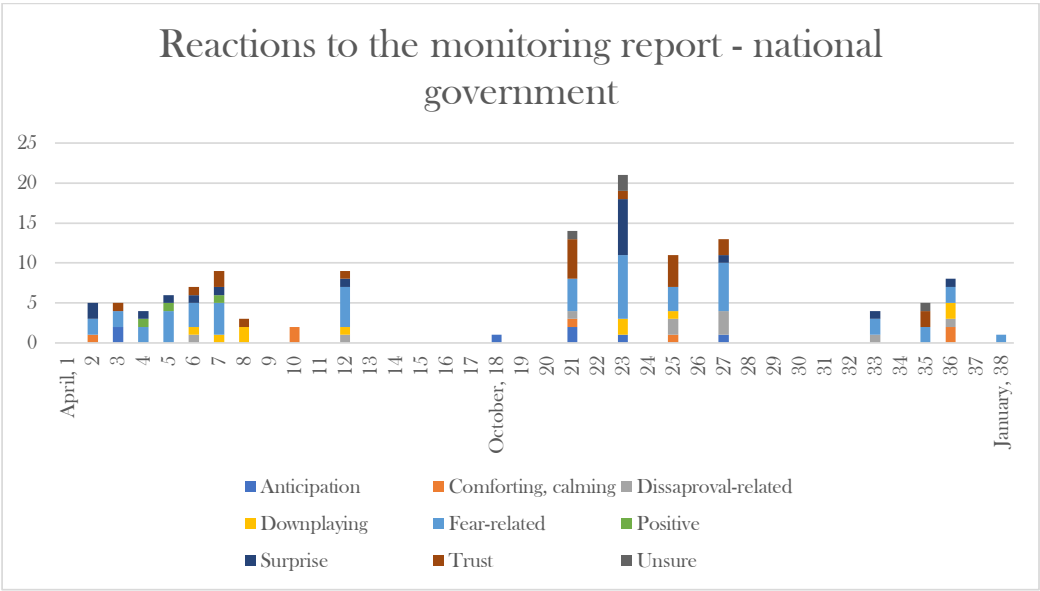

Figure 2: Coded reactions to the monitoring report by national government representatives, in absolute numbers, per meeting

Focusing on explaining the difference in reactions between regional and national government team members, we will proceed with the analysis in three steps. First, we will provide a descriptive overview of the policy makers' attitudes towards the monitoring report at the beginning of the observation period. Motivated reasoning theory suggests

that these attitudes determine how people will subsequently interpret information. In order to interpret the reaction patterns that were the output of our analysis, this overview is essential. Second, we will explain the development of the policy makers' reactions throughout the policy process; we illustrate how attitudes drive interpretations of information. Third, we will describe how contextual pressures come to play an increasingly important role as the process progresses. Under the pressures of time and politics, we observe how attitudes – even those that are firmly held – eventually change.

The start of the process – policy makers' goals and attitudes

We joined the program management team in April 2018. While it is difficult to determine the true start of a process of reasoning, this was the time the monitoring report was first discussed in a meeting we observed. We found the process in relatively calm waters. The previous meeting with the political steering committee of the project had taken place several months prior and the next one was to happen months later. Many parts of the project were still in early stages of development. In this absence of political pressure and managerial urgency, policy makers expressed the initial attitudes that would drive their initial reactions to the monitoring report.

In the beginning of the process, attitudes were largely similar among policy makers. Reactions observed to the question of how to measure the effects of the projects are characterized by great enthusiasm for adopting 'innovative' or 'out of the box' ways of measuring, as reflected by the number of positive reactions observed during the third meeting. The way in which people responded to the idea of choosing a different indicator shows that they did not put much value traffic reductions as an indicator. The project manager enthusiastically argued to eliminate the idea of using traffic reduction as the main indicator for output, calling it an 'old-fashioned' concept. Someone else proposed that they should not try to attach 'hard numbers' to traffic reduction but look at changes in the division of people over different modes of transport. The absence of negative reactions in this first meeting also indicates that no one in the group had an openly negative attitude towards the basic idea of monitoring projects or making projections of project outcomes.

In addition to sharing a non-negative attitude towards monitoring, the group shared a commitment to deliver a well thought-out, well-performing project. This goal became apparent during the meetings that followed the first meeting in April 2018. At that time, the analyst had started interviewing project staff members to gather input for the monitoring report. Based on these interviews, the program manager indicated to be worried about the results the projects would yield (see meeting 12 in the bar charts). The predicted amount of traffic reductions appeared to vary widely, depending on who one would ask. The program manager indicated that number 3.250 was 'echoing through the halls', but she was alarmed by the fact that she also heard estimates far below this number. Several people in the group expressed to her that they were glad she shared her concerns with them. The group then began to consider an appropriate response. One particularly enthusiastic team member suggested the group should consider new ways to amplify the project's effects. This suggestion was met with reservation, as other team members believed it would put the quality of the end result at risk.

Even though team member shared the goal to deliver a good result, team members' positions differed regarding how to reach that goal. When discussing whether to closely monitor the managers of different sub-projects, team members who worked for the national government wanted to meet with sub-project staff often. They feared both the monitoring of the short-term projects and the progress of the projects themselves would be put at risk if they did not regularly do so. Regional government representatives relativized the importance of frequent meetings with project staff; they often indicated that they would rather see the project staff 'just [keep] working on projects'. Despite repeated arguments by national government representatives, regional government representatives consistently indicated that they had not heard 'any good reasons as to why they need to meet again so soon'.

In sum, the beginning of the process was characterized by calm and open discussions. Policy makers generally held similar attitudes toward the monitoring report, and while small discrepancies between regional and national government representatives eventually became apparent, no significant differences in attitudes were observed at this time.

Evaluating the evidence in the monitoring report

Throughout the course of the project, the team discussed several versions of the monitoring report. The analyst worked on the report continuously, and occasionally sent an updated version to the team for discussion. Starting in October, we began to observe differences in the way team members responded to these preliminary versions of the report. During meetings, a re-occurring pattern emerged: the program manager would raise a concern about whether the projects would in fact be able to generate 3250 traffic reductions. In her view, what was an estimated result earlier on had become a target now. These fears were amplified during a meeting in which all members of the project staff were invited to present their progress (meeting 7); the staff members gave presentations that were not very concrete – the phrases 'preliminary stage' and 'premature' featured in most presentations. Other national government employees supported her perception that 3250 was an important target to make, and emphasized that 'measurable facts' are highly important to politicians.

Contrary to the reactions of national government representatives, representatives of regional governments did not communicate fears; although they initially supported the program manager's concerns about the project outcome, they now downplayed her fears. Regional government representatives started raising concerns about the monitoring report and the project manager's conclusions. These concerns were political; for example, one representative stated that half a year ago, he told his executive that they should invest in certain projects, and he did not want to have to tell his executive that that they have no effect now. If he were to do that, this representative argued, it would have financial consequences. The regional government representatives' concerns also had to do with the methodology of the monitoring report. In a particularly heated discussion, we observed one of the regional representatives refuse to talk about project results because 'right now, there is no result. We are *working* on the result!'. In the remainder of that meeting, the program manager tried to assuage the representatives by stating that perhaps she had been a bit too pessimistic – there were also projects that were doing excellent and might even overperform. This sparked a methodological discussion, in which regional representatives made remarks such as, 'But *where* does that come from? Out of nowhere!' For the

remainder of the meeting, the program manager did not answer these questions except to say, 'From the engine room of the analyst'. Other regional government representatives asked questions on the exact meaning of traffic reduction as an indicator. By the end of the meeting, the project manager concluded the discussion by accepting that it might be best to report the progress of the project to the steering committee, but not include the projected outcomes of the projects.

These types of discussions were exemplary for this stage of the project, and they clearly reflected theory of motivated reasoning. Even though all team members were talking about the same report, they treated the information in it differently. The program manager urged the team to take action, taking the information in the preliminary versions of the report at face value. Regional government representatives, who were in favor of letting the project staff 'just work on their projects', questioned the report's methodology and wondered why they suddenly had to 'deal with' a target. At the beginning of the process, when the specifics of the monitoring report were not yet known to policy makers, there was no substantial disagreement; we can now see how team members' reactions to the evidence in the report differ according to their goals and attitudes.

The re-occurrence of this kind of discussion is of particular interest when explaining the motivated reasoning of policy makers. An archetypical rational actor might be expected to remember that in meeting 21 the team debated and then decided to only report progress and not outcome, but this debate had to be repeated several times[14] before the conclusions stuck. The program manager appeared to forget the outcomes of previous meetings and had to be reminded repeatedly that they would not report expected outcomes to the steering committee. Eventually, during the fourth time discussing the monitoring report since October, the program manager announced to the group that she believed there should be 'a shift in thinking when it comes to monitoring' – an announcement subsequently met with skepticism from regional government representatives. However, despite team members' attempts to downplay the outcomes of the study, we found that the program manager insisted on informing the steering

[14] In meetings 23 and 27.

committee on the outcomes of the report. At this point, regional government representatives received support from the national government representatives: one of them claimed it would cause unnecessary panic to include projected outcomes when reporting to the steering committee. In response, the project manager attempted a final argument: 'But they want hard facts, measurable targets'. After a few more minutes of debate, this meeting was concluded by moving forward the decision on what to do with the monitoring report.

Constant re-evaluation of evidence and changing attitudes

After a period where the attitudes of team members on the monitoring report seemed relatively fixed, we observed a shift in the reaction pattern when the context in which the report is discussed changed. The atmosphere of the meetings we observed gradually changed over the course of the year. In April, meetings would last about two hours, often with time to spare. After the summer, team meetings always lasted at least three and occasionally over four hours. Staff members were regularly called in to discuss their progress, and people appeared to be rushing to get their work done before the end of the year. Additionally, the next meeting with the political steering committee was scheduled to take place by the end of January 2019 – the urgency of the question how to interpret the monitoring report increased.

Rather than relativizing them, regional government representatives started referring to expected project results from the monitoring report as 'targets' in discussions with project staff. Regional government representatives pushed project staff to explain how their work would result in a certain amount of traffic reduction. It even occurred that a staff member who asked where that target came from was told that it was simply a result of the analyst's work. The alleged target number was also provided as input for a government study that needed to account for the effects of the project.

This new use of the information in the monitoring report as a target by regional government members also changed the program management team's discussion about how to interpret the contents of the report. At the end of November, the group received

a final version of the report and debated how to communicate this version to the steering committee (this was discussed in the team meeting, as usual). What was striking this time was that the reactions coded as 'fear' could now be linked to the regional government representatives (see meetings 35 and 36 in figures 1 and 2). Regional government representatives started becoming concerned about the costs of the project in relation to its expected results. Or, as one representative stated: 'If we give 3.250 people a [...] gift card and tell them not to use the road again, we are cheaper off. How am I going to explain this to my [political executive]?' The comments surprised the program manager, who inquired as to why this had not been mentioned somewhere during the past year. Not attempting to answer that question, the group hastily started drawing up proposals on how to mitigate this.

Analysis: the impact of motivated reasoning

Over the course of the process described here, we have seen the number '3250' had evolved from a number 'echoing through the halls' to a hard target worrying regional government representatives, without the monitoring report itself undergoing fundamental changes. We have shown that – like motivated reasoning theories suggest – the interpretation of information is initially influenced by prior attitudes. People who wanted to closely monitor the progress of the project staff took information from the monitoring report at face value, whilst people who wanted the staff to 'just do their job' continuously questioned and downplayed the report. Throughout the process we observed, the exact meaning of traffic reduction as an indicator remained partially unclear and was frequently questioned by team members. At the same time, the amount of traffic reduction predicted in the monitoring report was regularly used as if it were an indisputable fact. This usage either coincided with someone's attitude towards project management, or when someone's environment required it. For example, people who would first relativize the contents of the monitoring report because of their laissez-faire approach to project management later portrayed the projected traffic reductions as an indisputable fact to motivate project managers. In situations where there is little pressure, people reasoned more freely, and prior attitudes played a more substantial role in their reactions. External pressure caused people to reconsider their positions. After initially opposing and relativizing the contents of the report, regional government representatives later used it to

calculate the costs for each traffic reduction and wondered how they could convince their superiors that these costs were justifiable.

Attitude-driven interpretation of the monitoring report certainly explains why this policy process, like other policy processes, feels messy to an outside observer. In our observations, people repeated discussions only to forget the outcome and have the same debate weeks later. As such, motivated reasoning appears to have a significant impact on the content of discussions, and is able to account for the way in which these discussions develop. The way in which motivated reasoning affected the policy process we observed, suggests that processes of motivated reasoning are shaped in interaction with a person's context. The fact that a person displayed certain attitudes in the beginning of a process, does not mean that they will be consistent in their reasoning throughout the process.

Conclusions and discussion

Using the theory of motivated reasoning as our analytical lens, our results show that indeed, prior attitudes largely determine how people initially understand information. They also show that reasoning is an impulse-driven process – it starts with a spontaneous response based on prior attitudes as a point of departure rather than a 'neutral' re-reading of the information each time it is encountered. The extend up to which people's initial attitudes play a role, depends on the context. Attitudes inform interpretation, but knowing their attitudes cannot fully predict how they will interpret information in each and every context. People's interpretation of information changed under the pressure of a deadline, or when they wanted to use information to motivate project staff. As a result, we observed individuals use multiple, incommensurable interpretations of the outcomes of the report throughout our observations. Information use can thus be understood as partially ad-hoc and spontaneous.

With these conclusions, this chapter has the following consequences for behavioral public administration research drawing on motivated reasoning theory, and potentially other psychological theories. This chapter shows that the context in which processes of reasoning takes place, is an important influence on the way in which these processes

unfold. It is safe to expect that motivated reasoning will take place, but the exact ways in which it unfolds, depend on the specificities of the context people find themselves in. This means that conclusions arrived at by observing behavior in artificially constructed settings, might not necessarily lead to conclusions which will be able to predict the course of real-world policy processes.

Lastly, this chapter also shows how time is an important factor in understanding processes of reasoning. Would we have stuck with this particular policy process for a shorter period of time, we would likely not have witnessed the changes in people's positions, nor would we have been able to explain what causes people to change their position. All in all, this chapter leads to the methodological recommendation that real-world-reasoning can best be understood by methods which follow a process over time, rather than analyze a fixed snapshot of that process.

In terms of the central question of this book, this chapter's main contribution is that it shows how analysis use is a spontaneous and erratic practice, characterized by high levels of pragmatism. The chapter does not necessarily explain the popularity of ex ante analyses, but does sketch the environment in which ex ante analyses operate, as well as the ways in which they are used. As such, this chapter sets the stage for the next chapter, which will investigate whether ex ante analyses have specific characteristics which make them a particularly good fit for the types of use described here.

6

Explaining interpretations.

The chameleonic properties of ex ante analyses.[15]

with Wouter Van Dooren

Chapter overview

Where the previous chapter showed how the use and interpretation of ex ante analyses is a spontaneous and pragmatic process, this chapter will explain what properties of ex ante analyses enable this use. Academic studies on knowledge use are critical of how knowledge can be used in decision making. Research has found that analyses often have no impact at all on decision outcomes or are mainly conducted for secondary reasons such as political tactics rather than to provide objective facts. The question then is why the appeal of ex ante analysis endures despite the well-documented limitations. This chapter explains how it is possible that ex ante analysis remains a trusted policy instrument when its use can be conceived of in different and often conflicting ways. We suggest that the substantive content of ex ante analysis plays a limited role. Instead, the process of conducting an ex ante analysis unfolds in such a way that the analysis can be interpreted and used in many different and seemingly contradictory ways. In policy processes, ex ante analysis is like a chameleon, figuratively changing its appearance based on its decision environment.

[15] An earlier version of this chapter was presented at EGPA 2018, titled 'Chameleonic knowledge. A study of ex ante analysis in large infrastructure policy processes.' It is currently under revision for publication as a journal article. Data collection and -analysis were done by Lars Dorren. Both authors contributed equally to the manuscript.

Introduction

Large infrastructure projects are often contested for being over budget or over time, or because of politicians' 'monument complex' (Flyvbjerg, Bruzelius, & Rothengatter, 2003; Hall, 1980; Leijten, 2017; Wegrich, Kostka, & Hammerschmid, 2016). In response to these critiques, international organizations and government think tanks have suggested that decision-making should be based on the results of ex ante analyses, such as cost-benefit analyses and environmental effect studies (Ministerie van Infrastructuur en Milieu, 2016; OECD, 2015a; 2015b; World Bank, 2014; World Economic Forum, 2012). The expectation is that ex ante analyses can improve decision-making by providing hard evidence on costs, benefits, and effects.

Policy research on knowledge use, however, tells a different story. For example, knowledge ends up not being used or not used for their intended purpose (Feldman, 1989; Weiss, 1979), and if it is used, it is because it fit the preconceived positions of dominant actors rather than because of their evidential value (Stevens, 2007, 2011). Moreover, policy research has shown how relying on scientific knowledge tends to depoliticize policy choices that are essentially political. Depoliticization occurs, for instance, when studies demarcate which project dimensions are up for discussion and which dimensions are out of bounds (Flinders & Wood, 2015; Jasanoff, 1990). From this perspective, studies such as the ex ante analysis appears to be at best a 'boundary object' (Gieryn, 1995) or a 'useful myth' (Boswell, 2017) to overcome policy controversy. Moreover, they are thought to often make policy processes messier instead of providing the promised clarity; it can introduce complex technical procedures that ultimately distract from the political core of the policy process (Parsons, 2002). In some cases, ex ante analysis may even spark the very policy conflicts it is trying to prevent (Wolf & Van Dooren, 2017, see also chapter 4 of this book).

Policy advice and policy research paint widely varying pictures of analysis use. On top of that, policy theories of analysis use differ to a great extent amongst each other. The aim of this chapter is to explain how knowledge use can be depicted in many seemingly contradictory ways. The wide variety of conceptions of knowledge use could mean one of

two things: first, it could mean that some of these conceptions are incorrect, and second, it could mean that pieces of knowledge have certain properties that allow it to facilitate many different uses simultaneously. This chapter explores this question by studying ex ante analysis as a popular form of knowledge in policy processes.

In the first section of this chapter, we show the wide range of theories of analysis use by drawing examples from three key perspectives in the academic debate on the uses of knowledge in policy processes. Then, we describe how the practice of ex ante analysis use does indeed reflect many of the theoretical perspectives mentioned in our theoretical framework. This section goes on to explain the characteristics of ex ante analysis that allow it to be so 'chameleonic'. We found that ex ante analysis is able to be chameleonic because of three main characteristics: 1) it employs methods that make an analysis' outcome relative to its inputs, whilst its outcomes seem very robust and undisputable 2) there is no definitive authority deciding which interpretation of an ex ante analysis is correct 3) trust in ex ante analysis is based on a varied set of criteria. These three characteristics allow ex ante analysis to facilitate a wide variety of discussions without there being a definitive arbiter deciding which interpretation of the analysis is correct. Because trust in ex ante analysis is based on a number of different criteria, trust in analysis is generally high, and people are unlikely to set its results aside easily. As such, ex ante analysis can be used in many different ways whilst continuing to appear credible, as is reflected in the variance among theories on knowledge use.

Knowledge in policy processes

Knowledge use has been studied extensively in public administration, policy studies, and organization studies. This has led to a plurality of perspectives, which oftentimes offer conflicting and sometimes even diametrically opposed views of knowledge use. In this section, we group theories of knowledge use in three prominent perspectives. Based on the work of Weiss (1979), we distinguish between linear perspectives, non-linear perspectives, and critical perspectives.

Linear perspectives

Linear perspectives perceive the relationship between study outcomes and the policy process as direct. In the linear perspective, the results of a study can be directly implemented in the policy process. (Weiss, 1979) distinguishes between two linear approaches: the knowledge driven approach and the problem-solving approach. The knowledge driven approach assumes that the mere presence of knowledge will lead to its use. In the problem-solving approach, knowledge is produced in response to a specific problem. The problem drives the research question, and the research shows how the problem can be solved. The problem-solving approach to the use of evidence in infrastructure decision-making processes is prevalent amongst advisory reports (Andres, Biller, & Dappe, 2015; Andres, Guasch, & Straub, 2007; Brown, Stern, & Tenenbaum, 2006; European Conference of Ministers of Transport, 2005; OECD, 2012, 2015a, 2015b; World Bank, 2014a, 2014b; World Economic Forum, 2012), government guidelines (Vlaamse Regering, 08-27-2014; Infrastructure and Projects Authority, 2017; Ministerie van Infrastructuur en Milieu, 2016) and management handbooks (Klaassen & Hakvoort, 2015; Priemus, Flyvbjerg, & Wee, 2008; Priemus & van Wee, 2013; Sowden, Ingram, & Wolf, 2011; Taylor, 1947; Wegrich, Kostka, & Hammerschmid, 2016). Handbooks typically discuss knowledge as a means to an end (the 'end' being an optimal decision). By directly showing the solution that is allegedly the 'best', ex ante analysis promises to take over politicians' responsibility for choosing an alternative.

Non-linear perspectives

Many policy makers do not appear to believe that the linear perspective is an adequate representation of the practice of policy making (see chapter 2; Mouter, 2014a, 2016). In a self-criticism, Weiss (1979) presents a second group of perspectives which describe the relationship between facts and policy processes as anything but linear. Weiss (1979) distinguishes between three non-linear perspective models. First, the interactive model. This model argues that knowledge is used in a complex arena of interactions between many different actors amongst which knowledge-producing scientists are only one of many. Research informs policy, but research findings seldom produce conclusive evidence that points towards the right solution to a problem. The second model Weiss

discusses is the political model, which assumes that knowledge is only used when it aligns with a political purpose. In this model, a decision maker will only refer to the results of an ex ante analysis if it supports their preferred decision. The political model is also employed by Huff, (1991) and Barker and Guy Peters (1993a), who analyze how facts are framed and employed in a power struggle between different actors with competing goals in such a way that each actor achieves their goals. Barker and Guy Peters (1993b), for instance, have edited a set of chapters that describe how scientific expertise is used to legitimize policy. In this case, what fits the policy goal appears to be more important than the quality of the science and the consensus amongst scientists (Topf, 1993). Finally, the third model is the tactical model, which can be applied to situations where research is being used for reasons that have 'little relation to the substance of the research' (Weiss, 1979, p. 429). In this model, research can be used to do things such as delay action or deflect criticism by using a research outcome as the reasoning behind a policy decision. Boswell (2009) presents what appears to be a variation on Weiss' tactical and political models, where policy makers and politicians refer to research to substantiate policy preferences or to steer a discussion in a particular way. However, Boswell also finds that policy makers actually were reluctant to rely too much on scientific research in their decision making because of the epistemic uncertainties that come with a scientific study. As such, the role of knowledge simultaneously is substantial and marginal.

Weiss' last and arguably most referred to model is called the enlightenment model. This model holds that research does not directly influence policies, rather, research 'diffuses circuitously through various channels such as professional journals, the mass media, conversations with colleagues and over time the variables it deals with and the generalizations it offers provide decision makers with ways of making sense out of a complex world' (Weiss, 1979, p. 430). Instead of influencing decisions directly, research indirectly affects the frame of reference that policy makers use to make decisions. While it is often regarded as most accurately representing the practice of policy making (Marra, 2000), the enlightenment model lacks true explanatory capacity. It merely states that research reaches policy makers a variety of ways, after which some of it ends up being used and some of it does not (Stevens, 2007). The common observation that this model

is the most representative of policy making in practice demonstrates the challenge of moving beyond superficial description without also delving deep into the specifics of the case studied. The representativeness of the enlightenment model shows that the ways knowledge influences policy processes is largely case by case. It is likely that, for this reason, other non-linear perspectives on knowledge use (such as Cairney (2017, 2018); Head (2008); Marmot (2004); Mulgan (2005); Strassheim and Kettunen (2014); Young, Ashby, Boaz, and Grayson (2002)) do not replace old typologies, but rather they add to them.

Critical perspectives

The critical perspective is another way to understand knowledge use. In contrast to the previous perspectives, the critical perspective does not primarily concern itself with describing the complexities of policy practice. Rather, it focuses on the underlying power structures and discourse that shapes knowledge use (Triantafillou, 2017, pp. 9-25). It could be argued that the critical project is a project of re-politization, laying bare power structures and putting them up for debate.

Stevens (2007), for example, uses the concept of 'survival of the fittest' to explain which pieces of research influence decisions and which do not (see also: Monaghan (2009)). Policy makers select evidence to craft 'policy stories' that fit the dominant narrative within government Stevens (2011). The critical perspective for using research could transform a question about ethics into a financial dilemma that fits a new public management context. Similarly, using this perspective, a debate about whether a certain punishment is fair could be reframed into a debate about the societal costs of that punishment. Stevens also notes that these evidence-based narratives serve the essential function of 'reduc[ing] the role of uncertainty as a barrier to action' (Stevens, 2011, p. 234). Policy makers need to make decisions, but they are faced with uncertainty and lack of predictability. Evidence builds confidence. The idea of linear perspectives of knowledge use is therefore what Boswell (2017) calls a 'useful myth'. Doing research for policy is a myth because research cannot present an objective truth. However, research is still useful because it increases

confidence. Research is 'secular faith'; it is something that all process actors believe in, despite having different values (Boswell, 2017).

Other critical perspectives describe the role of knowledge in policy processes as a continuous battle to determine the boundary between science and politics. Whether something is labelled as science or not determines who is able to discuss it (Jasanoff, 1990, p. 236). In order for a critique of something scientific to be taken seriously, it generally has to come from a member of the scientific community. However, the boundary between what is and is not considered science is not set in stone (Gieryn, 1995; Hoppe, 2005). By engaging in what Jasanoff calls 'boundary work', political actors and scientist directly or indirectly negotiate the boundary between policy and science. Subjects of this negotiation process include methods, standards for evidence, and the validity of the interpretation of evidence. Making a similar argument, (Grundmann, 2009) describes how science plays the role of a referee in policy processes, removing impure – that is, unscientific – elements from a policy process. Parsons (2002) claims that the evidence-based policy movement has made policy processes messier rather than more focused. Policy studies are not isolated from policy processes, but instead are part of it. Demanding that policy processes have to adhere to evidence-based standards frustrates the deliberative processes by neglecting values involved in decision-making and decreasing flexibility.

It may seem unlikely that ex ante analyses could accommodate multiple, sometimes seemingly opposing perspectives on knowledge use. Those with a linear perspective claim that knowledge gleaned from research can be applied directly to policy processes, but those with a non-linear or critical perspective problematize this notion. Some may wonder how it is possible that people simultaneously participate in the continuation of a 'useful myth' and also use research and analyses to fill knowledge gaps. Based on the fact that all three perspectives appear equally popular, we argue that instead of some perspectives being wrong and others being right, ex ante analysis has certain properties which let it reflect theories from all three perspectives. Therefore, when following a policy process over time and focusing on the messiness of policy practice, one will likely see uses which resemble different theories occur.

The chameleonic properties of ex ante analyses

Instead of focusing on a particular person or group that deals with ex ante analysis often, this chapter focuses on analyses employed in large infrastructure processes. It draws on patterns occurring across all three cases in this study, found trough the coding procedure described in chapter 3. This allows us to see how different perspectives on the use of analysis interacted and how interpretations of analyses changed over time. Consequently, we compared these patterns to our theoretical framework to verify whether it is indeed the case that a broad range of theories applies to analysis use, rather than some of these theories being wrong and others being right. By studying patterns occurring across cases in this light, we ultimately distilled a set of properties which allowed ex ante analysis to be used in such varying ways.

In this section, we first explore which perspectives on knowledge use from section 2, Knowledge in policy processes, occurred in our data from the meetings we observed. Then, we explain what specific characteristics of ex ante analysis allows it to reflect such a wide variety of perspectives without it resulting in so much ambiguity that leads to the ex ante analysis losing credibility or being abandoned all together. The first characteristic of ex ante analysis we discuss is ambiguity, which allows the analysis to reflect a multitude of different ideas for its use. The second characteristic we discuss is lack of full ownership of the analysis by any one person, which also means that no one is completely responsible for it. The third characteristic is trustworthiness: people do not seem to lose trust in ex ante analysis results because of, among other things, its complexity and ability to seemingly separate facts from values.

Facilitating many different perspectives

We observed all perspectives of knowledge use during our fieldwork, albeit some were more clearly present than others. A substantial amount of the discussion about analysis we observed expressed a linear perspective on knowledge use. This perspective suggests that a study outcome could directly and exclusively inform parts of a policy process

outcome. The frequency with which linear perspectives were expressed can be at least partially attributed to legal rules and procedures. For instance, Flanders has air quality norms that limit the negative impact of a project on air quality. When the expected amount of pollution exceeds a certain level, the government is legally required to take measures to decrease pollution. For many people involved in policy processes, such a linear application of knowledge is ideal. In Flanders, an often-heard claim was that people wanted the policy process to be 'objective' instead of 'political'. This implies the opinion that analyses can point to an objectively right solution, and can, in a way, replace politicians' input when it comes to making decisions.

In addition to the linear perspective, we also encountered all non-linear perspectives on knowledge use during our observations. For instance, in one of the project cases, a new policy option was added to an already existing set which had been heavily debated in a deliberation trajectory of almost two years. The new option was announced by a minister and came as a surprise to most participants in the process. The civil servant presiding the participation process was not able to pinpoint where the idea came from, and they were only able to say that it emerged from 'new insight', which would be an example of Weiss' (1979) enlightenment model.

We also encountered critical perspectives in our observations. For example, the idea of the ex ante analysis as a story-crafting device was mentioned explicitly by members of one of the project management teams. When discussing the design of an ex ante analysis, these people wanted the analysis being able to tell 'the story of the project'. In a presentation for project managers in the same case, an analyst proclaimed they wanted their measurements to 'enable politicians to tell a story' rather than just having them speak about the benefits of the project in broad terms. Other examples of how different theories of knowledge use appeared in our data, can be found in table 11.

Table 11: Perspectives on analysis use and examples from data

Category	*Type of use*	*Example*
Linear perspectives	Problem solving	There are situations in which legal norms dictate a linear application of study outcomes. Also, some of the attendants of public meetings seem

		to desire that the government take a linear approach, as opposed to having a politician decide on a policy.
	Knowledge driven	Encountered rarely. Sometimes, at the public meetings we observed, government officials invited university professors to reflect on the analysis. In some of their comments, a professor sometimes suggested making additions to perspectives simply because they were available and thus should be used.
Non-linear perspectives	Interactive	Most clearly present in private meetings where discussion on the outcomes of studies is a balancing act between the outcome of the study, and, for example, experience with previous projects. I for example, in one of the cases, an expert from one of the participating governments in the project caused confusion by sending the project team an e-mail with an attached feasibility study that had a negative outcome. However, in the e-mail he said he was feeling positively about the project and gave it a high chance of succeeding. It turned out that he drew this conclusion based on his own experiences with this type of project, and said he saw some opportunities that were not adequately reflected in the study. This is also how the use of analysis is presented by government officials at public meetings: analysis will aid decision makers, but the decision makers are not obliged to follow the outcome of the studies.
	Political perspective	In some of the public meetings we observed, a member of an action group voiced the suspicion that the analyses serve the political goal of making it seem like there are no real differences between alternatives in terms of traffic generation.
	Tactical perspective	In the meetings we observed, members of project teams sometimes mentioned benefits of analyses not directly related to their contents. For example, someone mentioned the expectation that by studying thoroughly, the chances of losing court appeals against the project diminished.
	Enlightenment perspective	This perspective is difficult to observe, as the enlightenment perspective is all about how studies influence a broader frame of reference that people use to make decisions. See page 11 for examples.

Table 11, continued

Category	*Type of use*	*Example*
Critical perspectives	Story crafting	This is a recurring theme in the private meetings of one of the project cases we observed. This project has some people on the board who encouraged a person who was designing the analysis to take into account that the analysis has to 'tell the story of the project'.

	A useful myth	According to our observations, people appear to universally agree that analysis is important. No one questioned the need for studies, even though they have widely varying opinions on the way those studies should be designed. Furthermore, analyses seemed to enable proponents and opponents of a project to have a constructive dialogue.
	A boundary object	When comparing private meetings to public meetings, it is quite visible how the scope of the studies that are being done determines what is discussed and which things get noticed. For instance, after the project starts, the project aim is 'locked in' in the studies. This means the project aim is no longer up for discussion and also limits discussions on what variables should and should not be included in the analysis.

It is remarkable that none of the perspectives can be put aside based on our observations, despite some of them appearing to be mutually exclusive. This means that apparently, ex ante analysis possesses certain qualities that enable an ex ante analysis to reflect theories from all these perspectives, rather than it being the case that some perspectives are righter than others. In the next section, we describe how certain features of ex ante analysis allow it to reflect different theories of use, and enable actors in policy processes to switch between different uses.

Like a chameleon: how ex ante analysis reflects many different theories of use simultaneously

We found that ex ante analysis is able to reflect many different theories of use because of three key characteristics. First, ex ante analysis can be relativized, yet deliver absolute-seeming results. Second, the responsibility for ex ante analysis is split up over different actors, up to the extent that outcomes are ascribed to the analysis itself, rather than the people involved in its construction. Lastly, ex ante analysis draws from many different sources of trust.

Facilitating debate: soft methods, hard facts

The first characteristic that allows an analysis to reflect many different perspectives stems from the way the analysis process is structured and the format in which outcomes are presented. As a feature of their design, analyses' models can be relativized, yet their

outcomes have a very absolute character. This causes people to simultaneously relativize and absolutize analyses' outcomes.

This observation came about as follows. In our analysis, we coded for the level of certainty with which people make statements about analyses or based on analyses. Statements coded as 'relative certainty' implicitly or explicitly pointed towards the margining of uncertainty that comes with the outcomes of an analysis. For example, responses pointing at the limitations of a model were coded as expressing relative certainty. Statement coded as conveying 'absolute certainty' presented analysis outcomes as if this margin of uncertainty was not a factor. These statements mostly concluded that 'the analysis shows that *x* causes *y*', without addressing the uncertainties contained in this outcome. Table 12 shows that when analyzing statements about the analysis made by different groups of people, all of these groups made statements in both categories. In fact, when zooming in on specific individuals within groups, we see that individuals regularly absolutized and then relativized analysis outcomes in the same discussion.

Table 12: Distribution of the level of certainty over statements made by different groups of participants

Role in the meeting	*Absolute certainty*	*Relative certainty*
Audience in public meetings (non-governmental)	40%	60%
Expert (not part of the project team)	46%	54%
Government employee (not part of the project team)	65%	35%
Representative of an interest group	47%	53%
Members of the project team	53%	47%
Chair of a public meeting	78%	20%
Analyst	57%	43%

This pattern of behavior is a result of the way in which people react to a specific set of properties of ex ante analysis. An ex ante analysis can be relativized because it is a simplified model of reality. Decisions about what to include in the analysis and what to exclude from it must be made. In all policy processes we observed, there was room for the process participants to provide input about what should be included in and excluded from the analysis, even though some analyses were based on standardized perspectives and indicators. If not already present, inviting actors to provide input for the analysis appeared to spark awareness of the simplifying nature of ex ante analysis.

Where the simplifying nature of ex ante analysis allows for relativizing comments, the outcomes of the analyses have an exact-seeming nature. Outcomes presented appear as solid facts with that are difficult to argue with. They appear precise and not at all the product of a limited set of methods, as is illustrated by the following observation:

> *The analyst tells the group that they have done computer simulations to determine the optimal shape of the dock. In this simulation a digital ship enters a digital dock under certain conditions to judge the operational quality of each policy option. The analyst tells us that in this case, the tugboats pulled over 80 tons and used x amount of power. They go on, telling us how many times the tugboats had to use which engines and how strong the winds were during these maneuvers. On the projector screen, a ship-shaped figure moves down a river on what looks like a Google Maps satellite image. It makes a sweeping move across the [river] and parks itself on a couple of fields, in the midst of which resides what appears to be a small house.*

The analyst quoted above talks as if they observed real-world tugboats tugging a ship over a river in certain wind conditions. In another presentation on the same study, effects on high tide levels were presented in terms of centimeters. A large results table presenting the outcomes of a cost–benefit analysis in another case displayed the cost differences between project options in eurocents, even though much of its input came from interviews with transport companies. A positive effect on inland waterway shipping in the same project is represented by an absolute number (+1), despite it being an estimation based on conversations with government employees and transport companies. The language used to present the outcomes of an analysis often have a confidence and certain tone. They include phrases such as 'we see that these effects are negligible' (as if the analyst has seen true evidence of this) or 'the effects are similar for all alternatives' (as if the alternatives have been built in reality and the analyst was able to observe them) rather than phrases such as 'the model shows. . .' or ''we expect that. . .'.

These shifting levels of certainty allow process actors to shift between uses of an analysis which would fit under different academic theories on knowledge use. 'The analysis shows that traffic effects will be null' and 'this is a pragmatic model, based on what is feasible,' are valid arguments in the same discussion presented minutes after one another by the same person. The conception of ex ante analysis being simultaneously relative and absolute allows it to facilitate two types of discussions simultaneously. The analysis as something relative allows for a discussion on what Bertolini (2017) describes as a dilemma. A dilemma involves a choice between incommensurables, which are often difficult to quantify. What is more important, economic growth or reducing traffic nuisance? Who deserves better protection, people or birds?[16] These and more dilemmas occurred in discussions on what perspectives or indicators to use in policy processes, but they also served to relativize analysis outcomes. For example, displeasing results were attributed often to a narrow scope.

Where the relative side of analysis allows for a discussion on dilemmas, the absolute-seeming outcomes of an analysis facilitate a problem-solving approach. Problems are different from dilemmas in that they require finding a 'best' solution (Bertolini, 2017) instead of presenting a choice between incommensurables. Questions linked to problems include 'How do we optimize traffic flow on this road?' and 'How do we build with a minimal impact on the environment?'

In the early stages of the policy process, when the ex ante analysis is still being designed, there is ample time to discuss dilemmas. In all cases that we observed, stakeholders were asked to provide input for the design of the analysis by listing what they felt was important and should be taken into consideration. However, once the analysis starts, the analysis design becomes fixed. Now, the ex ante analysis has become a problem solver.[17] Its outcome – a cost–benefit ratio per alternative – does not necessarily facilitate a debate on

[16] A question someone asked one of the members of a project team on an information evening when commenting on the impact nature conservation guidelines have on the validity of certain policy options.

[17] Based, again on Bertolini (2017)

dilemmas but instead allows a decision-making process to move forward. Reflecting on both relativity and absoluteness, ex ante analysis allowed two discussions to run simultaneously. The existence of two simultaneous discussions led to tensions. Where actors interested in completing the project wanted the process to move from optimizing the study to choosing a project alternative to be built, those critical of the project or a particular study wanted to keep discussing the scope of the study. This sometimes led to situations in internal meetings where people were forced to make decisions based on analyses whose scope they did not agree on.

To sum up, ex ante analysis appears to have built-in ambiguity. This is because the methods used allow the analysis to be relativized, but the way outcomes are presented simultaneously gives the analysis a sense of absoluteness. This ambiguousness allows analyses to reflect perspectives that present them as a solid ground for decision-making, such as linear perspectives and perspectives that emphasize that the use of analysis in policy making depends on one's interpretation of the content of the analysis. The built-in ambiguity of ex ante analysis is, in other words, the first characteristic that enables it to be a chameleon in the policy process.

Split-up responsibility

A second characteristic of ex ante analysis that allows it to reflect many perspectives of knowledge use at once is that it does not appear to fully fall under anyone person's responsibility. During our observations, we witnessed the conception of several analyses. Usually, this involved a group of civil servants standing around a flipchart and using thick, colored markers to write down things they believe should be in the analysis. This input was to be considered by the analysts who conduct the actual ex ante analysis. Despite their essential role in the construction of the ex ante analysis, analysts did not feel that they had ownership of the analysis they were conducting. Instead, analysts tended to portray themselves as people who merely execute. Oftentimes, they got their standards and input for models elsewhere. For instance, they often based their work on models developed by the department of transport. These models can be found in books and manuals, which are on the websites of the Flemish and Dutch governments. In Flanders, these standards

have been provided by consultants. In the Netherlands, they come from a combination of government inhouse experts and private sector consultants. They reside in different places and are informed by different sources (Departement Omgeving; Ministerie van Infrastructuur en Milieu, 2016, pp. 101-136). In the process of conducting an analysis, analysts also got input from other sources. They organized citizen consultations, interviewed important stakeholders, retrieved data from government agencies, proposed analytical frameworks to a project's political steering committee, and asked what they called 'experts' to estimate the effects of planned interventions. The substantial number of parties influencing ex ante analysis makes it impossible to assign ownership of the analysis to a specific actor. This feature of ex ante analyses caused actors to generally experience the ownership of the analyses as shared. When analysts received questions about the analysis they were working on, they regularly redirected those questions to other parties. When asked questions about the reasoning behind certain models, they referred to the government agency providing these standards. Most often, though, analysts – and others working with them – referred to the analysis itself as a source of authority. It was not the analysts, but the analysis that 'showed' or 'indicated' something. Despite many people being involved in the construction of the analyses we observed, the outcome of an analysis appeared to be seen as a product of the analysis itself rather than something created or influenced by analysts. When looking at where our code 'absolute certainty' overlaps with our codes 'conclusions based on outcomes' and 'discussing outcomes', we see how an analysis which actors construct themselves produces outcomes that are discussed as if they are inevitable or undisputable:

> '*If we would not build this project, we would see an immediate decrease of container traffic'*
>
> *'Whilst the problems are not pressing as we speak, they will be in the future'*
>
> *'All alternatives come with some risk, but – and this is important – all risks are controllable'*

a: 'There are also people living in this area, you know! You do not think about that!'
b: 'We do, but it has been proven that the effects on traffic are nil'.

Whilst no one is fully in control of the outcome of an analysis, the analysis does have control over the decisions a government makes. The fact that no one seems to be completely in control of the analysis means that it is difficult to challenge, but also that there is no one to respond to challenges. This had an impact on the power balance in policy processes. When outcomes are presented as a product of analytical models and are discussed as if they are indisputable, that acts as a shield between an analysis' critics and the analytical choices that produced these outcomes. This is demonstrated in the following scene, in which two members of a project management team have a discussion about the interpretation of the results of an analysis. One of the team members pushes for stricter management of a set of sub-projects, as they fear these projects might be underperforming based on an ex ante analysis. The other team member aims to challenge this position by critiquing the analysis:

'But where does that [projected result] come from?' they ask, appearing increasingly irritated, 'Out of nowhere!' The project manager does not appear to know. The answer that they keep giving throughout the rest of the discussion, is that the outcome is just something that comes, 'from under the bonnet' of the analysis.

This scene demonstrates how, by accepting outcomes as a given, one also accepts the inputs of an analysis as a given. Consequently, actors wanting to criticize these inputs have to make an extra effort. Actors responsible for the inputs, on the other hand, are obscured behind the agency that an analysis exudes.

At the same time, the agency of ex ante analysis also allowed it to be used more flexibly. The fact that there is no ultimate authority dictating what is and isn't a correct interpretation of an ex ante analysis allows ex ante analysis to be used and interpreted in

contradictory ways. Because there is no definitive interpretation, people are relatively free to use ex ante analysis how they want. This freedom, which is a result of the way ex ante analysis is structured, constitutes its second chameleonic quality.

Trust

In the previous section, we explained that even though analyses are recognized as being dependent on assumptions that are openly being discussed, they do convey a sense of authority. After reading these sections, one might still have questions about the popularity of ex ante analysis. An analysis with built-in ambiguity for which no one appears to be fully responsible does not necessarily invoke a sense of trust. Nevertheless, in our observations we did not encountered anyone who dismissed the idea of conducting analyses altogether. Ex ante analysis appears to be trusted, despite the ambiguity surrounding it. In this section, we will explore what drives trust in ex ante analysis.

In our observations, one of the things that both opponents and proponents of a project asked for most when discussing an analysis was more detail. This points towards a first important source of trust: detail. Many of the field notes about people asking for more detail describe scenes in which people were worried that the analysts had overlooked something. Even in the early stages of a decision-making process, where the aim of the analyses is to provide information on only those factors that have been labelled as being of key importance, people asked questions such as 'what will be the effect on village centers if the project forces farmers to relocate, and they drive their tractors along new routes?' or 'what will be the specific effects on fish living in the sunlight zone[18], as opposed to just the general effects on the water as a whole?' It appears that the more detailed questions an analysis could answer, the more people were inclined to accept its authority.

A second and related criterion is that actors expect analyses to possess a certain level of complexity. Things that are complex appear to be good. In one of the cases we studied, a project management team awarded a contract to a party partly because they had included

[18] The top layer of a body of water, in which there are intense levels of sunlight.

a detailed plan of the analysis process. In another case the chair of a public meeting called it positive that a nautical simulation was done by two computers, running '8 hours a day, so it should be fine'. In a third case, a critical expert invited to reflect on the process repeatedly suggested using a more complex model after several people had pointed out that this model was overly complex and did not fit the aim of the analysis. Citizens expressed their trust in ex ante analysis by stating that coming up with solutions for the policy problem at hand was 'too complex for me, but you probably have all sorts of studies and analyses about that'.

A third criterion for trust is realism. In one case we studied, it was clear that actors expected an analysis to correspond to personal experiences for them to accept its outcomes. In this case, the traffic effects study showed no significant increases in traffic as a consequence of any of the alternatives that were being considered. In the eleven months we observed meetings for this case, no analysis was able to convince people who lived or own a business in the vicinity of the project that this outcome was realistic. In this case, 'realistic' meant one of two things: either the outcome has recognizability or corresponds with peoples' sense of logic. Something is deemed realistic if a person can relate it to their own life. This is illustrated by the following statement by a citizen attending an information session:

> *He responds resolutely: 'whoever doubts the relationship between traffic jams on the [riverbank], and whatever is happening in the ports, underappreciates reality!'*

And by that same person, half a year later, making the following claims:

> *[H]e lives on one of the banks of the river impacted by the project and has recently experienced a company moving from one bank to the other. That really did lead to a substantial increase in traffic, so claims that he 'really has trouble believing that moving and building new things will have no effects'. He calls for 'creative thinking' about solutions to fit more functions on the*

existing terrains. 'That,' he says, sounding a bit annoyed, 'should be the priority'.

For something to seem realistic, the outcome must correspond with peoples' sense of logic. An outcome must adhere to certain rules, such as 'a transport alternative that requires frequently filtering in and out is not a viable alternative'. This is the realism two civil servants in the scene below refer to:

The two representatives are standing near one of the pillars in the meeting room, sipping their cups of coffee. 'Those self-driving busses', one says to the other, 'are totally without a chance. They'd need their own lane, and if they wouldn't get that, imagine the number of times they'd have to filter in and out. . .'

Finally, people appeared to trust analyses because they could not be linked explicitly to (political) preferences of individual participants in the policy process, as these quotes from our field notes illustrate:

'The question is whether or not that comes from the analysis, or whether [that preference] is wishful thinking' (member of a project management team).

'I'm genuinely completely surprised by this suddenly appearing alternative. The government told us they wanted to handle things objectively, and now they suddenly add this alternative' (member of an action group).

'*I mean, the experts that did the study have been selected by the government; we don't have anything to say about that. Why were we not invited to think about these matters' (member of an action group).*

In one way or another, these three process participants distinguished between that which is a personal preference, and that what is in the analysis. The member of the project

management team distinguishes between the sensible analysis outcome, and 'wishful thinking' as the opposite of that. The members of the action groups distinguish between the objective analysis and the preference of government as not objective. In the last example, they voice their distrust in a study based on who selected the experts. Taken together, these examples illustrate how trust in an analysis appeared to be high as long as the analysis could not be linked to personal preferences.

What stands out in this overview of criteria for trust is that the content of an analysis is not one of the trust-enforcing factors. Rather, it seems that people were comfortable acting on the basis of an analysis which they did not understand, as long as it fulfilled the aforementioned criteria for trust. A second important notion with regards to trust, is that people appeared to universally accept the presence of ex ante analysis. Analyses were heavily debated, but no one ever proposed to stop conducting analyses altogether. In our cases, the trust-enforcing characteristics of the analyses processes appeared to outweigh any characteristics that might cause a decrease in trust, enabling the ex ante analysis to exhibit its chameleonic qualities.

Conclusion and discussion

This chapter started with the observation that both scientific research and policy practice contain a wide variety of theories on knowledge use. These accounts consist of very different depictions of the ways in which knowledge gets used in policy processes. This could mean that either many of these theories are wrong, or there is something particular about processes of knowledge use that inspires all these different accounts. In this chapter, we study ex ante analysis as a popular form of knowledge to find out which of these two options applies. We find that when observing policy processes over a longer amount of time, one can expect to see many a theory of knowledge use in action. This caused us to turn our attention to knowledge itself as a research object to see if it has certain characteristics which allow it to reflect all these different depictions of its use.

In the case of ex ante analysis, we found that much like a chameleon, ex ante analysis changes appearance depending on its environment. As such, it can simultaneously facilitate several different perspectives of use, even if they are sometimes contradictory.

Ex ante analyses can accommodate many types of use at the same time because of two properties. First, the analysis is both something relative and something absolute at the same time. On the one hand, an analysis is dependent on many assumptions and provides a limited representation of the outside world. This sparks debate about how different trade-offs should be reflected in the analysis. On the other hand, an analysis provides absolute certainty because the presentation of its outcomes eliminates all the nuances that are discussed during the construction of the analyses. As such, an analysis can be used in a linear fashion (the analysis says *a,* so we do *a*), as well as more nuanced ways such as Stevens' (2011) story-crafting or Weiss' (1979) tactical model. This observation also confirms Boswell's (2009) paradox of knowledge use, namely that policy makers are draw heavily on research in debates (as if outcomes were absolute), yet are hesitant to be overly reliant on it (relativizing these same outcomes).

The second property which allows an ex ante analysis can accommodate many different perspectives of its use simultaneously, is that an analysis enjoys a certain independent agency. Even though people were themselves involved in the construction of an ex ante analysis, they discussed analysis outcomes as a product of the analysis, rather than analysts. This was largely due to the fact that the responsibility over an ex ante analysis was split up over different actors and institutions, so that no-one in the policy process was completely responsible. As a result, analysis could be used and interpreted in many different ways, as there was no authority determining what the true interpretation or right use of an analysis would be.

Despite it being a flexible instrument, people trust ex ante analysis. Factors that enforce trust are detail and complexity, realism (i.e., people can relate outcomes to their own experiences and sense of logic), and the idea that analyses provide an alternative to the undesirably large influence of political values. These trust-enforcing characteristics appear to be enough to overcome any potential decreases in trust caused by other characteristics, and are thus an essential enabler of ex ante analysis' chameleonic qualities.

This chapter's primary contribution to the literature is that it suggests a shift in focus from people's behavior to pieces of knowledge as an object of study. The majority of studies on knowledge use focus on how actors in policy processes use and interpret knowledge. The theoretical framework of this chapter shows that this has led to a broad spectrum of accounts of knowledge use, one not necessarily truer than the other. This chapter suggests that to escape adding to this ever-expanding set of descriptions of actors' behavior, it might be more fruitful to focus on how these behaviors come to be as a result of the interaction between process actors and specific properties of, for example, an ex ante analysis.

Furthermore, our chapter gives rise to two more specific questions. First, even though our research used cases from two very different administrative cultures, there were also some similarities which might have impacted our results. For example, all ex ante analyses we encountered were conducted by contracted private parties, and the topics studied were similar across all cases. Future research could show whether forms of policy knowledge with different properties, would bring about different behavior in process participants. Second, a legitimacy question: if ex ante analyses are discussed as if they come to be without any political values involved, but are in fact a human product, what legitimizes their impact on policy processes? The next and final chapter of this book will explore this second question further second question, by analyzing how peoples' use of ex ante analyses coincides with particular properties of analyses, allow it to fulfill a very specific function which is the source of its legitimacy.

7

The legitimacy of ex ante analyses

Ex ante analyses as impartial spectators[19]

Chapter overview

So far, this book has described ex ante analyses as are pieces of knowledge which are problematic yet popular. It has shown that process participants recognize that the predictions provided by ex ante analyses often have limited predictive value in the real world, and that analyses are not a value neutral alternative to value-based decision-making. It has also shown that analyses are interpreted very pragmatically in spontaneous ways, and that analyses have specific properties enabling this kind of use. This final chapter builds on these insights, and analyses what ultimately legitimizes the impact of ex ante analyses on policy processes. This chapter shows that ex ante analyses are legitimized by their role as independent observers, fulfilling a need for non-human validation that actors have.

[19] An earlier version of this chapter was presented at CIPA 2019, under the title 'Of impartial spectators. On the legitimacy of ex ante analyses in infrastructure policy processes.'.

Introduction

The popularity of ex ante analyses has long been on the rise[20] and is one of the ways in which the idea of evidence-based policy making has materialized. Ex ante analysis appear often in relatively technical policy fields such as infrastructure policy processes (Infrastructure and Projects Authority, 2017; Ministerie van Infrastructuur en Milieu, 2016b; Vlaamse Regering, 2014), but are applied in a wide array of fields in countries with a longstanding tradition of evidence-based policy making such as the Netherlands and the United Kingdom (Jacob et al., 2015; van Nispen & Scholten, 2015), as well as a recommendation in policy guidelines by organizations such as the World Bank (2014a, 2014b) and the OECD (2012, 2015a, 2015b). What is noteworthy is that simultaneously, the use of evidence in policy processes is problematized by substantial amounts of academic research into policy processes.

Research problematizing ex ante analyses can be divided into two categories. First, there is research problematizing the idea that ex ante analyses provide solid facts about the real world (Mouritsen & Kreiner, 2016; Richardson, 2000; Stone, 2012). These studies, for example, point to the fact that information always will be interpreted differently by different individuals, or that ex ante analyses always are based on assumptions about how the world will look like in the future. Second, there is research describing how ex ante analyses do not necessarily make decision making processes more rational, but instead have the potential to drive policy conflicts and make policy processes messier (Parsons, 2002; Wolf & Van Dooren, 2017b). This research shows that ex ante analyses can distract from the actual contents of a policy process or can be used to exclude certain arguments.

[20] As characterized by advisory reports (Andres et al., 2015; Andres et al., 2007; Brown et al., 2006; European Conference of Ministers of Transport, 2005; OECD, 2012, 2015a, 2015b; World Bank, 2014a, 2014b; World Economic Forum, 2012a), government guidelines (Infrastructure and Projects Authority, 2017; Ministerie van Infrastructuur en Milieu, 2016b; Vlaamse Regering, 2014) and management handbooks (Klaassen & Hakvoort, 2015; Priemus et al., 2008; Priemus & van Wee, 2013; Sowden et al., 2011; Taylor, 1947; Wegrich et al., 2016) which promote the use of evidence in policy processes.

Despite these criticisms, governments do not abandon ex ante analyses, as policy makers and citizens appear to almost universally appreciate the contribution they make to a process (ch. 6; Mouter, 2014a). This raises the question what legitimizes government's use of ex ante analyses in infrastructure policy processes. If they do not do what policy guidelines and advisory reports promise they will do, why do people feel inclined to accept their substantial impact on policy processes? This chapter answers that question by employing ethnographic methods to investigate how people legitimize the impact of ex ante analyses on infrastructure policy processes. These legitimizations are combined to describe what makes people accept the impact of an ex ante analyses in policy processes, which can be normatively evaluated in future research.

This study is not the first to note the disparity between ex ante analyses' impact on policy processes and their ability to deliver on their promises. Previous research suggests that the impact of ex ante analyses is accepted because they allow policy processes to move forward (Boswell, 2017), because they are a useful tool in crafting coherent 'stories' around the logic and necessity of a policy (Stevens, 2011), or because people need tools to imagine possible futures if they are to be able to decide (Mouritsen & Kreiner, 2016). However, these studies do not go into much detail about why we value ex ante analysis over, for example, predictions by a fortune teller or having the policy process blessed by voodoo priests[21]. Naming these two unlikely alternatives might seem a hokey rhetorical move, but becomes less so when considering the observation that there are very few people in the policy process who actually understand the technical procedures that produce an ex ante analysis' outcome. Previous research has found that even though people discuss all kinds of matters related to ex ante analyses (outcomes, inputs, indicators, etc.), there is very little debate on the specifics of the methods and models that produce the analysis outcome (ch. 6). In other words: even though ex ante analyses presumably are a better fit with western values, they are generally appreciated in ways similar to which people appreciate more esoteric alternatives.

[21] Examples taken from Paul Feyerabend's 'Against Method' (Feyerabend, 2010)

In this chapter, I will investigate the legitimacy of ex ante analyses by first briefly expanding on the theoretical legitimacy problem of ex ante analyses. Then, the chapter describes how legitimacy can be studied by looking at the way in which people consciously legitimize the impact of ex ante analyses, as well as through behavior which indirectly grants ex ante analyses legitimacy. It builds on the conclusions from chapters 5 and 6 to show how people's legitimizing behavior and evaluative theories of legitimacy interlock with certain properties of ex ante analysis in a way that grants ex ante analyses a certain level of agency. As such, other process participants do not talk about ex ante analyses as a man-made product. Instead, they respond to it as if it were an independent process actor, that is able to provide a-political judgements on policy options. This agency makes ex ante analyses fulfill the role of impartial spectator in a context where everything ultimately is political.

Why legitimacy is a problem for ex ante analyses

Although ex ante analyses are commonly used in policy processes, their legitimacy is less commonly reflected upon. This is striking, as there is a substantial amount of research problematizing ex ante analyses and knowledge use in the broader sense. This research can be divided up into two categories. A first group of criticisms comes from studies in the social sciences on the uses of knowledge in policy processes. Instruments, in fact, often have a function in the escalation of the conflict they are trying to prevent (Wolf & Van Dooren, 2017b). Many studies that are commissioned end up not being used or not being implemented directly (Feldman, 1989; Weiss, 1979), and if they are, it is because they fit the positions of dominant actors (Stevens, 2007, 2011). Moreover, studies have shown how the use of ex ante analysis in policy processes tends to 'falsely' depoliticize policy choices that are essentially political; for instance by demarcating what is up for discussion, and what is out of bounds (Flinders & Wood, 2015; Jasanoff, 1990). They, in other words, often make policy processes messier, instead of providing the promised clarity (Parsons, 2002).

A second set of criticisms criticizes the content of ex ante analyses. More precisely, these criticisms entail that analyses cannot deliver what policy documents and advisory reports promise. The promise of ex ante analyses as portrayed in policy documents and advisory reports is built on two premises: the premise that analyses point towards a solution that is

objectively right or best and depoliticize policy processes by doing so (Nutley et al., 2007, p. 128; Weiss, 1979) and the premise that government action has a substantial and predictable impact on a governments context.[22]. However, measurements and research findings are not objective in the sense that they speak for themselves. Collecting data requires defining categories: when does one consider something part of a set? Understanding findings also requires making value decisions (Stone, 2012): when does one, for example, find an amount of nuisance to be 'high'? In addition, analyses are criticized because they are a simplification of the world they try to predict. Empirical and theoretical research shows that because analyses cannot deal with the 'irreducibility' (Rescher, 1998) of the world, they often fail to adequately predict policy effects and outcomes. (Bovens & Hart, 1996; Leijten, 2017; Marks & Gerrits, 2017; Scott, 1998; Taleb, 2010). Ex ante analyses thus apparently fail to deliver on both promises; they do not provide knowledge that is value-neutral, nor do they seem to accurately or meaningfully predict the effects of government action. This is something which policy practitioners generally recognize. They simultaneously describe studies as a valuable addition to the policy process, yet also recognize their limitations (ch. 2; Mouter, 2014a, 2016, 2017).

The observation that ex ante analyses fail to deliver on both their promises, causes a legitimacy problem. When reading government guidelines (Ministerie van Infrastructuur en Milieu, 2016b; Vlaamse Regering, 2014), management handbooks (Klaassen & Hakvoort, 2015; Priemus et al., 2008; Priemus & van Wee, 2013; Sowden et al., 2011; Taylor, 1947; Wegrich et al., 2016) and advisory reports by international organizations (Andres et al., 2015; Andres et al., 2007; Brown et al., 2006; European Conference of Ministers of Transport, 2005; OECD, 2012, 2015a, 2015b; World Bank, 2014a, 2014b; World Economic Forum, 2012a), the suggestion seems to be that ex ante analyses are to some extent able to predict the effects of action in a meaningful way. If that suggestion is in fact questionable and practitioners recognize this, the question arises what legitimizes the impact of ex ante analyses on policy processes.

[22] A premise that, according to Frissen (2013); Scott (1998); Trommel (2009), is applicable to much of government practice in general.

Two ways of studying legitimacy

Legitimacy is an often-used term, with many different definitions. Broadly speaking, its practice can be studied via two approaches: by analyzing patterns of behavior, and by analyzing conscious evaluations. What these strategies have in common, is that they focus on the conditions that make a decision acceptable. When studying legitimacy through observing patterns of behavior, one focusses on what makes people accept a decision, regardless of its contents and regardless of the moral quality of peoples' reasons for accepting a decision. When studying legitimacy through analyzing conscious evaluations, one focusses on how people talk about the legitimacy of ex ante analyses.

Studying legitimacy through analyzing patterns in behavior

Studying legitimacy through analyzing behavior patterns fits Weber's way of thinking about legitimacy as that what makes people accept (state) authority (Weber, 1948). Weber's approach is descriptive. It seeks to explain what makes people accept authority, but not necessarily to evaluate whether their reasons are morally justified. In the Weberian view of legitimacy, being good-looking would be an acceptable legitimization for someone to be elected leader, as long as it sufficiently explains why people accept this person's claim to power.

Examples of descriptive accounts of legitimacy are found in many empirical accounts of knowledge use in policy processes. For example, a study by Anheier (2016) suggest that policymakers will hold onto any theory of causality that provides a solid basis for action, regardless of the quality of that theory. In a similar vein, Jasanoff and Wynne (1998) describe how, depending on the context, scientists alternate between legitimizing predictive models as 'truth machines' or in more 'modest' ways. Boswell (2017); Cairney (2018); Cairney, Russell, et al. (2016) suggest that people have a tendency to either consciously or subconsciously accept policies which are based on 'evidence' such as ex ante analysis because of the social status of science and scientists.

Studying legitimacy through analyzing conscious evaluations.

As opposed to describing patterns of behavior, analyzing conscious evaluations would involve studying how people explicitly assess the (moral) quality of a situation. The most obvious examples of conscious evaluations of legitimacy are philosophical theories. A famous example is the notion that power can only be exercised legitimately if that power has been acquired through processes in which all over whom this power is exercised, had an equal chance to participate (Rawls, 2001, p. 42). Another example is the framework of output- input- and throughput legitimacy. This framework focusses on what an actor or institution produces, the accessibility of this production process in terms of participation (Scharpf, 1999), or the quality and transparency of the processes of output production (Schmidt, 2013) as complementary sources of legitimacy.

Besides scientific studies evaluating the quality of processes, this is where one would also find conscious accounts of why people feel they are right in accepting a certain authority. Generally, these accounts contain normative evaluations (Czarniawska, 1997; Portelli, 1991). Epistemological or ontological consequences set aside, the statement that the impact of an ex ante analysis is legitimized because it 'provides essential facts and figures' as opposed to political preferences, contains a normative evaluation of what a decision should be based on, and what criteria information introduced into a policy process needs to meet.

Conscious evaluations are, for example, studies by Callon et al. (2011) and Fischer (2009), who argue that the impact of a study outcome is legitimate if it is the result of a deliberative process, in which experts and non-experts alike have had the opportunity to voice their thoughts and concerns; Richardson (2002), who claims studies such as cost-benefit analysis[23] are 'stupid' as they do not take into account that individuals' preferences might change on the basis of the outcome of an analysis, which would affect the inputs of the analysis; or more pragmatic legitimizations such as a study by Kornhauser (2001), who

[23] A cost-benefit analysis is a specific type of ex ante analysis, in which the economic and sometimes societal costs and benefits of different policy options are given a monetary value in order to predict whether they will have a net positive or negative impact in terms of costs and benefits (Klaassen & Hakvoort, 2015)

argues that those same cost-benefit analyses are legitimized by the fact that they are a better tool for decision making than other 'feasible alternatives'(p. 218), and Mouritsen and Kreiner (2016), who write that ex ante analyses are not truth-machines, but are a compelling way of mapping possible futures. Practitioners evaluating their use of ex ante analyses also primarily give pragmatic reasons as to what they think are benefits of using ex ante analysis. They argue, for instance, that they improve the quality of decisions, and force decision-makers to provide better arguments for their preferences (Mouter, 2017).

One can both observe patterns of behavior and analyze conscious evaluations to study the same practice. They have a different focal point, so will provide insight into different dimensions of that practice. For instance, someone can say that the influence of an ex ante analysis is legitimate because such an analysis points to facts about the policy process, whereas their behavior suggests that they accept the impact of an analysis based on how nice the cover of the report containing the outcomes looks. This chapter will map the interplay between legitimizations through behavior and conscious legitimizations of the impact of ex ante analysis on the basis of the observations that informed the previous chapters.

Results: independence as a source of legitimacy.

In infrastructure policy processes, the legitimacy of ex ante analyses seems to primarily be a product of the role it plays in those processes. Ex ante analyses are treated as if they are independent process actors, possessing inherent agency. Even though the people involved in the processes I observed were themselves involved in the process of making analyses, they treated the outcomes of analyses as something produced by the analysis itself. The role of ex ante analyses as independent process actors consists of several components, which were found in both the way people legitimized ex ante analyses through behavior, and their conscious evaluations about the legitimacy of ex ante analyses. In this section, I will first describe how a combination of conscious evaluations and patterns of behavior which legitimize ex ante analyses, constitute their agency. Then, I will discuss how other sources of legitimacy enhance the legitimacy of ex ante analyses further.

Constructing agency: distributed responsibility and an a-political nature.

The agency of ex ante analyses was a result of the way in which responsibility for ex ante analysis was split over different parties, and how this aligned with process participants' calls for 'objective' processes. Government officials and analysts deflected responsibility for at least part of an analysis by pointing towards other actors. For instance, I found a project manager trying to settle an argument in their team by stating that results came from 'under the hood' of the analysts' model. Similarly, analysts were found to refer to government standards provided by particular agencies when faced with questions about the logic behind using one set of norms over the other. Reading the books containing these standards revealed that standards were drawn up by government agencies, basing themselves on information by other governmental bodies such as EU institutions, as well as scientific literature and expert opinions.[24] The diffused nature of the responsibility for different parts of the analyses enabled people to deflect personal responsibility: they were always only partially responsible. As a result, discussions on the fundamentals of ex ante analyses were cut short and process participants were forced to accept certain limitations as no individual in the process appeared responsible for them. The legitimizing effect this had, was that certain design choices made for ex ante analyses appeared a non-negotiable fact. Models were simply 'what government mandated', standards were 'what is in scientific literature', which meant that there was no real room to debate these models with the private sector analysts who conducted the ex ante analysis in question. The autonomy of ex ante analyses was amplified in speech and writing. A cost-benefit analyses 'points towards the ultimate route' for a bike trail, a traffic study 'reveals that in twelve years, you

[24] For example, during a public forum in one of the Flemish cases, analysts were questioned by a university professor about the models they used. They referred to a guideline provided by the Flemish 'Bureau for Environmental Impact Assessments' (Anthea Belgium, 2015). However, the Bureau is not the author of this guideline. Rather, the guideline has been commissioned by the Bureau, but was made by a consulting firm called Antea. When reading through that guideline, it becomes apparent that Antea based their guideline on other guidelines by the Flemish department for Mobility and Public Works and the Bureau for Environmental Impact Assessments, sets of legal rules indicating which modes of transport to prioritize over others, data on parking behavior from a Dutch study, and a combination of different models developed by different layers of Belgian government. The guideline also mentions that there are data that the analysts themselves should provide when making the analysis. During my observations, I heard analysts mention academic literature and the aforementioned guidelines as sources, but also 'expert judgements' by colleagues and interviews with project stakeholders.

will run into the same capacity problems if you choose this policy option.' Results were not calculated by analysts, but 'outcomes of the analysis'. It was not the analysts who proved something through their calculations, but the analysis itself that does the proving.

The fact that ex ante analyses were seen as autonomous, does not legitimize their impact in and of itself. However, its autonomy is a key facilitator in an important legitimating factor: the ex ante analysis' alleged neutrality. The clearest example of what is meant by this occurred during public fora. Even though analyses outcomes were seen as a product of the ex ante analysis as an autonomous agent, the analysis process was discussed frequently. Ex ante analyses were the core theme of public fora, which meant that citizens were invited to witness a presentation about the analysis, and then come up with suggestions to improve it, or ask clarifying questions. In their presentations, analysts compared how different policy options scored on different dimensions, and how these scores came to be. The politicians who would decide what would ultimately get built, were not present during these sessions. To the participating citizen, this made it seem as if the policy process they were involved in was a process of coming up with an analysis that was as solid as possible, and which would be used to compare policy options to choose the best one. When politicians did interfere, this raised concerns about the 'objectivity' of the process, as voiced by these citizens:

> *'I'm genuinely completely surprised by this suddenly appearing alternative. The government told us they wanted to handle things objectively, and now they suddenly add this alternative.'*
>
> -
>
> *'I mean, the experts that did the study have been selected by the government; we don't have anything to say about that. Why were we not invited to think about these matters?'*

Similarly, government officials who were questioning the merits of heavily investing in public consultations made statements such as: 'the question is whether or not that comes from the analysis, or whether it is wishful thinking.' In doing so, both citizens and

government officials distinguished between the 'rational' nature of the analyses, and the irrational nature of personal preferences.

It now becomes clear how the autonomy of the ex ante analyses is instrumental to their legitimacy. In policy processes, there is an apparent need to decide based on information which cannot be linked to personal preferences. An ex ante analysis is seen as autonomous, meaning that its outcomes are attributed to it, rather than to the people who made it. Consequently, when an ex ante analyses judges a policy option, it appears to do so independently of personal preferences of people involved in the policy process – despite it being at least partially made by those people. An analysis' neutrality allows it to fulfill a role which people would not be able to fulfill, as they would never be free of the accusation of having 'irrational' personal preferences.

Solidifying agency: other sources of legitimacy

The legitimacy of ex ante analyses as a-political actors was strengthened by four other factors. These factors would not legitimize ex ante analyses in and of themselves, but did strengthen the legitimacy of ex ante analyses. The first two became apparent in patterns of behavior. First, ex ante analyses appeared to allow to be used very pragmatically. In meetings between project managers and analysts, project management team members frequently emphasized the importance of a 'usable' study, which 'allowed them to tell the story of the project', indicating a need for something which could be used pragmatically. When consequently observing their behavior, the scope of this pragmatism became apparent. For example, actors who relativized the outcomes of an analysis in one meeting, would treat these same outcomes as hard facts in a different meeting. A project management team member who was observed constantly relativizing analyses outcomes first, was later observed referring to analyses outcomes as a hard fact in order to motivate colleagues to put more effort in their work. Similarly, civil servants discussing the limitations of analyses in internal meetings and discussions with citizens, referred to analyses outcomes as indisputable evidence when answering to formal objections made by a local action committee protesting their project. Individuals interpreted an analysis differently depending on the context.

Ex ante analyses were able to display this level of flexibility because they are set up in a very particular way. On the one hand, their methods contain assumptions by default. Ex ante analyses are always a model of reality, which means that they come with certain limitations. These limitations allowed the ex ante analyses to be relativized; its outcomes were a product of a limited model. On the other hand, the outcomes of the same ex ante analyses displayed a great level of detail. Cost-benefit ratios were predicted in eurocents, sea level rises were predicted in centimeters. This level of detail allowed the analyses to be absolutized, and the results were often talked about as if they were absolute facts.

A second source of legitimacy becoming apparent through observing patterns of behavior, is the fact that ex ante analyses took up a very central space in procedures. Government guidelines marked them an essential piece of decision-making information, which resulted in project roadmaps that allocated multiple years and multi-million-euro budgets for producing ex ante analysis. The process of choosing what to build and all the procedurally mandated public participation this includes focused on the ex ante analyses. This resulted in scenes such as the following two:

> *'We can solve this by having road users pay per driven kilometer', the man proposes. The rest of the group chuckles. Someone says that that does not really fit the scope of the project. The man says that if he gets cut off like that, there's no use in him being here. 'You cannot focus on this small piece of road between [A and B] if you want to address the bigger issues.'*
>
> -
>
> *The owner of the sanitation company wants to tell the analysts that he feels it is a pity that traffic issues are always solved after they have arisen. He starts a long story about how his company has suffered from recent construction works, and how the port authority only thinks about moving containers. He acknowledges the analysts are there just*

to present a traffic study, but really wants to say that politicians should 'also take the effects on the local economy into account'.

These scenes are exemplary for how the fact that ex ante analyses took up such a central position forced process participants to reformulate their arguments for or against policy options in terms related to the analyses. Arguments against a project were observed being translated into arguments trying to lay bare shortcomings of the analyses, whilst initial arguments in favor of a project were replaced by arguments provided by ex ante analyses. The fact that analyses played a central role in argumentation arguably enforced its legitimacy and authority as an essential decision-making tool, as there was simply no way around them for many process participants.

Besides the ability to be used pragmatically and central position in the policy process, additional sources of legitimacy could be found studying conscious evaluations of ex ante analyses. Conscious legitimizations of ex ante analyses can be observed when people describe why they value ex ante analyses, or when they mention process values which can be explicitly linked to the use of ex ante analyses. In this category, several legitimizing factors contributed to the legitimacy analyses' role as an independent process actor. These factors were not the source of analyses' agency, but did amplify people's trust in analyses. First, people appeared to appreciate a high level of detail, sometimes to the frustrations of other participants. The clearest example of appreciating detail came from meetings in which citizens were invited to ask questions about the different ex ante analyses used in each policy process. In the early stages of each of the cases, ex ante analyses focused on what was called the 'strategic level': a way of saying that different project options would only be analyzed on dimensions that were deemed key in decision making, and on which the options would be expected to vary amongst one another. Regardless, at public meetings, citizens suggested to calculate effects such as 'tractors choosing new routes because of the project, which will potentially run through neighboring villages.' In public meetings, people never made suggestions to simplify analyses. Civil servants, albeit more pragmatic in terms of what they wanted to include, also appreciated highly detailed analyses. After all, they were the ones having to answer citizens' very detailed questions

with topics like 'the temporary visual nuisance caused by the construction of each policy option'.

Closely related people appreciating level of detail and complexity, is people voicing their appreciation for 'realistic' studies. Realism, it seems, mainly means two things. First, people refer to analyses as realistic when they match their own experiences, as illustrated by this member of an action committee:

> *He lives on one of the banks of the river impacted by the project and has recently experienced a company moving from one bank to the other. That really did lead to a substantial increase in traffic, so he states that he 'really has trouble believing that moving and building new things will have no effects [even though the ex ante analyses suggested no effect].'*

In this quote, the member of the action committee compares the outcome of an analysis to a scenario they have personal experience with: the traffic outside their window. The deviance between these two scenarios makes the member question up to what extend the ex ante analysis is actually capable of predicting outcomes that apply to the real world.

The second meaning of 'realistic' was that an analysis had to match a person's general sense of logic. This was illustrated by the following quote:

> *The two representatives are standing near one of the pillars in the meeting room, sipping their cups of coffee. 'Those self-driving buses', one says to the other, 'are totally without a chance. They'd need their own lane, and if they wouldn't get that, imagine the number of times they'd have to merge. . .'*

In this quotation, a civil servant – who was trained as a traffic engineer – makes a case against the establishment of a bus route on a highway. They do this before the actual analysis has been completed. They seem do not refer to a particular experience, but refer to a more general theoretical assumption about the efficiency of merging traffic.

Re-appreciating the legitimacy of ex ante analyses: ex ante analyses as impartial spectators

So far, this chapter has shown that ex ante analyses derive their legitimacy from their status as a-political, independent agents. Their legitimacy is enhanced by the fact that they play a central role in procedures and can be used very pragmatically. Furthermore, people are inclined to trust analyses more if they are sufficiently detailed and complex, and that outcomes coincide with their own experiences and logic.

What is notable about the factors constituting and enhancing the legitimacy of an ex ante analysis as an independent agent, is that this list does not include the scientific criteria that one would expect in an evaluation of a scientific study. The legitimacy of an ex ante analysis does thus not appear to lie in its scientific quality. Rather, it's autonomy which allowed an analysis to play a role which can best be characterized as a modern-day impartial spectator, a concept borrowed from Adam Smith's 'The Theory of Moral Sentiments' (Smith, 1974). Smith argues that in order to determine whether an action is morally just, one should view oneself as through the eyes of an impartial spectator. If that spectator would find the action defensible, the action is morally justifiable (Smith, 1974). The judgements provided by the impartial spectator are ultimately one's own moral judgements, which would mean they would be seen as questionable in contemporary policy processes.[25] However, ex ante analyses partially externalize this process of reflection. As an impartial spectator, ex ante analyses validate people in their decisions by producing outcomes that seem truly independent of any personal agenda, yet are flexible enough that they can be interpreted in a way that will generally support someone's position.

Think, for instance, of the ways in which individuals interpreted analyses differently depending on the context; government officials were observed relativizing an analysis in one environment and treating analyses outcomes as indisputable in another context. This type of pragmatic uses suggest that people do not expect analyses to provide one true,

[25] Even though Smith would likely argue that these values were put there by God (Raphael, 2009, p. 37)

logically coherent view on a policy process. Instead, they use the analysis as a legitimation for largely pre-conceived positions. However, since analyses derive their legitimacy from their independence rather than their content, this does not reflect negatively on the analyses. On the contrary: if there was only one obvious right way to interpret an analysis, it would probably enjoy less legitimacy, as it would be less useful to fewer process participants.

Nevertheless, the results in this chapter show that there are limits to an analysis' flexibility, and that these limits are valued by process participants. They shape policy processes by determining what can, and what cannot be discussed. There are some positions which ex ante analyses cannot support because they fall outside the scope of the analysis, deviate too far from the analysis's outcomes, or cannot be studied with the particular set of methods employed by an analysis. In other words: ex ante analyses do not only provide support; they also judge peoples' positions. Arguably, an analysis that could be used so pragmatically that it would be able to support any position, would not enjoy the same legitimacy. The way in which people in policy processes distinguish between the rational and the 'political' or 'wishful thinking' indicates that they do want an analysis to distinguish between the two to a certain extent.

What this teaches us about the legitimacy of ex ante analysis, is that it ultimately derives its legitimacy from the fact that its agency enables people to act. Distinguishing between the rational and the subjective, people in policy processes appear to be suspicious of any preference too closely linked to personal values. In using ex ante analyses exists a way of de-personalizing and thus objectifying their preferences. Even though the ex ante analysis is very much a human construct, having your preference approved by such an instrument means it 'objectively' makes sense. The instrument cannot reveal its preferences, because it cannot be asked to explain its outcomes. The choices made in its construction process can be traced back to people, but its outcomes are simply what they are: judgements of an impartial spectator.

Conclusion and discussion

The research presented in this chapter results in a new characterization of the legitimacy of ex ante analyses. In policy processes, ex ante analyses are legitimized by their role as impartial spectators. They provide people with the confidence to act, and can do so in a wide variety of contexts. The strength of ex ante analyses is that they possess inherent agency, which makes that their outcomes are not the product of any particular person and their political agenda. This characterization takes into account the way in which people value analyses as 'objective' and 'neutral' but use them in a highly pragmatic and logically incoherent manner.

The picture of an ex ante analysis as impartial spectator opens up avenues for further research. By studying the legitimacy of ex ante analyses, this chapter also paints a picture of a policy process in which the individual and their preferences are suspect. This observation fits a broader discourse present in modern policy processes, in which individual preferences are to be observed with caution because they could be 'irrational' or against one's 'actual' self-interest, and need to be corrected (Feitsma, 2019; Parsons, 2002). In this discourse, evidence such as ex ante analyses are presented as an antidote to policies which are dictated by personal agendas (Mouter, 2016, 2017; Wolf & Van Dooren, 2017b). This chapter shows that instead, ex ante analyses legitimize preferences by supporting them with evidence which is labeled 'objective' regardless of the quality or the source. It also shows that not all preferences receive equal support, for instance because they cannot be analyzed by the analysis' models. This raises the question at what costs ex ante analyses make policy processes 'better', and up to what extend they reproduce existing power relations without the possibility to publicly debate these relations.

This chapter also problematizes a concept found in conscious evaluations of the legitimacy of ex ante analysis, namely the idea that opening up that the process of designing and executing an analysis would enhance the legitimacy of its impact (Callon et al., 2011; Latour, 2004). This solution is problematized by the fact that the present chapter finds that people do not judge analyses based on the quality of its contents, but on externalities

such as the apparent complexity of the models used or the level of detail an analysis contains. This limits the possibility to open up analyses for participation, because it suggests that people value analyses which support their preferences and are too complex to understand. It gives rise to the question up to what extent complex model-based ex ante analyses can be replaced by more accessible ways of collaborative policy making, and whether people's apparent need for validation by external, impartial spectators can be fulfilled by other, more open versions of imagining policy impact. In the next and final chapter, this question will be discussed more elaborately.

8

Analysis as therapy.

Conclusions and discussion.

This book started with a sense of wonder about the role of ex ante analyses in infrastructure policy. Ex ante analyses are expensive and take up a considerable amount of time. Yet previous research has shown that their impact on decisions is difficult to pin down at best and nonexistent at worst (e.g. Flyvbjerg, 1998; Mouter, 2016; Stevens, 2007). Why, then, are these analyses still conducted? This concluding chapter will first answer that question by summarizing the central argument of this book. It will then describe how the primary function of ex ante analyses can be described as facilitating reflective therapy rather providing information that directly impacts decisions. This does not make the contribution of ex ante analyses futile. Ex ante analysis as therapy invites actors to reflect their preferences and desired outcomes. It is also an essential source of confidence in a context where personal preferences are seen as a lesser reason for a decision. Ex ante analysis can, if organized well, empower actors in decision making processes.

Restating the central argument: ex ante analyses as impartial spectators

The image of ex ante analysis in infrastructure policy processes persisting throughout this book is that even though they might not always directly impact decisions, they are certainly omnipresent and valued, as exemplified by the fact that many European countries have made it a legal requirement to conduct these studies for large investments. Existing literature does offer explanations, but does not explain why this particular instrument is valued so much. To understand the popularity of ex ante analyses specifically, the book

starts by reflecting on two popular explanations found in the academic literature. First, chapter 2 tests the naivety-thesis. This thesis is found in critical studies of government action, and reads that civil servants value studies such as ex ante analyses because they are either naïve or over-confident about the forecasting powers of these studies (Frissen, 2013; Scott, 1998; Trommel, 2009). In contrast to this view, the chapter shows how civil servants have a more nuanced view of their own practice. They do not naively follow analyses outcomes. The idea that studies would determine infrastructure policies often does not apply. Instead, policy gets made based on ambitions, which are relatively insensitive to study outcomes. The chapter does, however, suggest, that studies correspond with certain values such as neutrality and effectiveness to which the interviewed civil servants attach great importance.

Having established that civil servants' alleged naivety does not explain the popularity of ex ante analyses, chapter 4 tests the usefulness-thesis. This thesis, also derived from academic literature on knowledge use, concerns the idea that practitioners are well aware of the limitations of ex ante analyses, yet value them because they allow the policy process to move forward (Boswell, 2017; Mouritsen & Kreiner, 2016). The chapter shows how the presence of ex ante analyses motivate actors to participate, yet ultimately causes confusion about the nature of the policy process in question. The prominent presence of ex ante analyses makes it seem as if process participants are involved in a process in which the aim is to make a high-quality study which will ultimately decide what option gets chosen. These expectations turned out false when people actually found themselves involved in a process in which a limited instrument is used to compare policy options, characterized by limited time and budgets, and a hierarchical structure in which politicians were ultimately still deciding. The confusion caused by the prominent position of ex ante analyses leads to situations in which 'others' such as politicians and civil servants were criticized for 'deviating from the plan' when they were actually acting well within their mandates and within their vision of a good policy process. In other words: ex ante analyses were indeed 'useful', but only up to a certain extent, and it is questionable whether the costs of their use outweigh the benefits in terms of process effects.

In search of a more satisfying explanation for the popularity of ex ante analyses, chapters 5 and 6 turn to analysis-users and their context, and specific properties of analyses themselves. Chapter 5 describes how the interpretation of analyses is largely driven by priorly held preferences and attitudes. These attitudes are strong, and were only seen to change under external pressure. This chapter also showed how people used analyses pragmatically; they used ex ante analysis to support a wide variety of positions, meaning their interpretation of analyses outcomes changed according to the context they found themselves in. In fact, people were pragmatic up to the extent that the different ways in which they interpreted ex ante analyses from context to context were sometimes logically incommensurable.

Then, chapter 6 describes how ex ante analyses are able to facilitate this type of use because of specific characteristics they have. The way in which ex ante analyses are set up, allows them to be seen and discussed as relative outcomes of a limited model and indisputable scientific facts at the same time. This makes analyses flexible enough to be used pragmatically in different contexts. Furthermore, due to the way in which the responsibility for ex ante analyses is divided over different people, these analyses are seen as possessing inherent agency. An analysis is a co-production of many different people drawing on an even wider variety of sources. As a consequence, the ownership over the outcomes is so split up that process participants essentially see an analysis as an independent entity. In other words: analyses outcomes are seen of a product of the analysis itself, rather than the analysts that conduct them. Process participants act as if an analysis is an entity in and of itself, which impacts their actions independent of human interference. It is the analysis that shows them whether their policy preferences are justifiable, rather than an analyst.

Chapter 7 combines observations on the pragmatic use of ex ante analyses and the way in which their agency is constructed, to describe how the primary function of ex ante analyses is to fulfill people's basic need for validation by an impartial spectator. People turn to ex ante analyses specifically because these are the only party in the policy process that process participants explicitly deemed neutral. Throughout each of the three policy processes

followed as part of this study, people consistently distinguished between the political and the personal on the one hand, and the 'neutral', the 'objective' or the 'rational' on the other. If a preference could clearly be linked to a personal preference and was not supported by the outcomes of an ex ante analysis, actors labelled it 'subjective', 'political' or 'wishful thinking'. If a position was supported by an ex ante analyses, it was proven to be 'objective' or 'in accordance with facts'.

It is this mistrust of personal preferences which makes an ex ante analysis a particularly suitable source of validation. Even though analyses were often made in consultation with the very people involved in the policy process, ex ante analyses outcomes were seen as fundamentally impersonal, and thus impartial; a product of the analysis itself, rather than a group of people contributing to an analysis. Consequently, an analysis rendering someone's policy preference a bad idea was seen as a neutral judgement, it being provided by an instrument that had no stake in the policy process.

In its role as an impartial spectator, the multi-interpretable and reductionist character for which ex ante analyses are critiqued, is actually one of their strengths. The fact that an analysis can be interpreted in multiple ways, means that it can support a broad range of positions. As such, their configuration fits people's pragmatic use of ex ante analyses described in chapter 5. Since people's positions change depending on context, an ideal source of validation would too. Like the members of the project management team in chapter 5, who relativize an analysis outcome to calm their fellow team members and then later use that same analysis to push employees to put in more of an effort, people in policy processes have need for a source of validation which can endorse equally discrepant positions, as such is the way they act in policy processes.

Reflecting on the function of ex ante analyses: the impartial spectator as a therapist

By describing ex ante analyses as source of validation which can endorse a wide variety of preferences, this study describes the status of scientific studies in policy processes by explaining respect for scientific analyses as an expression of a basic human need for

validation. When closely studying analyses use over a longer period of time, it becomes apparent that the primary function of ex ante analyses is not to inform, but to bestow upon people the confidence to act. It is a process of carefully reflecting on preferences and collecting confidence to act, rather than a process of objective truth-finding. Its primary function can, in other words, be summarized as therapeutic: it offers process participants a chance to reflect on their preferences; not to tell them whether these are objectively best, but to explore and adapt these preferences to ultimately arrive at a state of mind which enables them to make a decision.

The need for this therapy arises from a difference between the way people reason, and the conception of a good policy process that is reflected in the prominent presence of ex ante analyses. People generally enter a policy process with certain preferences already in place. Some have had a certain education, or years of experience working on similar projects which gives them instinct for what does and does not work (Brink, 2015; Hart & Wille, 2002; Putten, 2020). Others live near a project site, and have an in-depth knowledge of the environment and a direct stake in the livability of that environment which causes them to prefer certain options over others (Fischer, 2000; Wolf & Van Dooren, 2017a). This study has shown how these preferences drive policy choices, and how most interpretations of ex ante analyses are in fact based on these preferences. Whilst this study mainly describes the factual condition that is the prominence of preferences, clashing visions of what society should look like and refining these through deliberation also what constitutes the core of democratic processes (Mouffe, 2009).

Nevertheless, and despite the omnipresence of personal preferences in policy processes, this study also describes how these same preferences are seen as suspicious by other process participants. This creates a paradoxical situation: preference-based debate is what lies at the core of democratic decision-making processes, yet these same preferences are also seen as undesirable elements because they are too closely linked to the individual, which is seen as irrational. As a consequence, people find themselves in a situation in which they need external validation, but cannot get it from other people. So, what basis for action remains? This is where the therapeutic effect of ex ante analyses becomes

apparent. It is not that preferences are not allowed to influence policy decisions, they always will. People appear to be aware of this when asked – see chapter 2 of this book – and other research has confirmed that decision makers are perfectly comfortable ignoring the outcome of an analysis if it is at odds with their preferred policy process outcome (Flyvbjerg et al., 2003; Mouter, 2016, 2017; Weiss, 1979). Instead, ex ante analyses offer people an a-personal form of validation, allowing them to rationalize their preferences during the countless interactions people have over the course of a policy process through a process which essentially has a therapeutic effect.

The metaphor of ex ante analyses as therapeutic devices applies to both the analyses process and the effect that analyses have on behavior. The process of making an ex ante analysis or debating one over the course of several months is a process of reflecting and familiarizing. Reflecting is a conscious process, during which input from different sources – ex ante analyses, other participants, personal experiences etc. – cause process participants to reconsider any preferences they might have. This process of reflection can be instigated by an individual themselves, or it can be a process in which an individual engages because they are confronted with opinions that differ from theirs or information that draws their position into question. The reflective process is also a process of learning: reflecting on a preference likely also means refining these preferences or occasionally adopting new ones. The role ex ante analyses play in reflective processes is described in, for example, chapters 5 and 6, where process participants use ex ante analyses to challenge the position of others, or where they use ex ante analyses to assess whether a project as it is being planned will yield the desired results.

Compared to the reflective component of the therapeutical process that is analyses use, familiarizing is somewhat less tangible: it is something that simply occurs by spending time with a certain policy option, resulting in a sense of familiarity with a policy and a degree of trust in the decision one is about to make. The difference between reflecting and familiarizing is that reflecting is a conscious act, whereas familiarity is something that actors acquire over time, simply as a result of participating in a policy process. It happens through countless encounters with a policy option, and can best be described as the combination

of trust and confidence which likely enabled the project management team in chapter 5 to ultimately collectively decide what to do with their monitoring report. This chapter specifically shows how a discussion on how to interpret an ex ante analyses does not progress linearly, but instead is a repetition of the same set of arguments and interpretations over the course of several meetings. Eventually, external pressures caused people to shift positions. The outcome of the study hadn't changed, but participants had familiarized themselves with each other's positions and the study material at hand, enabling them to ultimately overcome their differences.

The effect of this therapeutical process is, as described in the chapters of this book, not necessarily that they change the choices people would make. Instead, because ex ante analyses fulfill the role of impartial spectator, the process of ex ante analyses-based reflections and familiarization gives people the validation they need to act under uncertainty. Chapter 2 of this book described how policy makers were not driven by what comes out of studies, but by a desire to act – something which takes courage to do in the complex context of large infrastructure investments. Because of the significant societal impact of infrastructure projects, this desire can – nor, arguably, should – not be acted upon on a whim. Additionally, 'a desire to act' is a personal motive, which is something of which this research has established that it is met with suspicion in the policy contexts studied here. Policies are expected to be backed by what process participants called 'rational arguments', meaning that these arguments corresponded with what an analysis indicated. This is why peoples' initial arguments were rephrased to fit analyses not because these analyses spoke undeniable truths, but because they were written in a language that allows people to communicate with others beyond just stating personal, subjective preferences. Even those who frequently criticized specific analyses were found referring to them later, citing analyses to legitimate their concerns and criticisms. Not only to convince others, but also to convince themselves.

Being a flexible instrument, the ex ante analysis is a perfect source of validation for the type of policy processes that infrastructure processes are. Like the projects they ultimately result in, infrastructure policy processes are long and complex processes, in which people

find themselves in a lot of different settings amongst ever-changing groups of others. As with any organizational process, these processes are largely erratic and spontaneous, and often only appear structured in hindsight (Shotter & Tsoukas, 2011). In terms of analysis use, these circumstances make that individuals interpret analyses in sometimes outright opposite ways over the course of processes or even in a single meeting, but did not mention this in the reflective interviews analyzed in chapter 2 of this book. But despite the subconscious nature of analysis use as a source of confidence, being inconsistent in their interpretations generally does not get people into trouble. Analyses are flexible enough to validate both proponents and opponents of a policy. The exact nature of analyses outcomes allows proponents to speak with certainty. Simultaneously, the fact that ex ante analyses by definition represent a simplified picture of reality offers opponents a source of validation by allowing them to point to these simplifications, validating their aversion to specific policy options. The impersonal nature of ex ante analyses makes it seem as if this validation is, in both cases, truly neutral rather than linked to personal preferences.

As such, analyses allow people to move forward in a policy context in which the individual is always suspect of being irrational. The primary function of ex ante analyses, then, is not to provide facts or make people change their position, but to enable action based on priorly held preferences in a context which has made it very difficult to act by questioning preferences as the fundament of political action. Consequently, the primary reason analyses are valued is not because they fill knowledge gaps, but because they enable people to overcome a character trait which makes them 'flawed' in the eyes of other process participants.

Ex ante analysis as therapy: scientific consequences

In a way, the conclusion that ex ante analyses fulfill a therapeutic function harkens back to the interviews with civil servants in chapter 2. This chapter begins with an overview of theories of modernism, a system of belief which is built on a strong belief in the predictive power of scientific studies, and which is argued to inform much of contemporary government practice (Frissen, 2013; Putten, 2020, pp. 35-37, 53-86; Trommel, 2009). These studies paint a picture of a somewhat naïve civil servant, who over-estimates their

own capability to exercise control over their environment. The interviews in chapter 2 show that civil servants themselves have a more nuanced view of the predictive power of ex ante analyses than theories of modernism suggest. They realize that there are limits to the predictive power of ex ante analyses, and describe how it is ambition rather than knowledge that drives policy processes. Nevertheless, the contents of the chapters that follow give the impression that a certain appreciation for the impersonal character of ex ante analyses to personal preferences does appear to be present. This attitude does not influence people's day to day behavior in the sense that they do not dare to act without having conducted a proper study or would never deviate from study outcomes, but does shine through in many of their interactions in policy processes. As such, using ex ante analyses comes with costs and benefits, which relates to several debates in academic literature.

The first consequence of describing ex ante analyses as having a therapeutic effect on process participants applies to descriptions of the use of evidence as a 'useful myth' (Boswell, 2017) as were reflected upon in chapter 4. In these types of descriptions, pieces of knowledge such as ex ante analyses do not play the role of solid, objective basis for action in and of themselves, but have other functions which make them an added value. For instance, Boswell (2017) describes how the promise of working according to the principles of evidence-based policy making motivates actors to join and remain engaged in policy processes in cases of large political differences between actors. In a similar vein, Mouritsen and Kreiner (2016) state that ex ante analyses might not be able to provide factual truths about future states of the world, yet do enable policy makers to more clearly envision the future and the sort of interventions they would want to do. This book shows how the productive effects of ex ante analyses extend to the individual level, where analyses empower people to act in a context of uncertainty and mistrust of personal preferences.

However, ex ante analyses exercise their therapeutic function at a cost. Chapter 4 partially described these costs by pointing out how ex ante analyses create confusion about the true nature of policy processes. In addition, the presence of ex ante analyses as impartial

spectators with a therapeutic function affects the democratic quality of policy processes in several ways. The first way in which the conclusions of this book reflect on democratic quality, is related to the way in which actors experience accountability. 'Accountability' refers to the mechanism by which, in this case, a government can be held accountable for its decisions (Bovens et al., 2014). It is a broad concept with a multitude of dimensions. Two of these dimensions are particularly relevant here. First, to be able to hold decision-makers accountable, others must be able to ask them to provide reasons and justifications for a decision. There is an empowering element to this: good accountability-mechanisms should provide people with insights into processes, which empower them to actually hold those who make decisions on their behalf, accountable (Warren, 2014). Analyses are said to have a positive effect on accountability: they provide ammunition for those wanting to question decision-makers about their decision (Mouter, 2016; Oliver & Pearce, 2017). However, this study has shown that ex ante analyses possessed their own agency. Outcomes were attributed to an analysis, rather than an analyst. Moreover, the prominent presence of ex ante analyses moved people to replace their original arguments by arguments derived from ex ante analyses. If arguments based on analysis outcomes replace people's original intentions, and that analysis is seen an agent in and of itself, this creates a veil around precisely that what matters for accountability. If people transfer the accountability for their actions to an inanimate object such as an ex ante analyses, how can they be held accountable, and up to what extend do they experience accountability after this transfer? In addition, how can decision-makers be held accountable when their reasons for taking a decision are replaced by analyses-approved reasons?

A second and related way in which the conclusions of this book have consequences for democratic theory, relates to the legitimacy of the impact of ex ante analyses. Generally, theories of legitimacy are focused on thinking up conditions under which human participation in processes is legitimate. Non-human objects such as the ex ante analyses that were the subject of this study, seldom are a focal point (Latour, 2004). If they are, studies either do not take the agency of ex ante analyses into account (Kornhauser, 2001; Richardson, 2000), or focus on ways to democratize the input-side of ex ante analyses without paying sufficient attention to the way in which process participants evaluate ex ante

analyses (Callon et al., 2011; Stone, 2011). This focus on the input-side of ex ante analyses comes from a concern for the power imbalances which ex ante analyses amplify or reproduce. Those with access to the construction of analyses have a say in what they look like, whereas others in the process just have to live with their outcomes (Triantafillou, 2015, 2017). It is for this reason that authors such as Callon et al. (2011), who are one of the few authors coming up with a democratic solution to the agency of ex ante analyses, call for more participatory approaches to processes knowledge creation.

By focusing on democratizing the processes through which analyses are produced, these theories do not take the way in which people appreciate ex ante analyses into account in a sufficient manner. This study has shown how trust in analyses is built on, among other factors, the complex and a-political apparel of analyses. It has also shown how people – laymen and experienced civil servants alike – rarely review the content of ex ante analyses in a scientific manner, yet do put trust in them. They are convinced by the scientific appearance of ex ante analysis rather than by their scientific quality. This observation echoes research on scientific advisors in policy processes, which shows that their status is not always built on the content of the work they do, but on matters such as where they got their education (Feldman, 1989; Jasanoff, 1990). The question of whether this way of evaluating ex ante analyses is acceptable, depends on what one expects ex ante analyses to do. If they are expected to be a tool to move the policy process forward, the way in which process participants evaluate ex ante analyses arguably would not hinder it in fulfilling that role. However, when ex ante analyses are expected to improve the discussion of policy options, the impact of the way in which people evaluate ex ante analyses on decision-making processes should be studied further.

Ex ante analysis as therapy: consequences for policy practice

Next to these theoretical questions, this study also raises a more fundamental and practical concern about the place of ex ante analyses in democratic decision-making processes. The fourth chapter of this book shows how the presence of ex ante analyses and environmental impact assessments in particular, makes a policy process seem something that it is not. Rather than a political process in which people debate each other's preferences, the process appears as a process in which it is merely the question what alternative is best

according to the ex ante analyses. As if the choice to build is political, and the choice what variant to build, is not. To speak with Bertolini (2017): it seems as if the dilemmas and incommensurable positions are behind the decision makers, and all that is left is the problem of finding the optimal solution. However, this study has shown how these two steps cannot be separated. Rather, each solution to a problem rearticulates existing dilemmas or generates new ones. Once the choice to build a new sea lock is made, it is not as if the dilemma between attracting larger ships to a harbor and reducing noise and air pollution in the environment is settled. Instead, this dilemma appears in a new form, in the context of choosing the location for that sea lock. Will you build it closer to or further from houses? To complicate things further, all three of the project management teams I followed were very open to participation and invited many people in. Whilst a government may have made a choice in a dilemma, these people often have not or disagree with that choice.

On the one hand, government's focus on action is understandable. The primary objective of infrastructure policy processes is to produce a physical result – an infrastructure project. There is a known tension between these action oriented processes and political discussions which are less action oriented and in which incommensurable positions can be satisfied by giving them a place in the discourse (Brunsson, 1989). On the other hand, reaching acceptable, temporary compromises between parties with sometimes radically opposing views is what lies at the core of democratic processes (Mouffe, 1993). Democratic processes are, in essence, processes about a 'confrontation of democratic positions' (Mouffe, 2013, p. 7). At first sight, inviting outsiders to public fora might make it seem as if this condition is met. However, in its therapeutic function, ex ante analyses create a hierarchy amongst a people's positions. They distort the confrontation by determining that some arguments are more valid than others before the discussion has even started. Moreover, they force process participants to reformulate their arguments in terms of the ex ante analyses, replacing their original arguments. Positions which cannot be rephrased or which deviate too much from an analysis' logic become labeled 'irrational', where others become 'just the facts', based on the outcomes of studies which

are known to have limitations and favor certain kinds of solutions over others (Dorren et al. (2018), as well as chapter 2 of this book).

To put it differently: the question is whether processes in which ex ante analyses have such a central position are a desirable kind of policy process. At first glance, doing away with ex ante analyses might seem a logical conclusion from this study. However, that conclusion would neglect the fact that analyzing policy options *ex ante* also is basic human behavior. It is natural to want to analyze different options before making any substantive decision, let alone a decision on a large infrastructure investment. In addition, ex ante analyses do have the positive effect that they require decision makers to be more reflective. Therefore, instead of a call to do away with ex ante analyses, this study is an initiation to rethink the relationship between analyses and decisions, and strive for a healthier balance between analyses outcomes and personal preferences. More concretely, this would mean three things. First, in designing processes, one should consider the fit between an analysis complexity and its intended purpose. Making an analysis as complete and complex as possible might lead to a product which is very sophisticated from a scientific point of view, but will take up considerable time and resources, and will be less accessible. Especially in cases of politically controversial projects, the risk is that these types of analysis falsely depoliticize an essentially political process (Flinders & Wood, 2015; Wolf & Van Dooren, 2018b). These types of policy processes could do with more, rather than less, debate on personal preferences, staying true to the core of the policy conflict at hand. This will require tailoring not only the contents, but also the processes that constitute an analysis, to the matter at hand.

Second and relatedly, by distinguishing between the personal and analyses outcomes, the current discourse around ex ante analyses results in a disbalance in power. Those who have access to the design process of an analysis get to design an instrument which will then be seen as 'neutral' and therefore better by process participants. This means that those with access to the design process have a substantial impact on what the rest of the participants see as a neutral tool, giving them influence a form of impact which a relatively low level of accountability. To prevent this, it is important to make the analytical process

an open process. One can think of, for instance, discussing methods and standards with a wide range of stakeholders, rather than doing so with a select group of analysts and civil servants. It could, in some contexts, also mean that top-level decision makers such as ministers, their direct staff or representatives of those need to be more involved in the analytical process in order to enhance the therapeutic effects of an analysis as a reflective process.

The third and overarching practical lesson that can be drawn from this study, is that the current role and status of ex ante analyses causes a disbalance between analyses outcomes and personal preferences. Over the past decades, the adoption of new public management-ideals regarding evidence-based policy making has led to an increased amount of attention for ex ante analyses. These analyses made it easier to scrutinize the choices made by decision-makers, but have also distracted from the core of democratic decision-making. A challenge for the future is to give these analyses, which become increasingly important with issues such as climate change taking an ever more prominent place on policy agendas, a place in democratic processes which supports rather than distorts these processes. This might also involve relying on them less, if it is to democratize seemingly technical policy processes further.

References

Andres, L., Biller, D., & Dappe, M. H. (2015). A methodological framework for prioritizing infrastructure investment. *World Bank Policy Research Working Papers*. https://doi.org/10.1596/1813-9450-7433

Andres, L., Guasch, J. L., & Straub, S. (2007). Do regulation and institutional design matter for infrastructure sector performance? *World Bank Policy Research Working Papers*. https://doi.org/10.1596/1813-9450-4378

Anheier, H. K. (2016). Infrastructure and the Principle of the Hiding Hand. In K. Wegrich, G. Hammerschmid, & G. Kostka (Eds.), *The Governance of Infrastructure* (pp. 63-80). Oxford University Press.

Ansell, C., & Gash, A. (2007). Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory, 18*(4), 543-571. https://doi.org/10.1093/jopart/mum032

Anthea Belgium. (2015). *Richtlijnenboek MER 'mens-mobiliteit' (Guidelines EIA 'people-mobility')*. D. M. Antea Belgium.

Bækgaard, M., Christensen, J., Dahlmann, C. M., Mathiasen, A., & Petersen, N. B. G. (2019). The Role of Evidence in Politics: Motivated Reasoning and Persuasion among Politicians. *British Journal of Political Science, 49*(3), 1117-1140. https://doi.org/10.1017/S0007123417000084

Bækgaard, M., & Serritzlew, S. (2016). Interpreting Performance Information: Motivated Reasoning or Unbiased Comprehension. *Public Administration Review, 76*(1), 73-82. https://doi.org/10.1111/puar.12406

Bargh, J. A. (1994). The four horsemen of automaticity. Awareness, intention, efficiency and control in social cognition. In R. S. j. Wyer & T. K. Srull (Eds.), *Handbook of Social Cognition* (2nd ed., Vol. 1: Basic Processes, pp. 1-40). Psychology Press.

Bargh, J. A., Chaiken, S., Raymond, P., & Hymes, C. (1996). The Automatic Evaluation Effect: Unconditional Automatic Attitude Activation with a Pronunciation Task. *Journal of Experimental Social Psychology, 32*(1), 104-128. https://doi.org/https://doi.org/10.1006/jesp.1996.0005

Barker, A., & Guy Peters, B. (1993a). Introduction. Science policy and government. In A. Barker & B. Guy Peters (Eds.), *The Politics of Expert Advice*. University of Pittsburg Press.

Barker, A., & Guy Peters, B. (Eds.). (1993b). *The politics of expert advice*. University of Pittsburg Press.

Bauman, Z. (2000). *Liquid Modernity*. Polity Press.

Behavioural Insights Team. (2018). *Evidence report: literature and semi-structured interviews to suport the establishment of the centre for public service leadership*. Behavioural Insights Team.

Bertolini, L. (2017). *Planning the mobile metropolis. Transport for people, places and the planet*. Palgrave.

Bevir, M., & Rhodes, R. A. W. (2010). *The State as Cultural Practice*. Oxford University Press.

Boswell, C. (2009). Knowledge, Legitimation and the Politics of Risk: The Functions of Research in Public Debates on Migration. *Political Studies, 57*(1), 165-186. https://doi.org/10.1111/j.1467-9248.2008.00729.x

Boswell, J. (2017). What makes evidence-based policy making such a useful myth? The case of NICE guidance on bariatric surgery in the United Kingdom. *Governance, 31*(2), 199-214. https://doi.org/https://doi.org/10.1111/gove.12285

Bovens, M., & Hart, P. t. (1996). *Understanding policy fiascoes*. Transaction Publishers.

Bovens, M., Schillemans, T., & Goodin, R. E. (2014). Public accountability. In M. Bovens, R. E. Goodin, & T. Schillemans (Eds.), *The Oxford handbook of public accountability* (pp. 1-22). Oxford University Press.

Boyatzis, R. E. (1998). *Transforming Qualitative Information. Thematic analysis and code deveopment*. SAGE Publications.

Breeman, G., Termeer, C. J. A. M., & Lieshout, M. v. (2013). Decision making on mega stables: Understanding and preventing citizens' distrust. *NJAS - Wageningen Journal of Life Sciences, 66*, 39-47. https://doi.org/https://doi.org/10.1016/j.njas.2013.05.004

Brink, G. v. d. (2007). *Moderniteit als opgave. Een antwoord aan relativisme en constervatisme*. Sun.

Brink, G. v. d. (2015). *Hoe wij beter over kennis kunnen nadenken* (Vol. 1). Boom bestuurskunde.

Brown, A. C., Stern, J., & Tenenbaum, B. W. (2006). *Handbook for evaluating infrastructure regulatory systems*. World Bank.

Brown, M. B. (2009). *Science in Democracy. Expertise, Institutions and Representation*. The MIT Press.

Brunsson, N. (1989). *The organization of hypocrisy. Talk, decisions and actions in organizations*. Wiley.

Bryant, A. (2002). Re-grounding grounded theory. *Journal of Information Technology Theory and Application (JITTA), 4*(1), 7.

Cairney, P. (2017). Evidence-based best practice is more political than it looks. A case study of the 'Scottish Approach'. *Evidence & Policy: A Journal of Research, Debate and Practice, 13*(3), 499-515. https://doi.org/https://doi.org/10.1332/174426416X14609261565901

Cairney, P. (2018). The UK government's imaginative use of evidence to make policy. *British Politics, 13*(3), 1-22. https://doi.org/https://doi.org/10.1332/174426416X14609261565901

Cairney, P., & Oliver, K. (2017). Evidence-based policymaking is not like evidence-based medicine, so how far should you go to bridge the divide between evidence and policy? *Health Research Policy and Systems, 15*(1), 1-11. https://doi.org/10.1186/s12961-017-0192-x

Cairney, P., Oliver, K., & Wellstead, A. (2016). To Bridge the Divide between Evidence and Policy: Reduce Ambiguity as Much as Uncertainty. *Public Administration Review, 76*(3), 399-402. https://doi.org/10.1111/puar.12555

Cairney, P., Russell, S., & St Denny, E. (2016). The 'Scottish approach' to policy and policymaking: what issues are territorial and what are universal? *Policy & Politics, 44*(3), 333-350. https://doi.org/10.1332/030557315X14353331264538

Callon, M. (1991). Techno-economic networks and irreversibility. In J. Law (Ed.), *A Sociology of Monsters. Essays on power, technology and domination* (pp. 132-164). Routledge.

Callon, M., Lascoumes, P., & Barthe, Y. (2011). *Acting in an uncertain world. An essay on technical democracy*. The MIT Press.

Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). SAGE.

Christensen, J. (2018). Biased, not blind: An experimental test of self-serving biases in service users' evaluations of performance information. *Public Administration, 96*(3), 468-480. https://doi.org/10.1111/padm.12520

Christensen, J., Dahlmann, C. M., Mathiasen, A. H., Moynihan, D. P., & Petersen, N. B. G. (2018). How Do Elected Officials Evaluate Performance? Goal Preferences, Governance Preferences, and the Process of Goal Reprioritization. *Journal of Public Administration Research and Theory, 28*(2), 197-211. https://doi.org/10.1093/jopart/muy001

Clarence, E. (2002). Technocracy reinvented: the new evidence based policy movement. *Public Policy and Administration, 17*(3).

Coser, L. (1974). *Greedy Institutions. Patterns of undivided commitment*. Free Press.

Czarniawska, B. (1997). *Narrating the organization. Dramas of institutional identity*. University of Chicago Press.

Davis, O. A., Dempster, M. A. H., & Wildavsky, A. (1966). A theory of the budgetary process. *The American Political Science Review, 60*(3), 529-547.

Departement Mobiliteit en Openbare Werken, & Departement Omgeving. (2017). *Complexe Projecten*. Retrieved August 24 from www.complexeprojecten.be

Departement Omgeving. *Richtlijnenboeken, handeidingen en codes van goede praktijk*. Retrieved June 20 from https://www.lne.be/richtlijnenboeken-handleidingen-en-codes-van-goede-praktijk

Dorren, L., Verhoest, K., van Dooren, W., & Wolf, E. E. A. (2018). *Plannen over Grenzen. De selectie en prioritering van infrastructuurprojecten*. Steunpunt Bestuurlijke Vernieuwing.

Douglas, H. E. (2009). *Science, Policy, and the Value-Free Ideal*. University of Pittsburgh Press. https://doi.org/10.2307/j.ctt6wrc78

Durnova, A. (2018). A tale of 'fat cats' and 'stupid activists': contested values, governance and reflexivity in the brno railway station controversy. *Journal of Environmental Policy & Planning, 20*(6), 720-733. https://doi.org/10.1080/1523908X.2013.829749

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Hartcourt Brace Jovanovich College Publishers.

Elverding, P., De Graeff, J. J., & Ketting, N. G. (2008). *Sneller en beter. Advies van de Commissie Versnelling Besluitvorming Infrastructurele Projecten*.

European Commission. (2014). *Guide to cost-benefit analysis of investment projects. Economic appraisail tool for cohesion policy 2014-2020*. European Commission.

European Conference of Ministers of Transport. (2005). *ECMT Round Tables National Systems of Transport Infrastructure Planning*. OECD Publishing.

European Investment Bank. (2013). *The economic appraisal of investment projects at the EIB*. European Investment Bank.

Fazio, R. H., Sanbonmatsu, D. M., Powell, M. C., & Kardes, F. R. (1986). On the automatic activation of attitudes. *Journal of Personality and Social Psychology, 50*(2), 229-238.

Feitsma, J. (2019). *Inside the behavioral state*. Eleven International Publishing.

Feitsma, J. N. P. (2018). The behavioural state. Critical observations on technocracy and psychocracy. *Policy Sciences, 51*(3), 387-410. https://doi.org/10.1007/s11077-018-9325-5

Feitsma, J. N. P. (2018). 'Rationalized incrementalism'. How behavior experts in government negotiate institutional logics. *Critical Policy Studies*, 1-18. https://doi.org/10.1080/19460171.2018.1557067

Feldman, M. S. (1989). *Order without design. Information production and policy making*. Stanford University Press.

Feyerabend, P. (2010). *Against Method* (4th ed.). Verso.

Fischer, F. (2000). *Citizens, Experts, and the Environment*. Duke University Press.

Fischer, F. (2009). *Democracy & expertise. Reorienting policy inquiry*. Oxford University Press.

Flinders, M., & Wood, M. (2015). When Politics Fails: Hyper-Democracy and Hyper-Depoliticization. *New Political Science, 37*(3), 363-381. https://doi.org/10.1080/07393148.2015.1056431

Flyvbjerg, B. (1998). *Rationality and Power. Democracy in practice*. Chicago University Press.

Flyvbjerg, B., Bruzelius, N., & Rothengatter, W. (2003). *Megaprojects and Risk*. Cambridge University Press.

Fobé, E., de Peuter, B., Petit Jean, M., & Pattyn, V. (2017). Analytical techniques in Belgian policy analysis. In M. Brans & D. Aubin (Eds.), *Policy Analysis in Belgium* (pp. 35-56). Policy Press.

French, R. D. (2019). Is it time to give up on evidence-based policy? Four answers. *Policy & Politics, 47*, 151-168.

Frissen, P. H. A. (1999). *Politics, Governance and Technology. A Postmodern Narrative on the Virtual State*. Edward Elgar.

Frissen, P. H. A. (2013). *De fatale staat. Over de politiek noodzakelijke verzoening met tragiek*. Van Gennep.

Gieryn, T. F. (1995). Boundaries of science. In S. Jasanoff, G. E. Markle, J. C. Petersen, & T. Pinch (Eds.), *Handbook of science and technology studies* (pp. 393-342). Sage Publications.

Gigerenzer, G., & Brighton, H. (2009). Homo Heuristicus: Why Biased Minds Make Better Inferences. *Topics in Cognitive Science, 1*(1), 107-143. https://doi.org/10.1111/j.1756-8765.2008.01006.x

Gigerenzer, G., & Gaissmaier, W. (2011). Heuristic Decision Making. *Annual Review of Psychology, 62*(1), 451-482. https://doi.org/10.1146/annurev-psych-120709-145346

Glaser, B. G. (1992). *Emergence vs. Forcing: Basics of grounded theory analysis*. Sociology Press.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory. Strategies for qualitative research*. Aldine.

Grimmelikhuijsen, S., Jilke, S., Olsen, A. L., & Tummers, L. (2017). Behavioral Public Administration: Combining Insights from Public Administration and Psychology. *Public Administration Review, 77*(1), 45-56. https://doi.org/10.1111/puar.12609

Grundmann, R. (2009). The role of expertise in governance processes. *Forest Policy and Economics, 11*(5-6), 398-403. https://doi.org/https://doi.org/10.1016/j.forpol.2008.09.005

Habermas, J. (1987). *The Philosophical Discourse of Modernity*. Polity Press.

Hall, P. (1980). *Great Planning Disasters*. Weidenfeld and Nicolson.

Hallsworth, M., Egan, M., Rutter, J., & McCrae, J. (2018). *Behavioural government. Improve how governments make decisions*. The Behavioural Insights Team.

Halpin, D. (2011). Explaining Policy Bandwagons. Organized interest mobilization and cascades of attention. *Governance, 24*(2), 919-940.

Harries, U., Elliott, H., & Higgins, A. (1999). Evidence-based policy-making in the NHS: exploring the interface between research and the commissioning process. *Journal of Public Health, 21*(1), 29-36. https://doi.org/10.1093/pubmed/21.1.29

Hart, P. t., & Wille, A. (Eds.). (2002). *Politiek-ambtelijke verhoudingen in beweging*. Boom.

Head, B. W. (2008). Three Lenses of Evidence-Based Policy. *Australian Journal of Public Administration, 67*(1), 1-11. https://doi.org/10.1111/j.1467-8500.2007.00564.x

Head, B. W. (2016). Toward More "Evidence-Informed" Policy Making? *Public Administration Review, 76*(3), 472-484. https://doi.org/10.1111/puar.12475

Hertwig, R., & Grüne-Yanoff, T. (2017). Nudging and Boosting: Steering or Empowering Good Decisions. *Perspectives on Psychological Science, 12*(6), 973-986. https://doi.org/10.1177/1745691617702496

H. M. Treasury (2017). The Green Book - Appraisal and Evaluation in Central Government. 1-118.

Honig, M. I., & Coburn, C. (2008). Evidence-Based Decision Making in School District Central Offices:Toward a Policy and Research Agenda. *Educational Policy, 22*(4), 578-608. https://doi.org/10.1177/0895904807307067

Hoppe, R. (2005). Rethinking the science-policy nexus: from knowledge utilization and science technology studies to types of boundary arrangements. *Poiesis & Praxis, 3*(3), 199-215. https://doi.org/10.1007/s10202-005-0074-0

Huff, D. (1991). *How to lie with statistics*. Penguin Books. (1954)

Infrastructure and Projects Authority. (2017). *About the IPA*. Infrastructure and Projects Authority.

Jacob, S., Speer, S., & Furubo, J.-E. (2015). The institutionalization of evaluation matters: Updating the International Atlas of Evaluation10 years later. *Evaluation, 21*(1), 6-31. https://doi.org/10.1177/1356389014564248

Jasanoff, S. (1990). *The fifth branch. Science advisers as policy makers*. Harvard University Press.

Jasanoff, S., & Wynne, B. (1998). Science and decisionmaking. In S. Rayner & E. L. Malone (Eds.), *Human choice and climate change* (Vol. 1, pp. 1-88). Battelle Press.

Jilke, S. (2018). Citizen satisfaction under changing political leadership: The role of partisan motivated reasoning. *Governance, 31*(3), 515-533. https://doi.org/10.1111/gove.12317

Jones, B. D., & Baumgartner, F. R. (2012). From there to here: From punctuated equilibrium to the general punctuation thesis to a theory of government infromation processing. *Policy studies journal, 40*(1), 1-20.

Jovchelovitch, S., & Bauer, M. W. (2000). Narrative Interviewing. In M. W. Bauer & G. Gaskell (Eds.), *Qualitative researching with text, image and sound*. SAGE.

Kahneman, D. (2014). *Ons Feilbare Denken* [Thinking, fast and slow] (P. van Huizen & J. de Vries, Trans.). Business Contact. (Thinking, fast and slow)

Kasdan, D. O. (2018). Toward a theory of behavioral public administration. *International Review of Administrative Sciences, 0*(0), 0020852318801506. https://doi.org/10.1177/0020852318801506

Kelle, U. (2005). "Emergence" vs. "Forcing" of Empirical Data? A Crucial Problem of "Grounded Theory" Reconsidered. *Forum: Qualitative Social Research, 6*(2), Article 27.

Kingdon, J. (1984). *Agendas, Alternatives and Public Policies*. Little Brown.

Klaassen, H., & Hakvoort, J. (2015). *Management control techniques for government and non-profit organizations*. Sdu.

Kornhauser, L. A. (2001). On justifying cost-benefit analysis. In M. D. Adler & E. A. Posner (Eds.), *Cost-benefit analysis. Legal, economic, and philosophical perspectives* (pp. 201-222). University of Chicago Press.

Kriesberg, L. (2017). Improving social relationships. In L. Kriesberg & C. Gerard (Eds.), *Better or worse relations. Essays in conflict and collaboration*. Routledge.

Krosnick, J. A., & Petty, R. E. (1995). Attitude strength. An overview. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude Strenght: Antecedents and Consequences* (pp. 1-24). Lawrence Erlbaum Associates.

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin, 108*(3), 480-498. https://doi.org/10.1037/0033-2909.108.3.480

Latour, B. (2004). *Politics of nature. How to bring the sciences into demcracy*. Harvard University Press.

Latour, B. (2005). *Reassembling the social. An Introduction to actor-network theory*. Oxford University Press.

Latour, B. (2016). *Wij zijn nooit modern geweest* (v. Dijk, Joep; Vries, de, Gerard, Trans.; herziene editie ed.). Boom Klassiek. (Nous n'avons jamais été modernes)

Latour, B., & Woolgar, S. (1986). *Laboratory Life. The construction of scientific facts* (Second ed.). Princeton University Press.

Law, J. (1994). *Organizing Modernity*. Blackwell.

Laws, D., & Forester, J. (2007). Learning in practice: Public policy mediation. *Critical Policy Studies, 1*(4), 342-370. https://doi.org/10.1080/19460171.2007.9518526

Leijten, M. (2017). *What lies beneath. Bounded manageability in complex underground infrastructure projects*. Deflt University.

Lindblom, C. E. (1959). The science of 'muddling through'. *Public Administration, 19*(2), 79-88.

Lindblom, C. E. (1979). Still muddling, not yet through. *Public Administration Review, 39*(6), 517. https://doi.org/10.2307/976178

Linde, J., & Vis, B. (2017). Do Politicians Take Risks Like the Rest of Us? An Experimental Test of Prospect Theory Under MPs. *Political Psychology, 38*(1), 101-117. https://doi.org/10.1111/pops.12335

Lodge, M., & Taber, C. (2000). Tree steps towards a theory of motivated political reasoning. In A. Lupia, M. D. McCubbins, & S. L. Popkin (Eds.), *Elements of reason: Cognition, choice and the bounds of rationality* (pp. 183-213). Cambridge University Press.

March, J. G., & Olsen, J. P. (1975). The uncertainty of the past. Organizational learning under ambiguity. *European Journal of Political Research, 3*(2), 147-171.

March, J. G., & Olsen, J. P. (1983). The new institutionalism: Organizational factors in political life. *American political science review*.

Marks, P., & Gerrits, L. (2017). Evaluating technological progress in public policies: the case of the high-speed railways in the Netherlands. *Complexity, Governance & Networks*(Special Issue: Complexity Innovation and Policy), 48-62. https://doi.org/10.20377/cgn-42

Marmot, M. G. (2004). Evidence based policy or policy based evidence? *British Journal of Medicine*(328), 906-907. https://doi.org/https://doi.org/10.1136/bmj.328.7445.906

Marra, M. (2000). How much does evaluation matter? Some examples of the utilization of the evaluation of the World Bank's anti-corruption activities. *Evaluation, 6*(1), 22-36. https://doi.org/https://doi.org/10.1136/bmj.328.7445.906

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis. Expanded sourcebook* (Second ed.). SAGE Publications.

Minister van Infrastructuur en Milieu. (2017). *Nationale markt- en capaciteitsanalyse 2017*. Ministerie van Infrastructuur en Milieu.

Ministerie van Infrastructuur en Milieu. (2016). *Spelregels van het Meerjarenprogramma Infrastructuur, Ruimte en Transport (MIRT)*. Ministerie van Infrastructuur en Milieu.

Monaghan, M. (2009). The complexity of evidence. Reflections on research utilisation in a heavily politicised pollicy area. *Social Policy and Society, 9*(1), 1-12. https://doi.org/https://doi.org/10.1017/S1474746409990157

Mouffe, C. (1993). *The return of the political*. Verso.

Mouffe, C. (2009). *The Democratic Paradox*. Verso.

Mouffe, C. (2013). *Agnostics. Thinking the world politically*. Verso.

Mouritsen, J., & Kreiner, K. (2016). Accounting, decisions and promises. *Accounting, Organizations and Society, 49*, 21-31.

Mouter, N. (2014a). *Cost-benefit analysis in practice. A study of the way cost-benefit analysis is perceived by key individuals in the Dutch CBA Practice for spatial infrastructure projects*. TRAIL Research School.

Mouter, N. (2014b). *MKBA Internationaal. Lessen uit een vergelijking van de Nederlandse MKBA-praktijk met vier andere MKBA-praktijken*. Technische Universiteit Delft.

Mouter, N. (2016). Dutch politicians' use of cost-benefit analysis. *Transportation, 28*(1), 79-19. https://doi.org/https://doi.org/10.1007/s11116-016-9697-3

Mouter, N. (2017). Dutch politicians' attitudes towards Cost-Benefit Analysis. *Transport Policy, 54*, 1-10. https://doi.org/10.1016/j.tranpol.2016.11.001

Moynihan, D. (2018). A great schism approaching? Towards a micro and macro public administration. *JOurnal of Behavioral Public Administration, 1*(1), 1-8. https://doi.org/10.30636/jbpa.11.15

Mulgan, G. (2005). Government, knowledge and the business of policy making. The potential and limits of evidence-based policy. *Evidence and Policy, 1*(2), 215-226. https://doi.org/https://doi.org/10.1332/1744264053730789

Nickerson, R. S. (1998). Confirmation bias. A ubiquitous phenomenon in many guises. *Review of General Psychology, 2*(2), 175-220.

Nørgaard, A. S. (2018). Human behavior inside and outside bureaucracy: Lessons from psychology. *JOurnal of Behavioral Public Administration, 1*(1). https://doi.org/https://doi.org/10.30636/jbpa.11.13

Nutley, S. M., Walter, I., & Davies, H. T. O. (2007). *Using Evidence. How research can inform public services*. Policy Press.

OECD. (2012). *Strategic transport infrastructure needs to 2030*. OECD.

OECD. (2015a). *Policy Framework for Investment, 2015 Edition*. OECD Publishing.

OECD. (2015b). *Towards a framework for the governance of infrastructure*. OECD.

OECD. (2015c). *Towards a Framework for the Governance of Infrastructure*.

Oliver, K., & Pearce, W. (2017). Three lessons from evidence-based medicine and policy: increase transparency, balance inputs and understand power. *Palgrave Communications, 3*(1), 43. https://doi.org/10.1057/s41599-017-0045-9

Ophuls, W. (1997). *Requiem for modern politics. The tragedy of the enlightenment and the challenge of the new millennium*. Westview Press.

Orton, J. D., & Weick, K. E. (1990). Loosely Coupled Systems: A Reconceptualization. *Academy of Management Review, 15*(2), 203-223. https://doi.org/10.5465/AMR.1990.4308154

Parsons, W. (2002). From muddling through to muddling up. Evidence based policy making and the modernisation of British Government. *Public Policy and Administration, 17*(3), 43-60. https://doi.org/https://doi.org/10.1177/095207670201700304

Portelli, A. (1991). *The death of Luigi Transtulli and other stories. Form and meaning in oral history*. State University of New York Press.

Pressman, J. L., & Wildavsky, A. (1973). *Implementation. How great expectations in Washington are dashed in Oakland*. University of California Press.

Priemus, H., Flyvbjerg, B., & Wee, v. B. (2008). *Decision-making on mega-projects*. Edward Elgar Publishing.

Priemus, H., & van Wee, B. (Eds.). (2013). *International handbook on mega-projects*. Edward Elgar.

Putnam, H. (2002). *The Collapse of the Fact/Value Dichotomy and Other Essays*. Harvard University Press.

Putten, R. v. (2020). *De ban van beheersing. Naar een reflexieve bestuurskunst*. Boom Bestuurskunde.

Raphael, D. D. (2009). *The Impartial Spectator. Adam Smith's Moral Philosophy*. Oxford University Press.

Rawls, J. (2001). *Justice as fairness. A restatement*. Belknap Press of Harvard University.

Redlawsk, D. P. (2002). Hot Cognition or Cool Consideration? Testing the Effects of Motivated Reasoning on Political Decision Making. *Journal of Politics, 64*(4), 1021-1044. https://doi.org/10.1111/1468-2508.00161

Redlawsk, D. P., Civettini, A. J. W., & Emmerson, K. M. (2010). The Affective Tipping Point: Do Motivated Reasoners Ever "Get It"? *Political Psychology, 31*(4), 563-593. https://doi.org/10.1111/j.1467-9221.2010.00772.x

Rein, M., & Schön, D. (1996). Frame-critical policy analysis and frame-reflective policy practice. *Knowledge and Policy, 9*(1), 85-104. https://doi.org/10.1007/BF02832235

Rescher, N. (1998). *Complexity. A philsophical overview*. Transaction Publishers.

Richardson, H. S. (2000). The Stupidity of the Cost-Benefit Standard. *The Journal of Legal Studies, 29*(2), 971-1003. https://doi.org/10.1086/468102

Richardson, H. S. (2002). *Democratic Autonomy. Public Reasoning about the Ends of Policy*. Oxford University Press.

Rijksoverheid. (2017). *Rijksbegroting 2017. XXI Infrastructuur en Milieu. Bijlage 5: Evaluatie- en overig onderzoek.* Retrieved 12 april 2017 from http://www.rijksbegroting.nl/2017/voorbereiding/begroting,kst225647_36.html

Sanderson, I. (2002). Evaluation, Policy Learning and Evidence-Based Policy Making. *Public Administration, 80*(1), 1-22. https://doi.org/10.1111/1467-9299.00292

Scharpf, F. W. (1999). *Governing in Europe. Effective and democratic?* Oxford University Press.

Schlaufer, C., Stucki, I., & Sager, F. (2018). The Political Use of Evidence and Its Contribution to Democratic Discourse. *Public Administration Review, 78*(4), 645-649. https://doi.org/10.1111/puar.12923

Schmidt, V. A. (2013). Democracy and legitimacy in the European Union revisited. Input, output and 'throughput'. *Political Studies, 61*(1), 2-22. https://doi.org/10.1111/j.1467-9248.2012.00962.x

Schwartz-Shea, P., & Yanow, D. (2009). Reaing and writing as method: In search of trustworthy texts. In S. Ybema, D. Yanow, H. Wels, & F. Kamsteeg (Eds.), *Organizational Ethnography. Studying the Complexities of Everyday Life*. SAGE.

Scott, J. C. (1998). *Seeing Like a State. How Certain Schemes to Improve the Human Condition Have Failed*. Yale University Press.

Sheffer, L., Loewen, P. J., Soroka, S., Walgrave, S., & Sheafer, T. (2018). Nonrepresentative Representatives: An Experimental Study of the Decision Making of Elected Politicians - CORRIGENDUM. *American political science review, 112*(2), 428-428. https://doi.org/10.1017/S0003055418000114

Shotter, J., & Tsoukas, H. (2011). Theory-as-therapy. Wittgensteinian reminders for reflective theorizing in organization and management theory. In H. Tsoukas & R. Chia (Eds.), *Philosophy and organization theory* (pp. 311-342). Emerald Group.

Simon, H. A. (1976). *Administrative Behavior. A Study of Decision-Making Processes in an Administrative Organization* (3rd ed.). The Free Press.

Smets, M., Jarzabkowski, P., Burke, G., & Spee, P. (2015). Reinsurance trading in Lloyd's of London. Balancing conflicting-yet-complementary logics in practice. *Academy of Management Journal, 58*, 932-970.

Smith, A. (1974). *The theory of moral sentiments* (D. D. Raphael & A. L. Macfie, Eds.). Liberty Fund.

Sowden, R., Ingram, G., & Wolf, M. (2011). *Managing successful programmes*. TSO.

Stevens, A. (2007). Survival of the ideas that fit. An evolutionary analogy for the use of evidence in policy. *Social Policy and Society, 6*(1), 25-35. https://doi.org/https://doi.org/10.1017/S1474746406003319

Stevens, A. (2011). Telling policy stories. An ethnographic study of the use of evidence in policy-making in the UK. *Journal of Social Policy, 40*(2), 237-255. https://doi.org/https://doi.org/10.1017/S0047279410000723

Stone, C. (2011). *Problems of power in the design of indicators of safety and justice in the global south*. Program in Criminal Justice Policy and Management, Harvard Kennedy School.

Stone, D. (2012). *Policy paradox. The art of political decision making* (3rd ed.). W.W. Norton & Co.

Strassheim, H., & Kettunen, P. (2014). When does evidence-based policy turn into policy-based evidence? Configurations, contexts and mechanisms. *Evidence and Policy, 10*(2), 259-277. https://doi.org/https://doi.org/10.1332/174426514X13990433991320

Strauss, A. L., & Corbin, J. (1998). *Basics of Qualitative Research. Techniques and procedures for developing grounded theory* (2nd ed.). SAGE.

Strickland, A. A., Taber, C. S., & Lodge, M. (2011). Motivated Reasoning and Public Opinion. *Journal of Health Politics, Policy and Law, 36*(6), 935-944. https://doi.org/10.1215/03616878-1460524

Taber, C. S., Cann, D., & Kucsova, S. (2009). The Motivated Processing of Political Arguments. *Political Behavior, 31*(2), 137-155. https://doi.org/10.1007/s11109-008-9075-8

Taber, C. S., & Lodge, M. (2006). Motivated Skepticism in the Evaluation of Political Beliefs. *American Journal of Political Science, 50*(3), 755-769. https://doi.org/10.1111/j.1540-5907.2006.00214.x

Taleb, N. N. (2010). *The Black Swan. The impact of the highly improbable.* (second ed.). Random House.

Taylor, F. W. (1947). *The principles of scientific management*. Harper & Brothers.

Thomas, G., & James, D. (2006). Reinventing grounded theory: some questions about theory, ground and discovery. *British Educational Research Journal, 32*(6), 767-795. https://doi.org/10.1080/01411920600989412

Thornton, P. H., & Ocasio, W. (2008). Institutional logics. In K. Sahlin-Andersson, R. Suddaby, C. Oliver, & R. Greenwood (Eds.), *The SAGE Handbook of Organizational Institutionalism* (pp. 99-129). SAGE Publications Ltd.

Timmermans, S., & Tavory, I. (2012). Theory Construction in Qualitative Research:From Grounded Theory to Abductive Analysis. *Sociological Theory, 30*(3), 167-186. https://doi.org/10.1177/0735275112457914

Topf, R. (1993). Science, public policy and the authoritativeness of the governmental process. In A. Barker & B. Guy Peters (Eds.), *The politics of expert advice. Creating, using and manipulating scientific knowledge for public policy*. University of Pittsburgh Press.

Triantafillou, P. (2013). The Political Implications of Performance Management and Evidence-Based Policymaking. *The American Review of Public Administration, 45*(2), 167-181. https://doi.org/10.1177/0275074013483872

Triantafillou, P. (2015). The Politics of Neutrality and the Changing Role of Expertise in Public Administration. *Administrative Theory & Praxis, 37*(3), 174-187. https://doi.org/10.1080/10841806.2015.1053362

Triantafillou, P. (2017). *Neoliberal power and public management reforms*. Manchester University Press.

Trommel, W. (2009). *Gulzig bestuur*. Lemma.

Tversky, A., & Kahneman, D. (1974). Judgement under uncertainty: Heuristics and biases. *Science, 185*(4157), 1124-1131.

Tyler, T. R. (2000). Social Justice: Outcome and Procedure. *International Journal of Psychology, 35*(2), 117-125. https://doi.org/10.1080/002075900399411

Vagle, M. D. (2016). *Crafting phenomenological research*. Routhedge.

van Eeten, M. J. G. (1999). 'Dialogues of the deaf' on science in policy controversies. *Science and Public Policy, 26*(3), 185-192. https://doi.org/10.3152/147154399781782491

van Nispen, F., & Scholten, P. (2015). Policy analysis in the Netherlands. An introduction. In F. van Nispen & P. Scholten (Eds.), *Policy analysis in the Netherlands* (pp. 1-9). Policy Press.

van Twist, M., Rouw, R., & van der Steen, M. (2015). Policy analysis in practice: reinterpreting the quest for evidence-based policy. In F. van Nispen & P. Scholten (Eds.), *Policy Analysis in the Netherlands*. Policy Press.

Verloo, N. (2015). *Negotiating urban conflict: Conflicts as opportunity for urban democracy* Universiteit van Amsterdam [Host]].

Vis, B. (2019). Heuristics and Political Elites' Judgment and Decision-Making. *Political Studies Review, 17*(1), 41-52. https://doi.org/10.1177/1478929917750311

Vlaamse Regering. (2014). *Decreet betreffende complexe projecten*.

Walgrave, S., & Dejaeghere, Y. (2016). Surviving Information Overload: How Elite Politicians Select Information. *Governance, 30*(2), 229-244. https://doi.org/10.1111/gove.12209

Warren, M. E. (2014). Accountability and democracy. In M. Bovens, R. E. Goodin, & T. Schillemans (Eds.), *The Oxford handbook of public accountability* (pp. 39-54). Oxford University Press.

Weber, M. (1948). Politics as a vocation. In H. H. Gerth & C. Wright Mills (Eds.), *From Max Weber. Essays in sociology.* Routledge. (1919)

Wegrich, K., Kostka, G., & Hammerschmid, G. (Eds.). (2016). *The governance of infrastructure*. Oxford University Press.

Weible, C. M., & Heikkila, T. (2017). Policy conflict framework. *Policy Sciences, 50*(1), 23-40.

Weick, K. E. (1976). Educational Organizations as Loosely Coupled Systems. *Administrative Science Quarterly, 21*(1), 1-19.

Weick, K. E. (1995). *Sensemaking in organizations*. SAGE.

Weiss, C. H. (1979). The many meanings of research utilization. *Public Administration Review, 39*(5), 426 - 431. https://doi.org/http://doi.org/10.2307/3109916

Wolf, E. E. A. (2019). Dismissing the 'vocal minority'. How policy conflict escalates when policymakers label resisting citizens. *Policy studies journal, early access*.

Wolf, E. E. A., & Van Dooren, W. (2017a). *De Waarde van Weerstand. Wat Oosterweel ons leert over besluitvorming*. Pelckmans Pro.

Wolf, E. E. A., & Van Dooren, W. (2017b). How policies become contested. A spiral of imagination and evidence in a large infrastructure project. *Policy Sciences, 47*(4), 1-20. https://doi.org/10.1007/s11077-017-9275-3

Wolf, E. E. A., & Van Dooren, W. (2018a). Conflict reconsidered: The boomerang effect of depoliticization. *Public Administration, 96*, 286-301.

Wolf, E. E. A., & Van Dooren, W. (2018b). 'Time to move on' or 'taking more time'? How disregarding multiple perspectives on time can increase policy-making conflict. *Environment and Planning C: Politics and Space, 36*(2), 340-356. https://doi.org/10.1177/2399654417712243

World Bank. (2014a). *Formulating an urban transport policy*. World Bank.

World Bank. (2014b). *Public-private partnerships reference guide*. World Bank.

World Economic Forum. (2012a). *Strategic Infrastructure*. World Economic Forum.

World Economic Forum. (2012b). *Strategic infrastructure. Steps to prioritize and deliver infrastructure effectively and efficiently*. World Economic Forum.

Wu, J., & Laws, D. (2003). Trust and Other-Anxiety in Negotiations: Dynamics Across Boundaries of Self and Culture. *Negotiation Journal, 19*(4), 329-367. https://doi.org/10.1111/j.1571-9979.2003.tb00792.x

Yanow, D. (1996). *How does a policy mean? Interpreting policy and organizational actions*. Georgetown University Press.

Ybema, S., & Kamsteeg, F. (2009). Making the familiar strange. A case for disengaged organizational ethnography. In S. Ybema, D. Yanow, H. Wels, & F. Kamsteeg (Eds.), *Organizational ethography. Studying the complexities of everyday life*. SAGE.

Ybema, S., Yanow, D., Wels, H., & Kamsteeg, F. (2009). Studying everyday organizational life. In S. Ybema, D. Yanow, H. Wels, & F. Kamsteeg (Eds.), *Organizational ethnography. Studying the complexities of everyday life* (pp. 1-20). SAGE.

Young, K., Ashby, D., Boaz, A., & Grayson, L. (2002). Social science and the evidence-based policy movement. *Social Policy and Society, 1*(3), 215-224. https://doi.org/https://doi.org/10.1017/S1474746402003068

List of publications

The following publications were part of this project.

Journal articles

Dorren, L., (2020). What do we talk about when we talk about neutrality? On the nature and popularity of the idea of a neutral administration. *Public Note 3*(1).

Dorren, L. (no date). The practice of the modernist state. Are civil servants technocrats? *Currently under revision.*

Dorren, L. (no date). Of impartial spectators. On the legitimacy of ex ante analyses in infrastructure policy processes. *Submitted.*

Dorren, L., & Böhme, M. (no date). The practice of motivated reasoning. An ethnographic study of information use by real world policy actors. *Currently under revision.*

Dorren, L., & Van Dooren, W. (No date). Chameleonic knowledge. A study of ex-ante analysis in large infrastructure policy processes. *Currently under revision.*

Dorren, L. & Wolf, E. E. A. (No date). Trusted by all? How evidence-based policy making obfuscates policy conflict. *Currently under review.*

Putten, R. van, Dorren, L. & Trommel, W. (2020) *Kritische bestuurskunde. Naar een reflexief perspectief op bestuur en beleid.* Bestuurskunde, 2020-1, 3-9.

Stevens, V. & Dorren, L. (2017). Leergedrag van ambtenaren in netwerken. Onder welke omstandigheden leren ambtenaren van elkaar in samenwerkingen? In: *Plandag 2017: Gedeelde Ruimte*. Bouwma, G. (ed, conference proceedings) 73-82

Advisory reports

Dorren, L., Verhoest, K., Van Dooren, W., & Wolf, E. E. A. (2018). *Plannen over Grenzen. De selectie en prioritering van infrastructuurprojecten*. Steunpunt Bestuurlijke Vernieuwing.

Dorren, L., Van Dooren, W., & Verhoest, K. (2020). *Participatie in de onderzoeksfase van complexe projecten.* Steunpunt Bestuurlijke Vernieuwing.

Dorren, L., Böhme, M., Van Dooren, W., & Verhoest, K. (2020). *Ex ante analyses in complexe infrastructuurprojecten. Rollen en functies.* Steunpunt Bestuurlijke Vernieuwing.

Dorren, L. Van Dooren, W., Verhoest, K., (2021). *Werken aan complexe projecten. Aanbevelingen voor projectmanagement in de Onderzoeksfase*. Steunpunt Bestuurlijke Vernieuwing

Over the past decades, predictive or ex ante analyses have come to play an increasingly important part in policy processes. In infrastructure policy, they are used to predict the economic and environmental impact of investments. The ex ante analyses used in infrastructure policy processes are complex, difficult to understand and have limited predictive power, yet they also take up a central position in modern day policy processes.

This book offers a new perspective on the popularity of ex ante analyses based on an ethnographic study observing meetings in three large infrastructure policy processes in Belgium and the Netherlands. It argues that, besides the obvious informational role, ex ante analyses fulfil an important therapeutic function. The prime reason they are valued is not because they unambiguously tell policymakers what to do, but because they offer them the tools to move processes forward in a world characterized by ambiguity and uncertainty.