Learning from Futures: Utilising Scenario Thinking in Strategic Spatial Planning

Kristi Grišakov
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Abstract

Strategic spatial planning has a specific commitment to future. It concerns the future transformation of place and constantly seeks ways to imagine different futures creatively and collectively (Hillier, 2011; Albrechts, 2005). However, much traditional planning has focused on preserving the existing order rather than challenging and transforming it (Albrechts, 2015). This, in combination with the need to address the 'radical' uncertainty (Zapata and Kaza, 2015) of the future, and to account for the multiplicity of communities that essentially shape the future (Hajer and Wagenaar, 2003), creates the need to rethink the praxis of strategic spatial planning (Hillier, 2013). While there is agreement that strategic spatial planning should address the uncertainty of the future, there is less clarity about how exactly to deal with such a future. This research is a methodological inquiry into using futures studies techniques in the context of strategic spatial planning, more specifically the approach of 'scenario thinking'. It explores the potential contribution of scenario thinking to knowledge and capabilities needed in strategic spatial planning.

In order to find opportunities for such a contribution, the dialogue between the disciplines of strategic spatial planning and scenario planning is explored, focusing specifically on the debates on knowledge needs. The research focuses on three core capabilities: 1) the capability to critically compare and learn from completed scenario planning documents; 2) the capability to design explorative scenario development projects in the context of strategic spatial planning, especially focusing on the aspects of re-framing, evidence and intuition; 3) the capability to create scenario stories, focusing on how the knowledge collected during the scenario project can be interpreted and mediated as scenario stories and story visuals. Finally, these core capabilities are interlinked, to discuss how scenario thinking as an iterative process can be connected with the wider practice of knowing in planning; not exclusively to be used for the purposes of strategic framing, but also to support reflective planning practice in general.

Through the careful analysis of how knowledge is understood, gathered, used, and validated in scenario thinking, the research illustrates how various types of knowledge (episteme, technē, phronēsis) are used not consecutively, but parallelly as an iterative process. For example, phronēsis is used already in the beginning of the scenario thinking process in order to define re-framing needs.

The practice of knowing through scenario thinking can and should be in dialogue with the practice of knowing in planning. This research proposes that planners can use scenario thinking to support collective learning and reflection for looking outwards in order to inform strategic framing but also for looking inwards to support reflective practice.

Keywords scenario planning, strategic spatial planning, knowledge, storytelling

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Preface

Parem aasta oota kui kaks kahetseda
*(Better wait for one year than regret for two years)*
Estonian proverb (EV 12:3)

This research is closely interconnected with my interest in stories and storytelling. As a child growing up in the Soviet Union and later in *once more* independent and turbulent Estonia, I was fascinated by reading and comparing the fairytales of cultures around the world. Stories are the collective narratives that we share as a society—narratives that help us communicate challenges, barriers, the need for change, and hope for the future. In addition, stories are central for both strategic spatial planning and scenario planning.

Throughout my professional career in urban studies and urban planning, I have been interested in how stories about future are imagined and expressed through writing and images, sketches, and plans—later also via new means of communication such as video, renderings, social media and soon, to an ever greater extent, AI.

Our visual culture is perhaps pushing written text further into the background, but the stories remain. I remember my studies in art and architecture history in Estonia and Tallinn, where we analyzed in retrospect the grand ideas and plans of the architects, planners, and thinkers who helped plan cities as we know them today—investigating the discussions they engaged in at the time and the way we reinterpret those narratives in our current times. Moreover, we studied the materials, in the form of images, writings or recordings, that remained as small fragments of evidence to understand their ideas and the context that inspired them. It thus became evident that the way we view contemporary challenges, and the argumentation we provide for ‘better’ planning, changes and becomes modified through time.

When I began my career between the two cities of Tallinn and Helsinki as an Erasmus student, I was advised by my supervisor of the time, Professor Mart Kalm, to write my bachelor thesis about the history and development of the Tallinn-Helsinki twin-city idea. That was 15 years ago, and much of what was hoped for the development of Helsinki-Tallinn has still not materialized. When I defended my bachelor thesis and graduated, Professor Krista Kodres expressed deep regret that my dissertation focused too little on art history and too much on regional planning and politics. In the following years, I have often remembered this comment and can perhaps now provide a better response. Plans and
related visual concepts and metaphors prepare cities and people for future activities. These are the artifacts and material of imagination that art history and spatial planning both share and analyze. This also holds true for the idea of the Tallinn-Helsinki twin city—Talsinki, a name that was coined by the writer Jaan Kaplinski 30 years ago.

Working with the Tallinn-Helsinki twin city during my bachelor and master’s studies caused me to realize that I lacked a framework for structuring the many imagined futures of Tallinn-Helsinki. Until then, I had learned from the past, but was there a method for learning about the future? This method, or actually an entire ecosystem of various approaches, is scenario thinking.

I was first introduced to scenario thinking in 2008 by Professor Panu Lehtovuori during my master’s studies. We participated in a studio course about the futures of Espoo where we used scenario planning to develop four scenarios as a group exercise. After that, each group worked with their own scenario story in an almost competition-like setting. Our site was Tapiola, and our scenario concerned the notion of an ecological village: we were tasked with presenting its story as an exhibition. That was 14 years ago, and ecological scenarios are even more relevant today. To complete this work, I was presented with material compiled by Professor Jan Verwijnen, one of the founders of my master’s program, who had passed away in 2005. His compilation, titled ON SCENARIO-PLANNING, was a small 12-page photocopied booklet consisting of classic scenario-thinking texts by the likes of Joel Garreau, Lawrence Wilkinson, and Peter Schwartz and a step-by-step guide for creating scenarios. This remains one of the most concise pieces of literature I possess about scenario making, and I use it with my students to this day. But perhaps the Tapiola Ecovillage would have been my last scenario exercise if, as always in good stories, fate, or perhaps chance, had not intervened. I continued as a co-supervisor to work with new master’s student cohorts, and scenario thinking remained in my life as a yearly academic side activity. Even now, I teach at least one scenario planning studio a year for students who study urban studies, urban planning, architecture, or landscape architecture. The practice of how to integrate scenario planning into their studio work on specific challenges is a creative exercise and ‘learning by doing.’ There was and remains little research and literature on how to integrate scenarios into spatial planning studies—a gap that I hope this work contributes to filling. However, such openness to new research input has also provided many opportunities for testing such prospects together with students and colleagues alike.

The Tallinn-Helsinki twin-city initiative, scenario planning, and storytelling all might have remained separate parts of my life if it were not for my supervisor Professor Raine Mäntysalo and the SCENSLECO (2015–2019) project team. This provided a mental link and professional argumentation for combining spatial planning with spatial imageries, scenarios, and storytelling and tracing their interconnections in the academic literature and through selected projects. However, I was not solely interested in analyzing scenarios from the outside as an observer or practicing them in the comfort of the classroom; instead, I wanted
to learn from applying scenarios to actual urban planning and development contexts. This opportunity presented itself from 2018 onwards when, thanks to Veronika Valk-Siska, Professor Helen Sooväli-Sepping, Keiti Kijavin, and Dmitri Moskovtsev, scenario thinking was integrated into the preparation of several spatial-planning-focused reports, studies, and development plans containing different goals and concentrating on various spatial scales. I emphasize integration because it is a luxury to have a project about scenario planning alone—scenarios are often the beginning, end, or a specific part of some other process, as is often the case in strategic planning. Furthermore, this unique insider-action view allowed me to test theoretical understandings of scenario process design and development as well as story crafting and communication in practice.

We never grow tired of thinking about the future, hoping we could be better prepared for what is coming. In good times, we look to the future with fascination; in difficult times, we are both fearful and hopeful about the future. Being at least somewhat futures literate helps us see the bigger picture, and a longer perspective comforts us in the face of uncertainty and brings hope in turbulent times. It is a capacity to be developed like any other form of literacy. For strategic spatial planning, which has a specific commitment to future, it is an essential capacity. While this claim has been made by several renowned planning scholars before me, there is still surprisingly little research and other helpful material that analyze and theorize about links between scenario thinking and strategic spatial planning, that provide methods for process design and other didactic materials, and that do not merely speak of the ‘need’ for such materials but describe existing ‘living’ practice and suitable ways of adaption in a more nuanced manner. I hope to contribute to the further production of such materials through this dissertation.

Tallinn, 12 March 2023
Kristi Grišakov
I would like to express my gratitude towards my wise and patient supervisor, Professor Raine Mäntysalo, who has provided me with all the necessary support a doctoral student can dream of. Not only has he been a great advisor, but he also caught the ‘scenario bug’ during our collaboration and began experimenting with scenario thinking methods in academic work and projects, thereby providing me with much assistance and most importantly inspiration regarding the ways scenario thinking can support strategic spatial planning in both theory and practice. Furthermore, I would also like to thank Professor Mäntysalo for integrating me into the SCENSLECO project, which helped me find the missing pieces of the puzzle for this research, and for always having confidence in me.

I would like to thank my very first doctoral studies supervisor and later advisor, Professor Peter Ache, for his support throughout this long process. Professor Ache’s encouragement was the reason that I was able to pursue my PhD studies in the first place. Even after he moved to Nijmegen, he was kind enough to welcome me in his new academic home and provide critical and incisive feedback on how to further develop the work.

My gratitude goes to the RYM-TO Doctoral School in the Built Environment for funding my studies and providing excellent networking opportunities. My gratitude also extends to the Estonian Cultural Endowment for supporting both my doctoral studies as well as my earlier studies in Finland.

I would like to thank Aalto University for the opportunity to pursue my doctoral studies in the School of Engineering. I am grateful for the excellent teaching staff, wonderful colleagues, and support staff who have all helped me to gain new insights and maintain my motivation. It has been a pleasure to be part of the Aalto community. My gratitude also extends to the Radboud University Nijmegen for accepting me as a visiting doctoral student. From Radboud University, I would specifically like to thank Henk-Jan Kooij, who has been a great colleague and friend.

The pre-examiners appointed by the Doctoral Programme Committee, Professor Toni Ahlqvist and Associate Professor Robert Goodspeed, conducted a comprehensive review of this manuscript. Their thorough assessment yielded numerous valuable suggestions that significantly contributed to enhancing the final version of the text.

There are many mentors, colleagues, and friends who have contributed to this research. I would like to thank Professor Yrjö Neuvo and colleagues on the Bit Bang course who supported me in learning about trends and uncertainties in
the field of economics and business and allowed me to experiment with scenario thinking in Bit Bang course work.

I would like to thank the SCENSLECO project team members. Not only did their work and joint discussions regarding storytelling and strategic planning have a big influence on this research but, additionally, they were truly the most joyful project team I have ever experienced in my life. More specifically, I would like to thank Markus Laine for sharing some crucial references concerning visual methodologies and Lieven Ameel for his inspirational work concerning narratives and planning.

I am grateful to my colleagues and peers, who supported the development of this work and provided comfort and support in times of need. Special thanks go to Elina Eskelä and Elina Karvonen for their friendship and for making me feel at home in Helsinki. I would also like to thank my academic sibling, Aleksi Neuvonen, for being an inspiration and demonstrating what can be achieved by using scenario thinking methods in both business as well as academia.

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I have been very fortunate to work with supportive colleagues in Tallinn University of Technology and SPIN Unit research practice. I would like to express my deep gratitude to Professor Kimmo Lylykangas, Professor Fabian Dembski, Professor Jarek Kurnitski, Professor Katrin Paadam, Professor Panu Lehtovuori, Damiano Cerrone, and Kristjan Männigo, who, despite all the never-ending project work and other obligations, found the time to discuss my research conundrums with me and ensure I took the time required to finish what I started.

I would like to thank everyone who has commented and provided inspirational and insightful feedback on my papers and presentations throughout these years. More specifically, I would like to thank Patsy Healey for providing writing advice, which was instrumental when writing this monograph.

I am also grateful to everyone who kept asking me how my doctoral research was going. Projects keep piling up and life often gets very busy. It is important to have people around you who remind you of what is important and help keep things in focus.

Pursuing a scenario development project requires trust from all the parties involved, including the organizers, project team, scenario workshop participants, and story artists. I would like to thank them for putting their faith in me and taking part in this academic journey. Without all of them this research would not have been possible. I would specifically like to thank Professor Helen Sooväli-Sepping, Keiti Kljavin, and Dmitri Moskovtsev for allowing me to augment these wonderful projects with scenario thinking.
The metaphorical bridge between Finland and Estonia or Helsinki and Tallinn is maintained every day by many brilliant people, many of whom I have had the opportunity to meet and also interview throughout this process. I would like to thank everyone who contributed to developing and maintaining a closer relationship between the two cities and countries through their day-to-day actions.

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1. Introduction

“Common sense is not so common.” Voltaire

“We are living in turbulent times!” In recent years, this claim has become almost ubiquitous; we hear it in the media, from politicians, and in our professional discussions. The future has always been uncertain, but uncertainty has become the defining feature of our current present (Bates et al., 2020). As a society, we feel the need to develop capabilities to deal with uncertainty, and consequently we search for existing tools that would allow us to orientate ourselves in alternative future environments.

Strategic spatial planning has a specific commitment to future. It concerns the future transformation of place and constantly seeks ways to imagine different futures creatively and collectively (Hillier, 2011; Albrechts, 2005). However, much traditional planning has focused on preserving the existing order rather than challenging and transforming it (Albrechts, 2015). This, in combination with the need to address the ‘radical’ uncertainty (Zapata and Kaza, 2015) of the future, and to account for the multiplicity of communities that essentially shape the future (Hajer and Wagenaar, 2003), creates the need to rethink the praxis of strategic spatial planning (Hillier, 2013). While there is agreement that strategic spatial planning should address the uncertainty of the future, there is less clarity about how exactly to deal with such a future. More specifically, it is important to identify the capabilities and knowledge required to work with the multiplicity of possible futures and to go beyond a vision or a plan that would only address a single desired future. According to the strategic spatial planning literature, such capabilities and knowledge should consist of skills, such as general futures literacy, imagination, and creativity, as well as persuasive storytelling (Albrechts, 2015; Healey, 2007; Sandercock, 2003; Throgmorton, 1996; Davoudi, 2015). In this context, various futures thinking methods are highlighted, including scenario planning (Albrechts, 2005), that should be better integrated into strategic spatial planning.

Scenario planning, much like spatial planning, has grown out of practice. According to Schwartz (1991, p. 4), “Scenario planning can be described as a tool for ordering one’s perception about alternative future environments in which one’s decisions might be played out.” However, this is only one of many definitions of what scenario planning is. In addition to being a means of providing
views about possible future outcomes, it is also defined as a tool for challenging comfortable wisdoms about the future, managing future uncertainties, working with human imagination, and creating plausible stories of the futures (Chermak, 2018). Furthermore, although a key output of scenarios, the actual development and representation of scenario stories is an underdiscussed and underrepresented topic in the scenarios literature (Bishop et al., 2007).

Furthermore, scenario planning is not a single method but an entire ecosystem of schools and methods. For example, according to Bishop et al. (2007), there are eight main scenario techniques with a total of 23 technique variations. This results in a situation where a planner is often faced with a vast number of futures documents and futures thinking techniques, without the ability to comprehend their methodological differences or the capability to choose appropriate ones for the task at hand.

While the need to adopt futures thinking methods has been emphasized in strategic spatial planning, there is lack of research that specifically adapts scenario thinking and scenario planning techniques to the strategic spatial planning context. In his overview of the research literature on the subject between 1995 and 2016, Chermak (2018) was able to find just a dozen or so articles from different publications in the field of spatial planning, the majority of which were data driven, with only a very small number employing a theoretical/conceptual approach. In turn, a literature review performed by Neuvonen and Lehtovuori (forthcoming) managed to identify 27 articles (the oldest from 1976 and the newest from 2019) that concentrate on the connections between spatial planning and futures studies. Among them, there were only 10 case studies. However, some important contributions to the subject have also emerged, such as Goodspeed’s recent handbook on scenario planning for cities and regions (Goodspeed, 2020). While scenario planning appears to be attracting gradually more interest within spatial planning, the overall body of literature reviewing a variety of case examples in relation to suitable methodological choices in different spatial scales remains surprisingly small. This is especially so in the European context, in contrast to North America, where the issue has received more attention. However, alongside case studies, also theoretical and conceptual development of the relationship and dialogue between scenario planning and strategic spatial planning requires more attention. Furthermore, scenario thinking techniques must be actively modified and developed for the specific tasks and challenges of strategic spatial planning. This would help link the theoretical need to actual practice.

This thesis discusses how scenario thinking can be supportive of and in dialogue with the capabilities and knowledge required in strategic spatial planning. In their 2013 publication, Wright and colleagues suggest the adoption of ‘scenario thinking’ as a broader term to describe a thought process that is based on envisioning various potential futures, each with different choices and potential outcomes. In this dissertation, I intend to follow their conceptual delineations using ‘scenario thinking’ throughout instead of the narrower concept of scenario planning. A more detailed overview of the rather fuzzy vocabulary related to scenario thinking is further explained in Section 2.2.
This research adheres loosely to Smith’s (2015) model in its action research design. As further explained in the methodology sections 1.2 and 1.4 of this Introduction, this involves a two-stage approach consisting of 1) identifying and defining a problem within current theory and 2) devising and assessing new concepts to construct a novel theory. Based on identified gaps and issues in current theory, this dissertation examines three interrelated capabilities that can help planners address the future with authority.

First, it examines the capability to critically compare and learn from completed scenario planning documents in order to re-use their output as new input for designing future scenario projects and/or additional spatial planning activities. The recent discourse on scenario thinking in spatial planning (Abou Jaoude, Mumm, and Carlow, 2022; Mäntysalo et al., 2022; Goodspeed, 2017) has primarily focused on assessing scenario outcomes in terms of learning, institutional change, and system change. Nonetheless, before evaluating these outcomes, planners must first comprehend the methodology and reasoning behind scenario documents that have been created by diverse interest groups. This is explored within a unique context, rich in future visions for two neighboring European capital cities, Tallinn and Helsinki, as, over the course of several decades, three distinct scenario development projects have been undertaken in these cities.

Second, the dissertation discusses the capability to design explorative scenario development projects in the context of strategic spatial planning, especially focusing on the aspects of reframing, evidence, and intuition in the overall process design and different scenario steps. Mäntysalo et al. (2022) portray the conflict in planning as a clash between two planning frames: evidence-based and deep-uncertainty. This pertains to their respective methodologies for understanding and validating knowledge in planning. Ramírez and Wilkinson (2016) emphasize that knowledge acquisition, production, generation, and deployment in scenario thinking are socially intricate and require a blend of analytical, creative, and critical thinking. Thus, the objective here is to add to the ongoing discourse on the function of evidence in different framing approaches to scenarios. The term ‘evidence’ refers to various types of knowledge that are gathered, analyzed, and synthesized to comprehend future development paths and convey them through scenario narratives. This is illustrated through the example of the design process of three scenario projects in Estonia, each with varying contexts, objectives, and territorial scopes.

Third, the dissertation explores the capability to create scenario stories, focusing on how the knowledge collected during the scenario project can be interpreted and mediated as such stories and story visuals in order to support the planning process. Most scenario thinking methods barely or inadequately explain the process of creating stories (Bishop et al., 2007). The objective here is to delve further into the role of stories and their crafting in the discourse on scenario thinking and spatial planning. It is evident that scenario thinking for spatial planning and development necessitates stories and visuals that depict specific places and worlds. While scenario stories have traditionally been conveyed through text, this may not always be the optimal medium to represent...
spatial development and change. Given the present-day emphasis on visual communication, the visual presence and representation of scenario stories have become even more critical. These themes are explored using the example of three scenario projects that have employed visual representations in crafting their scenario stories.

Finally, the crucial abilities listed above are interlinked to discuss how scenario thinking as an iterative process can be connected with the wider practice of knowing in planning—not exclusively for the purposes of strategic framing but also to support reflective planning practice in general. Here, this research aims to incorporate knowledge of the future, particularly scenario thinking, with the ‘practice of knowing’ framework (Davoudi, 2015) of planning. It examines the relationship between scenario thinking and strategic spatial planning, both of which stem from the broader field of strategic planning and are also practice-based, oriented towards action, and derived from action.

As is evident from the discussion above, scenario thinking encompasses a wide range of techniques. This dissertation focuses primarily on the use of an explorative scenario typology in strategic spatial planning. Spatial planning has been criticized for its excessive focus on normative visions or predictions, commonly ignoring the explorative type of scenario work (Avin and Goodspeed, 2020; Goodspeed, 2020). By investigating a variety of scenarios and a variety of perspectives, explorative scenario work promotes the development of both plausible and possible futures (Börjeson et al. 2006). Explorative scenario work uses a long time horizon and is useful in cases where we possess a relatively good understanding of the present situation while being interested in exploring key uncertainties or alternative development paths. According to the typology created by Börjeson et al. (2006), the resulting scenarios can be characterized as explorative-strategic. The explorative-strategic approach describes a range of possible consequences of decisions. Explorative-strategic scenarios also tend to focus rather more on internal factors (or the factors that can possibly be affected) while still taking external factors into account. In its approach to future, it aims to be proactive in that the future (to a certain extent) can be changed by the decisions taken in the present (Shearer, 2005).

1.1 Objectives of the research and research questions

The overall objective of the research is to support the informed and knowledgeable use of scenario thinking in strategic spatial planning in order to cope with the uncertainty of the present and explore a variety of perspectives for developing both plausible and possible futures. These collectively developed futures can then be used to guide and evaluate planning action in a more resilient and anticipatory manner.

The research perspective of this thesis is based on a theoretical framework derived from 1) future-oriented theories of strategic spatial planning, 2) theories and methods of futures thinking and their orientation to storytelling and
knowledge formation, 3) theories about planning as a practice of knowing, including planning’s relationship to evidence, and 4) theories of spatial planning as storytelling.

This theoretical framework helps in formulating the main research question of the thesis:

**How can scenario thinking contribute to the generation of different types of knowledge and capabilities required in strategic spatial planning?**

This research tackles the different types of knowledge and capabilities required in strategic spatial planning and the potential contribution of scenario thinking to each of them. Specific attention is given to understanding how knowledge is used, both generated and later validated, in scenario thinking in the context of strategic spatial planning. Thus, the dissertation develops answers to the following sub-questions that follow the crucial capabilities described above:

1) **In what way is strategic spatial planning in dialogue with scenario planning regarding their discussion of the capabilities and knowledge required for developing different futures?**

2) **How can existing scenario work be analyzed and evaluated in order to incorporate its findings into the design of forthcoming scenario projects?**

3) **How is the role of evidence perceived and used for different types of framing with scenarios in the context of strategic spatial development?**

4) **How can scenario stories be crafted and represented in the context of scenario projects dealing with spatial futures?**

5) **How can scenario thinking support strategic spatial planning as a practice of knowing?**

The theoretical argument of the dissertation is further illustrated by four cases that encompass a total of six scenario projects. They all apply scenario methodology to a territorially defined context. These four cases are introduced in section 1.5 of this Introduction and are further explored in three subsequent chapters (Chapters 3, 4, and 5). The cases are used to shed light on and illustrate the previously mentioned capabilities and to exemplify knowledgeable use of scenario thinking in action.
This dissertation is structured in a cumulative manner, where the theoretical framework is continuously developed in each chapter. While Chapters 2 and 6 focus primarily on developing the theoretical argument, Chapters 3, 4, and 5 combine theoretical insights with examples to augment the theoretical framework. Table 1 illustrates how the research questions are linked to specific chapters, including the key concepts, methods, and data used to examine each of them.

Table 1. Research questions, concepts, methods, and data used in this dissertation

<table>
<thead>
<tr>
<th>Main research question</th>
<th>Sub-questions</th>
<th>Key concepts</th>
<th>Methods</th>
<th>Data</th>
<th>Focus chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>(RQ1) In what way is strategic spatial planning in dialogue with scenario planning regarding their discussion of the capabilities and knowledge required for developing futures?</td>
<td>Role of evidence; Strategic framing and reframing with scenarios; Types of knowledge and role of reflection and intuition; Temporality and future attitudes</td>
<td>Desk research</td>
<td>Journal articles and other relevant academic literature</td>
<td>Cumulative throughout the thesis. Specific emphasis in Chapters 2 &amp; 6</td>
<td></td>
</tr>
<tr>
<td>(RQ2) How can existing scenario work be analyzed and evaluated in order to incorporate its findings into the design new scenario projects?</td>
<td>Conceptual hooks and imaginaries; Cross-border regions; Scenario project design; Scenario comparison categories; Future attitudes</td>
<td>Desk research, comparative document analysis, interviews</td>
<td>Scenario reports, interviews, events</td>
<td>Ch. 3</td>
<td></td>
</tr>
<tr>
<td>(RQ3) How is the role of evidence perceived and used for different types of framing with scenarios in the context strategic spatial development?</td>
<td>Strategic framing and reframing with scenarios; Predictability of environment; Intuitive logics and role of intuition, evidence, and their juxtaposition</td>
<td>Intervention based on insider action research, including 1st, 2nd, and 3rd person inquiry</td>
<td>Scenarios, scenario process materials, participatory observations, notes and email correspondence</td>
<td>Ch. 4</td>
<td></td>
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<tr>
<td>(RQ4) How can scenario stories be crafted and represented in the context of scenario projects dealing with spatial futures?</td>
<td>Planning as storytelling; Plausibility and credibility; Story production, mediation, and negotiation</td>
<td>Intervention based on insider action research including 1st, 2nd and 3rd person inquiry</td>
<td>Scenarios, scenario process materials, participatory observations. Notes and email correspondence</td>
<td>Ch. 5</td>
<td></td>
</tr>
<tr>
<td>(RQ5) How can scenario thinking support planning as a practice of knowing?</td>
<td>Types of knowledge; Intellectual virtues; Planning as practice of knowing; Knowledge of the future</td>
<td>Intervention based on insider action research with emphasis on 1st person inquiry</td>
<td>Scenario process materials and notes</td>
<td>Ch. 6</td>
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1.2 Research strategy and methodology

As discussed above, scenario thinking techniques must be actively modified and developed for the specific tasks and challenges of strategic spatial planning. Additional empirical cases are required to link the theoretical need to actual practice. However, in addition to cases, the theoretical and conceptual development of the relationship and dialogue between scenario and strategic spatial planning also demands more attention. This research develops theory within the ethos of action research, which aims to improve practice and encourage learning (Smith, 2015). In action research, the term ‘action’ is, according to Smith (2015), used to signal a commitment to transforming practice through reflective internal evaluation. The reason for focusing on action research is simple. As a researcher, I was not a mere observer unable to influence the scenario project process; rather, I was a facilitator of the empirical cases as a member of the project team.

However, building knowledge out of practice can be challenging. According to Smith (2015, 2015, p. 143), “the practice context requires researcher and practitioner alike to give up unilateral control, to meddle in messy matters of values and ends, and to grapple with emotionally charged issues, all of them subject to competing interpretations.”

Scenario planning, as well as strategic spatial planning, has developed over the years from an expert-driven to a more participatory and communicative process in order to develop shared futures goals and visions among different groups of participating actors (Healey, 2002; Higdem, 2014; Harmaakorpi and Uotila, 2006; Cairns et al., 2017; Miller, 2007; Groves, 2017). According to Inayatullah (2006), traditional research is empirical and present based. Action research is also present based; however, it is reflective, with learning derived from questioning both preconceived knowledge and practical experience. In this context, the researcher cannot be seen as a detached professional with limited responsibility for the phenomena under investigation. In action research, the responsibility of the researcher is to engage in applied research alongside other participants serving as co-creators of knowledge, such as knowledge in the form of scenarios (Higdem, 2014). In the process of formulating scenarios, or in any other similar foresight activity, the key concept for action researchers should be strategic facilitation. Furthermore, according to Ramos (2006) and Miller (2007), scenario thinking should not be judged by its usefulness in knowing the futures; rather, it should be evaluated for how it supports facilitation among people. This consequently shifts the focus from futures research experts who merely create content towards a participant-centered process that facilitates the development of futures literacy (Miller, 2007).

According to Ramos (2006) and Bradbury (2015), good action research is characterized by five principles and qualities:

- It is research aimed at generating action for human betterment. Moreover, it presupposes that our understanding of the world is enhanced through taking action and directly engaging with the world. It entails an attempt to make explicit what is tacit by reflection upon the experience of people’s lives. In terms of quality, this principle is actionability and a contribution to a wider body of practice and/or theory.
• It is a participatory research process that includes plural ways of knowing in the creation of theory and practices. Knowledge here is seen as a process that is co-created through a diversity of perspectives and contexts. This does not mean that knowledge is relative; instead, it involves a process of merging viewpoints through collaborative interpretation. In terms of quality, this principle can be interpreted as partnership and participation.

• It is iterative and heuristic—a continuous process of advancing inquiry and actions. This reflects the methodological aspects of action research, which typically involve a cyclical process of analysis, planning, action, and reflection. This principle can also be interpreted as articulation of objectives and continuous reflexivity.

• It is research by participants for participants that addresses the fundamental question of ‘research for who’s benefit?’ The objective of research is to facilitate learning and empowerment among stakeholders, who serve as the essential reference group throughout the process. In terms of quality, this principle can be interpreted as appropriate methods and process.

• It is a research process that aims to democratize knowledge and agency, empowering individuals to participate in shaping the future of society. In terms of quality, this principle can be reinterpreted as significance.

According to Ramos (2006), the emerging approaches to futures studies valuing participation, knowledge creation, democratic commitment, and social innovation have begun to complement the field of action research. He subsequently identifies examples where the two domains of work intersect instinctively through futures studies incorporating tacit participatory action, or action research incorporating tacit futures thinking. Additionally, however, there are examples of conscious and explicit incorporation of the two, such as the work of Inyatullah (2006) or Ramírez and Wilkinson (2016). Spatial planning has also incorporated action research and participatory action, for example, to acquire knowledge about the needs of inhabitants, promote the empowerment of marginalized groups, and foster community engagement in the process of urban design and planning (Ku and Kwok, 2015). It is thus unsurprising that in strategic spatial planning fields such as regional strategy making or urban planning, it is combined with foresight and action research (Higdem, 2014; Avin and Goodspeed, 2020). In other words, since both strategic spatial planning and scenario thinking have begun to incorporate tacit participatory action, it is to be expected that action research is also consciously incorporated into spatial planning projects using scenario thinking, or vice versa. This is also the aim of the present research.

At the core of action inquiry is the assertion that heightened awareness of the interdependence between action and inquiry can progressively enhance the researcher’s ability to collaborate with others and take action within intricate environments (Erfan and Torbert, 2017). Such deliberate incorporation of various alternative approaches to inquiry leads to more valid and transformative results. Therefore, an established and valuable approach for exploring the role of duality
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and ethics, when conducting action research, is the construct of three different voices (Holian and Coghlan, 2013). Action research distinguishes between the different levels of 1st, 2nd, and 3rd person inquiry, although there also exists a much wider palette of possible voice types (27!) as well as three different time dimensions (Erfan and Torbert, 2017). The distinction of voices helps clarify the scopes in which the convergence of action research, scenario thinking, and spatial planning occur.

Furthermore, according to Holian and Coghlan (2013), the construct of first-, second-, and third-person inquiry/practice provides a framework for implementing individual inquiry and learning in collaboration with others, which then leads to the dissemination of knowledge to an impersonal third-party audience.

First-person action research is essentially an inquiry into one’s own self, to enable action with more awareness. First-person inquiry is thus centered around the subjective experience and agency of the individual. The process includes individual reflection through, for example, peer or mentor discussion and journaling or meditation practices (Ramos, 2006). The aim of first-person inquiry is to facilitate individuals’ capacity to adopt a curious and purposeful approach to their own lives, enabling them to take informed decisions and deliberate action. It focuses on questioning one’s basic assumptions and examining one’s behavior and sensitivity towards others (Coghlan, 2007). Especially in the context of futures studies, but also in strategic spatial planning, it is about developing a heightened sensitivity towards social or global emerging issues and adopting an expanded view of one’s role and responsibilities in the world (Ramos, 2006). In the context of this research, it additionally concerns an awareness of the assumptions guiding scenario project design and facilitation throughout the different time dimensions of the research process. For example, it is important to be cognizant of the ideas, behaviors, and attitudes that are learnt and adopted from previous projects or the literature—both consciously and unconsciously—and are then adapted to a new context. Moreover, it is necessary to consider how reflections about the projects or the scenario thinking approach have changed over time.

Second-person inquiry concerns collaboration and dialogue with others to improve reflexivity (Coghlan, 2007). It is often conducted through meetings, workshops, and conferences, but conversation is an important medium. This form of inquiry is community, organization, or project based, as individuals come together to solve a complex issue through collective action (Ramos, 2006). Second-person inquiry can occur through a range of interventions. In the context of this research, it takes place foremost through scenario workshops, but it also conducted in other project meetings, email correspondence, and joint document editing/commenting.

Third-person inquiry links groups and individuals with wider political events that are more detached in nature. Dissemination of research and extension of knowledge and learning to an impersonal audience is achieved through third-person inquiry (Coghlan, 2007). In an ideal case, this audience (both academic and practitioner communities) can learn from first- and second-person practice
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and position itself in order to realize what is actionable (Coghlan, 2007). From the scenario project perspective, Ramos (2006) associates third-person inquiry with the use of knowledge from the foresight project to inform policy making or mobilize civil society in a wider sense. In the context of this research, third-person inquiry in the narrower sense is concerned with the actionability of the resulting scenario work for policy makers or the communities involved in the scenario formulation process. In a wider sense, third-person inquiry is at the service of the academic community in the field of strategic spatial planning and futures studies. In the first case, third-person inquiry comes from the reception of and feedback on the projects. In the second case, it stems from strategic spatial planning and futures studies theories that are further developed through first- and second-person inquiry findings. In conclusion, the knowledge and practice derived from this research result from research-in-action (third person), which is based on the individual practitioner-researcher’s personal learning in action, both individually (first person) and collaboratively (second person).

1.3 Scenario thinking approach

This research concerns scenario thinking, with the cases and action research inquiries focusing on scenario planning projects and the scenario development process. While scenario thinking is extensively discussed from various angles throughout the chapters of this dissertation, it is important to clarify the basics of the method in this introductory chapter. According to Bishop et al. (2007), a scenario is an archetypal product of futures studies because it embodies the central principles of the discipline, allowing the researcher to think deeply and creatively about the future as well as prepare for multiple plausible futures. A scenario is essentially a story about one such possible future that is coherent as well as engaging (Bishop et al., 2007). The scenario thinking process can help highlight different types of knowledge, such as that which is taken for granted, known but not explicitly discussed, novel, peripheral, or in organizational silos. Moreover, it can facilitate the identification of factors that are messy, complex, and wicked (Ramírez and Wilkinson, 2016; Dufva & Ahlqvist, 2015). Scenario thinking can also work as an integrating activity, bringing actors together to build stronger relationships and better acknowledge their interdependences (Zegras and Rayle, 2012; Cairns, 2017).

The ‘default’ standard for scenario work is a technique created by Pierre Wack and later popularized by Schwartz (1991). However, there are over 20 other techniques for developing scenarios (Bishop et al., 2007).

The basic generic steps of a comprehensive scenario project (regardless of the particular typology) adapted from Bishop et al. (2007) are:

- Framing—the process of creating a project plan by scoping the project purpose, objectives, audience, and teams
- Scanning—collecting information about the history and context of the issue and selecting approaches for scanning the future of the issue
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- Forecasting—describing the drivers and uncertainties leading eventually to baseline and alternative futures and their outcomes
- Visioning—choosing a preferred future and envisioning the outcomes and performance measures
- Planning—making a strategic plan for reaching the selected future, including resources and options
- Acting—implementing a plan, communicating the results, and developing action agendas

This research uses scenario project cases that only follow this approach until the end of the forecasting (scenario development) step. The focus in this research is thus primarily on the first three steps. The following steps of visioning, planning, and acting depend on the type of strategic spatial planning project the scenarios were created for. In most cases, the main task and final output of the project was scenario development.

This research specifically inspects step three, which is the actual forecasting process used to develop the scenarios. This step consists broadly of seven sub-steps, which also include scenario workshops that are used for second-person inquiry. Adapted from Wright et al. (2013) and Schwartz (1991), these seven sub-steps are:

1. Framing: setting the agenda—defining the focal issue or decision.
2. Determining the key forces in the local environment that govern the success or failure of the focal issue or decision.
3. Determining the driving forces by considering the full set of social, technological, economic, environmental, political, value, and spatial factors (STEEPVS) that will shape the future.
4. Determining predetermined and highly uncertain forces. Ranking the forces by importance and uncertainty.
5. Selecting the scenario logics and producing the scenario matrix.
6. Fleshing out the scenario stories.
7. Discussing implications of the focal issue in every scenario. Discussing lead indicators and signposts.

Chapter 2 of this dissertation provides a more detailed overview of scenario thinking as an activity, including its application in strategic spatial planning. Chapters 4 and 5 focus specifically on examining the scenario development sub-steps.

The research literature has also discussed whether scenarios ought to be developed as a group exercise or, rather, as the solitary vision of a single expert (Ramírez et al., 2015; Chermak et al., 2015). Scenario methodology can also be used as a group exercise (Ramírez et al., 2015) if the aim is to monitor and analyze a collective learning process or, in the case of this research, for second-person inquiry (Ramos, 2006). However, Pierre Wack, one of the founders of scenario thinking, never facilitated a group process (Chermack and Coons, 2015). From Wack’s perspective, group work was an important input component, but a group never produced the scenarios. The aim of Wack’s scenarios was to
change how decision-makers (alone) viewed the world—to challenge their perspectives and assumptions. In this view, including various stakeholders in the actual scenario creation process would merely water the scenarios down (Chermack and Coons, 2015). Regarding the scenario projects used in this research, I suggest, rather, that the main factor influencing the adulteration or dilution of the scenarios it is not so much the stakeholders as the wider aims and purpose of the scenario project. However, perceived adulteration can also be a mere first-person (expert) reflection. As described above, futures praxis in general has become more participatory since the 1970s, and the purpose of using scenario development has changed from focusing narrowly on expert prediction to collective futures learning and crafting experience.

1.4 Research framework—developing a knowledge-building cycle

Developing the methodological approach of this work was challenging, as the research included both scenario planning and strategic spatial planning, both fields where knowledge is built from practice. The research process was iterative, and, during its course, the focus of the research changed from a single case study centered on the future imaginaries of the cross-border region of Tallinn-Helsinki to the tackling of wider questions about the dialogue and confluence between scenario planning and strategic spatial planning by involving additional scenario project cases. In order to contribute to strategic spatial planning practice but, furthermore, to specify the knowledge formation processes highlighted by scenario thinking, additional scenario cases were required. However, sometimes the researcher does not find a case; rather, the case presents itself to the researcher as an opportunity. In following such opportunities, it was important to remain aware of my position as a researcher when shifting from a mere observer to a facilitator, thus requiring the approach of action research.

The action research design of this research loosely follows the model developed by Smith (2015). It includes the two-stage process (Figure 1.) of 1) uncovering and defining a problem in existing theory and 2) inventing and testing new ideas to build a new theory. Both stages consist of sub-steps, and the cycle can be revised over time to improve it in the light of new data, thus sparking another knowledge building cycle.

Stage one consisted of uncovering and defining a problem, using theories from futures thinking and strategic spatial planning as well as scenario practice from the empirical case of Tallinn-Helsinki. As Smith (2015) explains, this stage is not yet about inventing or testing anything new but rather about observing. As such, this first stage follows the rather traditional case study approach of investigating a contemporary phenomenon (the case) in depth and within its real work context (Yin, 2014). However, the case should not be approached as a sample but rather as a chance to shed empirical light on some theoretical concepts or principles. In the context of action research, the focus, additionally, is on improving practice.

Therefore, ideas are drawn from the first stage and tested in the second stage using, in the context of the current research, the additional scenario projects
from the Estonian context. Finally, new theory is built out of what is learnt from such experiments in action.

Below, I provide a condensed account of the steps involved in each phase and the overall scope of the research process. This serves to demonstrate how the research was conducted and the diverse responsibilities I undertook as an action researcher, as well as the role I adopted within the wider teams of different scenario projects that serve as empirical cases or interventions.

Figure 1. Research framework: knowledge formation cycles

This research project was iterative, with two literature review stages and a final theoretical revision to build new theory out of practice. As discussed earlier, the first stage of the research focused on a literature review and observation to define a problem derived from existing theory. For this stage, a literature review of the theory of strategic spatial planning, the theory of futures thinking, and scenario methods was conducted. The aim of the literature review was to identify research gaps and confluences between the disciplines in terms of the capabilities required in planning to deal with multiple futures. In order to develop a new line of inquiry, the empirical case of Tallinn-Helsinki was selected, which was able to provide three completed scenario projects. Various additional empirical material was gathered, from interviews to event observations, to provide a contextual and temporal context for the scenario projects. This work was then used to identify constructs and methods in the overall setting of the Tallinn-Helsinki case and its different scenario documents that might be, in the words of Smith (2015), ‘counterproductive.’ By counterproductivity, Smith (2015) means issues within practice that slow down or prevent learning what the theory of action perspective aims to promote.

At the beginning of stage two, a secondary literature review was conducted to broaden the theoretical horizons. In line with the insights derived from stage one, new theoretical topics were introduced, such as storytelling and spatial imaginaries, with an emphasis on exploratory scenarios as well as the role of knowledge both in strategic planning and scenario thinking. Regarding designing an intervention to test new constructs, the obvious choice would have been
to continue with the Tallinn-Helsinki focus, but that was not possible, as the official cross-border cooperation body was terminated and there were no new projects pending. It was equally important that such an intervention be situated in a real-life scenario project context rather than in a mock-up process or experiment designed only for research purposes. A real-life scenario project provides much broader opportunities to observe both practitioners and other stakeholders in a context with real stakes and tangible outcomes, i.e., as close to practice as possible. By chance, there were spatial strategy documents under development in Estonia where a scenario thinking component was planned to be included.

Ultimately, three different scenario projects were operationalized as experiments in Step 4 of the research process. They all concentrated on different spatial scales—national, municipal, and local (one island and its community), thus also additionally complementing the case used in Stage 1, which focused on the regional and cross-border scale. The scenario projects were ordered and designed with different aims in mind, as the scenario work was expected to contribute to distinctive types of strategic planning documents. The contexts also varied in other ways, as the scenarios were prepared for different uses: as part of an academic report, as part of national-level planning guidelines, and as part of development strategies. However, scenario thinking and the application of the intuitive logics method were a common feature of all the contexts. A more detailed overview and comparison of each project is provided below.

1.5 The cases

Table 2. presents an overview of the scenario project cases used in this research in both the problem definition phase (Stage 1) and the second theory building phase (Stage 2). The table is formulated based on the scenario project comparison categories proposed by Chakraborty and McMillan (2015) and Zapata and Kaza (2015). These categories are further elaborated in Chapter 3, which concentrates on the question of the knowledge that can be derived from comparing completed scenario projects. The table provides an overview of the aims, organization, and participants of the projects, as well as the scenario timespan, approaches, and territorial scale.

The table is followed by a more detailed description of the context of each case, as well as the empirical materials that were gathered during the research.
Table 2. Key characteristics of the case studies

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<tbody>
<tr>
<td>Territorial scale</td>
<td>Regional</td>
<td>National</td>
<td>Settlement</td>
<td>Municipal</td>
</tr>
<tr>
<td>Scenario timespan</td>
<td>5–40 years</td>
<td>30 years</td>
<td>10 years</td>
<td>20 years</td>
</tr>
<tr>
<td>Scenario type</td>
<td>Explorative-strategic; normative transforming; explorative external</td>
<td>Option alternatives high-low. Explorative-strategic</td>
<td>Option alternatives high-low. Explorative-strategic</td>
<td>Combination of predictive and explorative. Option alternatives based on vacancy management strategy and baseline scenario.</td>
</tr>
<tr>
<td>Use of scenarios</td>
<td>Vision</td>
<td>Public awareness, policy recommendations</td>
<td>Vision. Development plan</td>
<td>Policy recommendations. Input for development plan and master plan</td>
</tr>
<tr>
<td>Aim of scenario project</td>
<td>Develop alternative or desirable views. Come up with shared vision. Scenarios compiled by experts; stakeholders involved in process.</td>
<td>Develop alternative development scenarios. Stakeholders involved in focus groups. Scenarios generated by expert, but stakeholder opinions considered after first scenario drafts.</td>
<td>Develop alternative development scenarios, in form strategic development plan and investments. Scenarios compiled by experts. Stakeholders involved in expert interviews and focus groups.</td>
<td>Develop vacancy forecasts and proposed different spatial scenarios for vacancy management in specific settlements. Scenarios compiled by experts and validated by stakeholders.</td>
</tr>
<tr>
<td>Outcome</td>
<td>Some outcomes from the perspective of institutional change and learning</td>
<td>Some outcomes from the perspective of institutional change and learning (e.g., mental models, individual or collective learning).</td>
<td>Outcomes from perspective of systemic change. Most likely some outcomes from the perspective of institutional change and learning (e.g., mental models, individual or collective learning).</td>
<td>Outcomes from the perspective of systemic change. Most likely some outcomes from the perspective of institutional change and learning (e.g., mental models, individual or collective learning).</td>
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1.5.1 Tallinn-Helsinki

The Tallinn-Helsinki cross-border region serves as an exceptional case study for scenario thinking, as it offers a wealth of information on various narratives,
visions, and scenarios that have been developed over the past 30 years and on historical visions for collaboration dating back to the 19th century.

The idea of establishing a twin city between the two capital regions has been the topic of discussion for the past 30 years. An official networking organization, Euregio, was established in 1999 and terminated in 2014. All official cooperation has since been project and opportunity based.

Between the years 2001 and 2012, Helsinki-Tallinn Euregio commissioned three scenario development projects exploring the future development of the Tallinn-Helsinki twin region—projects that were all executed by different teams of authors with different approaches to scenario development. Besides scenario reports, additional empirical material (reports, newspaper and journal articles) was gathered to further understand the historical development of the twin-city idea and vision(s) and the discussions surrounding them, as well as the temporal and ideological context of the scenario projects.

The reflections of the various stakeholders participating in the creation of these scenario projects were gathered via semi-structured interviews. The selection of experts was based primarily on their personal expertise and involvement in the scenario projects rather than on their institutional background. These experts were considered to understand the topics of the future development of the Helsinki-Tallinn border crossing region or the strategic spatial planning processes of one or both city regions. Second, it was important to collect the reflections of experts working on different spatial scales of the cross-border region, ranging from the transnational to the urban and neighborhood level. The selection included 11 experts, the majority of whom were also participants of previously listed scenario projects or additional events. The compiled empirical data was organized and labelled for scenario comparison. Further information about the interviewees and interview questions can be found in Annex 1.

Additional material was gathered from cross-border events and workshops that focused on future (spatial) visions, opportunities, and cooperation. The five events all concentrated on opportunities for cross-border cooperation and discussed and proposed visions for improving cooperation in the future. They included a broad range of stakeholders, ranging from public officials to designers and architects and urban activist organizations. While all the events included participants from this wide stakeholder community, providing a sample of experts with different backgrounds, there was also a range of different organizers—the official networking organization, Euregio, Tallinn’s local urban activism organization, Urban Lab, and the Finnish ARMI association, established to promoting a shared built cultural environment in cooperation with Helsinki Design Week and the Finnish Institute. Empirical material collected from the events consists of written documentation and recorded group discussions.

**Documented events:**
- The Talsinki Urban Activism Discussion. Tallinn. 7th June 2010.
• ARMI workshop “Mobility and Communication.” 15th of August, 2nd and 7th of September 2012.
• Workshop on transmedia projects for Helsinki-Tallinn twin city, organized by Helsinki Metropolia University of Applied Sciences and Tallinn University Baltic Film and Media School. September–December 2015.
• Finnish and Estonian architects’ joint workshop about the impacts of Tallinn-Helsinki tunnel, 7–9th of September 2015.

The empirical material was analyzed for two purposes. First, the material helps create a temporal storyline of the evolution of the Tallinn-Helsinki idea, specifically concentrating on the narratives, myths, and future imaginaries that provide reason for and shape cross-border collaboration. This material, along with desk research, was used to describe the temporal evolution of cross-border relationships and imaginaries. Secondly, the empirical material provided a specific context for analyzing the completed scenario projects. While the analysis of the scenario documents focuses predominantly on the document analysis of the report, the empirical material from the interviews was used to provide additional contextual insights for the scenario report comparison categories (Table 3.), which are not articulated or explained in the contents of the reports.

1.5.2 Estonian Human Development Report

The aim of the Estonian Human Development Report (EHDR)7 is to provide an academic overview of the development of a relevant topic in Estonian society. The overview articles are written by renowned scientists and researchers in their particular field and are peer-reviewed. The final report is presented to the Parliament. The 2019/2020 issue was titled “Spatial Choices for an Urbanized Society” and concentrated on the theme of Estonian spatial development and public space in the past 30 years. This was the second EHD report to concentrate on a focal topic. The earlier reports included articles from different fields of research. Moreover, it was the first report to include a futures chapter with scenario stories.

Work on the content of the report, including the preparation for the futures chapter, began in 2018, and the report was published in summer 2020. For the first time, a chapter about future scenarios was also included at the end of the publication to present possible pathways towards the future based on the trends and drivers discussed in the previous chapters. I was the sole editor and main writer of this futures chapter. The scenarios produced for the chapter were illustrated with a scenario story (written by a writer) and illustrations (created by a designer). The aim of the scenarios was to communicate the main spatial development paths presented in the report as policy recommendations to politicians (members of parliament) and the wider public.

The core empirical material gathered from the case consisted of documentation of the scenario project process. Most important, it included facilitation of two scenario workshops with report chapter editors and invited stakeholders.

7 https://2020.inimareng.ee/
The first workshop was held on November 19, 2018, and focused on collectively mapping the key driving forces and identifying the critical uncertainties for further scenario development. The first workshop participants included the chapter editors and external topical experts. The workshop consisted of three sessions. In the first two sessions, the working groups mapped the key drivers, first concentrating on external and internal drivers on a more general level and then selecting key drivers for a particular spatial development topic. In the third session, the group outputs were collectively discussed, and critical uncertainties were identified.

The second workshop was held on December 17, 2018, and focused on collectively developing the draft scenario stories. The participants of the second workshop included the chapter editors as well as external experts. However, due to limitations in availability, the group of experts was not the same as in the first workshop. The second workshop also consisted of three sessions. The first session presented the results from the first workshop, and a collective selection of the key uncertainties was made, to be used for the scenario story development. In the second part of the workshop, stories were developed in groups. In the third session, the stories were presented to others and collectively discussed. Extra emphasis was placed on explaining the task at hand and providing inspiration for story writing by guest speakers.

Both workshops were documented by photographing the process and gathering and archiving all produced outputs (sketches, lists, and stories). A memo was prepared on the discussions. The full list of workshop participants is available in the methodology section of the published report (Sooväli-Sepping, 2020). Further information about the organization and tasks of the scenario workshops can be found in Annex 2.

Additional empirical material was gathered from joint online working sessions with the main editor and the team of chapter editors who contributed to the scenario development. In later stages, the writer and illustrator also joined the team to develop the scenario stories. The work documents were collected in a joint folder, thereby allowing joint editing of and commenting on the futures chapter, including the scenario story system maps and different versions of the scenario stories.

1.5.3 Naissaar community scenarios

Naissaar community scenarios were produced as part of the strategic development plan prepared by the community in partnership with Viimsi municipality. The project began in March 2019 and concluded in December 2019. Naissaar is an island about 9 km from the city of Tallinn, officially belonging to the municipality of Viimsi. Viimsi is a former fishing village that has undergone a heavy suburbanization process in the last 30 years and is now one of the

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8 http://www.linnalabor.ee/failid/n/bd6f523267fa1246536b2d4e5c0a454a
wealthiest municipalities in Estonia. Naissaar, on the other hand, has an history of discontinuities. The Swedish community that historically settled on the island fled or was deported during WW2. After that, the island was, due to its strategic location, in military use, and after Estonian re-independence the island has been slowly repopulated by a new community of permanent and seasonal residents. The aim of the scenarios produced with and for the community was to 1) inform the community and help it (with its multiple diverging perspectives and conflicts) acquire a shared understanding of the main development path(s) towards the future, with possible risks included and 2) communicate and present local needs more clearly to the municipality through jointly composed scenarios as part of the Naissaar strategic development plan.

The core empirical material gathered from the case included interviews with seven different stakeholder groups, ranging from municipality representatives to community members, entrepreneurs, residents, and landowners. The interviews were used to map the stakeholders’ needs and views regarding the past and possible future development paths of the island. Special attention was paid to mapping key drivers, as well as both the desired and plausible development trends. Empirical material was also gathered prior to the workshop via a web-questionnaire targeted at community members (21 respondents). The aim of the survey was to investigate the island residents’ satisfaction with their current living and service environment, their main concerns, and their expectations regarding different development perspectives. The interview and questionnaire results were used to prepare the scenario workshop aims and focus. The full list of interviewees is available in the methodology section of the published development plan (Linnalabor, 2019). A total of three events were held, including a two-day scenario workshop for all the island community members:

- March 24, 2019, general meeting of the NGO Naissaarlaste Kogukond was organized to discuss the framing focus for the scenario work.
- May 11–12, 2019, Naissaare scenario workshop and fieldwork, which included a full-day workshop with all participating community members. The workshop concentrated on scenario story development as group work and joint discussion regarding the actions required to strive towards the desired scenarios.
- October 22, 2019, an expanded board meeting of the NGO Naissaare Kogukond was organized to discuss the final scenarios, including the selection of the preferred scenario and the devising of actions for reaching that particular future.

The workshop was documented by photographing the process and gathering and archiving all produced outputs (sketches, lists, and stories). A memo of the events was prepared. Further information on the interviewees and interview questions, the survey questions, and the organization and tasks of the scenario workshop can be found in Annex 3.

Additional empirical material was gathered from joint working sessions with the team members who contributed to the scenario development. In later stages, an illustrator joined the team to develop the scenario stories further. As with the EHDDR case, all work documents were collected in a joint folder, thus facilitating
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joint editing of and commenting on the report, including different versions of the scenario stories.

1.5.4 Shrinking Patterns

Shrinking Patterns was a project for determining guidelines for monitoring vacancy and developing a strategic plan for adaption to shrinking. This work was commissioned as a pilot by the Estonian Ministry of Finance (2020) and continued by the Ministry of Economics and Communications (2021). The pilot study began in December 2019 and concluded in June 2020. The aim of the work was to develop planning support systems for better understanding the shrinking process in different settlements in Estonia. The main aim was to use forecasts and forecast-informed scenarios to increase municipalities’ awareness of shrinkage processes and urge them to take continued shrinkage into account in their strategic development plans (incl. comprehensive plans). In this case, the scenario process was based on quantitative data on building vacancy rates and population change per dwelling, allowing the identification of buildings, districts, and settlements that were already vacant or at risk of becoming vacant in the next decades. Based on the forecasts and fieldwork in the municipalities participating in the pilot study, spatial scenarios were developed to illustrate potential shrinkage adaption scenarios.

The empirical material gathered from the case included two interviews with the development officers of the pilot municipalities. The aim of the interviews was to provide a preliminary mapping of needs and views regarding the past and possible future development paths of the municipality and its various settlement areas. Special attention was paid to mapping key drivers affecting shrinkage in the local context as well as both the desired and probable development paths. Simultaneously, as part of the same ministry-led pilot study, another team of researchers conducted interviews with community members and residents of partially vacant buildings. The results of this interview study (Linnalabor, 2020; Linnalabor, 2021) were also used to provide contextual and temporal understanding of local perspectives on vacancy. Further information about the interviewees and interview questions can be found in Annex 4.

Two workshops were facilitated in each of the pilot municipalities, in April 2020 and June 2020, respectively. Due to COVID-19-related restrictions, the organization of workshops was difficult and heavily restricted, thus limiting the participation of a wider range of stakeholders. The workshops were nevertheless held on-site in the municipalities. The aim of the first workshop was to conduct local sensemaking of the vacancy data analysis and related maps. The participants were presented with the analysis results, focusing first on the overall trends in the municipality, followed by the specific situation in each of the settlements. Through joint discussion, key determinants influencing local-level va-

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9 https://www.fin.ee/riighanked-riigiabi-osalused-kinnisvara/riigi-kinnisvara/tuhjenevate-korterelamute-projekt and
https://www.fin.ee/media/2450/download
cancy and possible future actions were determined. The second round of workshops presented future population and vacancy forecasts along with the proposed strategic spatial scenarios for steering vacancy. The aim was to jointly determine scenarios that were both desirable and plausible and devise actions for achieving them. Compared to the previous cases, the stakeholders in the workshops provided feedback rather than actively participating in the production of the scenario stories. Memos were prepared of all of the workshops.

Additional empirical material was gathered from steering group sessions with the client regarding the key uncertainties and scenario options. This empirical material included meeting notes as well as scenario development sketches and scenario drafts. In later stages, when the report was already finished and approved, the team was also joined by an illustrator, whose task it was to design the layout of the guidelines report to be officially published.

1.6 Quality through reflexivity

Achieving quality in action research requires reflexivity and a self-critical stance (Bradbury, 2015), thus demanding reflection on my role and contribution in each scenario project. First, it should be re-emphasized that, according to the research framework (Figure 1.), there is an important difference between the Tallinn-Helsinki case and the three latter Estonian scenario projects. The Tallinn-Helsinki case was conducted in the manner of traditional case-study research, where my role as a researcher was that of an external observer. The other three cases were conducted as action research experiments, and in all of them I played an active role as a facilitator, writer, and project team member.

In each of the experiment cases, there was both the interest and opportunity to add scenario development to a process that had not ‘traditionally’ included scenario thinking. In each of the projects, the overall aim and scope was defined and led by someone else (the project lead). I exercised control over the precise way in which scenario development was integrated into this process and the scenario development process design. In all the cases, I was the main author of the futures or scenario chapter. The outcomes and directions of the project were often evaluated by more people than the project lead: for example, the project team was answerable to a supervisory board (EHDR and Naissaar) or a steering group (Shrinking Patterns). In addition, there were a minimum of three different stakeholder groups influencing and negotiating the focus and outcome of each of the projects (e.g., researchers, representatives of the client, an external reviewer (EHDR), municipality representatives, community members, and entrepreneurs). Each project included a core team that, depending on the project, adopted different roles in influencing and contributing to the scenario development work. Regarding the core team, I include here only those team members who directly participated in the scenario development process and material outcomes of the scenarios (including text and illustrations).

In the case of the EHDR, the core team consisted of an editor, the editor’s assistant, and five chapter editors (including myself). In later stages, additional
team members joined, such as a story writer and illustrator. My role was to analyze the trends described in the EHDR report with additional reference materials and to gather empirical material to develop and write the futures chapter describing relevant trends and scenario stories. Additionally, my role was to facilitate the scenario workshops and coordinate additional collaborative work on scenario development with other chapter editors.

In the case of Naissaar, the core team consisted of myself and two colleagues from the NGO Linnalabor. One person conducted the background research, and the other person co-wrote the report, participated in gathering the empirical material, and contributed to the overall project design. In addition, an illustrator joined the team in the report writing phase. My role was to develop the scenarios based on the empirical data, fieldwork, and desk research, to write the scenario chapter, co-write the development strategy, and facilitate the scenario development workshops with the community.

In the case of Shrinking Patterns, there were nine persons in the team working in three subgroups. One subgroup consisted of a team of sociologists working on the literature review, while another was comprised of a team of data analysts, who contributed with quantitative forecasts and data-based spatial analysis. In turn, the third subgroup engaged in participatory activities and scenario development. My role was to develop the spatial scenarios based on forecasts, conduct fieldwork, and gather other empirical material (interviews). Additionally, I facilitated the scenario development workshops with municipalities and co-wrote both the guidelines report and dedicated municipality reports. The more detailed logic of the scenario development process steps of each of the three cases is further discussed in Chapters 4 and 5.

In each of the scenario projects, my responsibility was to propose an apt scenario project design suitable for the project’s goals. For this, a series of discussions in the design phase of the project were held with the core team and project leads, which were later complemented by discussions during the project as the required output became clearer. Before the start of each project, I would set clear objectives:

1) To ensure that the process used consistent scenario methodology and followed the basic principles of the ‘Inductive Logics’ method.

2) To include a variety of stakeholders in public or invited workshops and, when possible, in other means of knowledge production, such as questionnaires. The workshop logic was to be iterative, meaning a sequence of at least two workshops that would help develop scenarios from trends to final stories. In all the cases, I was the workshop facilitator and organizer.

3) To ensure that the visual and spatial storytelling of scenario stories was developed via practical means in the particular project—e.g., illustrations, involvement of a professional writer, layout design, etc.

This was the loose, overarching framework for the testing phase, and my task was to observe and document first- and second-person inquiry during the testing phase by creating an archive of notes about personal reflections, workshop materials, project drafts and sketches, and email exchange. There was also a conscious pause (two years) between the end of the project and the reflection
phase to provide a retrospective view on the project and then revise the collected materials, as well as to complete the third-person inquiry through the support of theoretical material. This not only allowed a certain distance, thereby supporting objectivity, but it was also necessary, as projects ran in different time periods, sometimes overlapped, or had different reception periods after completion. Here, reception means the period of presentations, media articles, or other feedback on the project. That period is equally important to document and account for in any reflection process.

After completing a theoretically relevant third-person inquiry, the focus and structure of the dissertation was revised. This included redefining the general framework regarding the knowledge and capabilities required in planning, and introducing more practice-oriented topics, i.e., scenario comparison, needs framing, and a plausibility check, as well as story crafting and visualization. Thus, it aligned with the aims of action research by responding to practical issues and by being participative and oriented towards building knowledge in action while contributing to wider theoretical knowledge (Bradbury, 2015).

Nevertheless, the chosen approach also contained limitations. It indeed enabled more reflectivity, especially regarding first-person inquiry, with learning derived from questioning both preconceived knowledge and practical experience. However, in order to inform action, more emphasis could have been placed on collecting additional empirical material for documenting the second-person inquiry during and after the testing phase. This would have facilitated further understanding of the experiences of other team members and workshops participants, especially from the perspective of knowledge creation dynamics during scenario workshops or scenario development processes (Dufva and Ahlqvist, 2015). However, the scope of this research was deliberately, via third-person inquiry, limited to a specific set of themes derived from the theoretical-level dialogue between strategic spatial planning and scenario planning, such as framing, knowledge needs, and storytelling. Thus, for that particular scope, the empirical material I collected provided ample resources for in-depth reflection and subsequent theory development.

1.7 Challenges of Estonian strategic spatial planning

Where do Estonia’s strengths lie? Estonia’s strength is [that it is] exactly where it is; that it is precisely the size it is.


The classic mapping of European legal and administrative planning families by Newman and Thornley (1996), written only half a decade after the fall of Soviet Union, classifies Estonia as belonging to the East European family. At the time the book was published, the East European family countries were still establishing their particular planning systems and exploring approaches from other countries. During that time, the focus was on first creating a market in land and property, including the very slow and problematic process of restitution. This
period is described by Newman and Thornley (1996, p. 24) in the following way: “New structures have only evolved slowly, while ordinary life has had to con-
tinue. . . . Thus, the planning and implementation of land use and development
has had to take place in contextual uncertainty.”

Past and present uncertainty cannot be compared due to their different con-
texts, but it is important to note that living with (and planning for) uncertainty,
a concern so central to the present, is nevertheless familiar from the past. Esto-
nia and its residents have had the opportunity to live in two scenarios with dia-
metrically opposed political regimes and the consequent spatial re-organiza-
tion. The ‘scenario’ of re-independent Estonia has been built with the joy of be-
ing independent, a status that has transpired to be less self-evident after the
Ukrainian war began in early 2022. It has also been built with hope, especially
hope for some more certainty in the future.

In Estonia, spatial planning and the role of planners have evolved over this
time. According to Metspalu (2019), the position of planning has weakened in
comparison to the Soviet era, and the role of the planner has become blurred.
The planner, who during Soviet times was present in official planning-related
decision-making, is now often only a part-time official overseeing planning pro-
cedures. According to the most recent statistics, over one third of municipalities
have no planner at all. Consequently, planning know-how is often purchased
as a service from private sector consultants.

Therefore, the development of the built environment is often driven by single
projects rather than strategic, long-term choices, with the political actors and
powerful interest groups making the decisions usually ignoring spatial plan-
ning an instrument of long-term policy implementation (Metspalu, 2019). Ac-
cording to The Green Paper of Spatial Planning11 (2020), comprehensive spa-
tial plans are not always used as an instrument for guiding spatial development;
instead, they are merely employed for setting the rules for building. Further-
more, strategic development does not consider or take account of the spatial
implications of development documents, and spatial planners are not involved
in their preparation.

The bureaucracy of planning processes has somewhat weakened the imagina-
tive and future-oriented nature of planning. Since planning processes can take
years, spatial plans are often not implemented to support strategic development
(Metspalu, 2019). It is unsurprising that in a context where visionary and stra-
tegic planning has not been a priority, scenario development is rarely used in
the context of strategic planning documents. The most notable scenarios were
formulated in 2001 for the first National Spatial Plan, “Eesti 2010.” More re-
cently, in 2017, the city of Valga used scenario planning as part of their compre-
hensive spatial plan development process, Valga 2030.12 The border city of
Valga is one of the forerunners in adapting to shrinkage, and its scenario work
also focused on spatially and strategically tackling decline.

10 Non-published statistics from Ministry of Finance, 2022
12 https://www.valga.ee/documents/17693995/21673498/Valga+linna+%C3%BClplaneer-ingu+2030+%C3%BClplaneer-i+inumid.pdf/b52ef5d9-8958-4c81-8333-41753296daa8
According to Metspalu (2019), one of the most important barriers to comprehensive planning, as well as to possible solutions, lies in private ownership rights (Metspalu, 2019). There is a strong tension between the private and public spheres in Estonian spatial planning derived from the Soviet past and the aggressive privatization following re-independence. This tension is manifested in solutions that fail to support sustainable spatial development or the quality of the living environment (Lankots, 2020). Spatial planning has been a procedural rather than a participatory process (Lankots, 2020). Society remains largely unfamiliar with the concept of planning (Metspalu, 2019). Nevertheless, there has been growing public awareness and increasing demands for better solutions and quality living environments (Lankots, 2020). However, such campaigns against spatial solutions and plans by housing associations, NGOs, and local communities also reveal that collaboration is still seldom valued as an important part of spatial planning (Ilves, 2022; Paaver and Kiivet, 2020).

In addition, Estonia is currently facing similar planning challenges to those of its neighboring countries in Europe. They include the question of how to correct the spatial imbalance of demographic processes that have resulted in fast suburbanization, impoverished city centers, and shrinking settlements as well as the issue of how to create and support resilient communities that meet the needs of current and future generations. A further challenge is how to move towards strategic spatial planning that considers the interconnections between land use, transportation, housing, and the environment.

The history and challenges of Estonian spatial planning described above provide the conditions for the scenario project cases used in this research. These conditions pinpoint either a lack of strategic spatial planning or place-based policy making, such as in the case of the EHDR. They shed light on and foreground seemingly undesirable future perspectives such as in the case of Shrinking Patterns. Moreover, they empower local communities to steer their future development plan, such as in the case of Naissaar.

According to Groves (2017), the politics of anticipation revolves around the uneven distribution of agency among various actors in shaping the future. It highlights how certain actors enjoy the privilege of framing the future as a problem and, moreover, as an object of representation and imagination. In this context, it is of utmost importance that a wider range of stakeholders involved in and influenced by spatial planning processes are provided with an adequate toolkit and opportunities for futures representation and imagination, as also exemplified by the (opportunity-based) cases presented in this research.

1.8 Summary

This research examines the role of scenario thinking in supporting and enhancing the capabilities and knowledge required in strategic spatial planning. Based on the gaps in the literature identified above, the research explores the interconnected capabilities that aid planners in addressing the future with confidence.
The next chapter discusses the concepts of futures thinking and scenario thinking and explores their relevance and connections to strategic spatial planning. Furthermore, it provides an overview of scenario thinking typologies and methods as well as an overview of the adaption of scenarios in strategic spatial planning.

The third chapter explores the capability to critically evaluate and utilize scenario documents and to reuse their output as input for designing future scenario projects and/or spatial planning activities. The context of Tallinn-Helsinki and the scenario reports developed for re-imagining collaboration between the two cities and countries is used as an example.

The fourth chapter explores the capability to utilize scenario thinking within the context of strategic spatial planning, specifically focusing on the elements of reframing, evidence, and intuition in the overall process design and then discussing various scenario development stages.

The fifth chapter focuses on the capability to develop scenario stories, concentrating on how the knowledge collected during the scenario project can be interpreted and communicated as scenario stories and story visuals to support the planning process.

Finally, the sixth chapter explores how the crucial capabilities discussed in the previous chapters can be integrated to understand how scenario thinking as an iterative process can be linked with the wider practice of knowing in planning—not just for strategic framing but also to support the reflective planning practice in general.

1.9 Author's contribution

Kristi Grišakov conceived and designed the analytical framework of this monograph and was solely responsible for gathering the theoretical material and all the case study data, devising and describing the methodology used, and performing the subsequent analysis. She was also solely responsible for synthesizing all the conclusions and has written all the chapters of this monograph. All figures and tables have been created by her unless the source is referenced in the title of the figure or the table.

Chapter 6 of this monograph expands upon existing work published as a book chapter co-written with Prof. Raine Mäntysalo (Mäntysalo and Grišakov 2016).
2. Scenario thinking

The future ain’t what it used to be.
Nassim Nicholas Taleb

2.1 Thinking about the future

Planning’s relationship with the future is fundamental. The very purpose of any plan or action is to prepare for future activity (Myers and Kitsuse, 2000). In short, planning is about creating better futures. Moreover, the element of time is of vital concern for planning, as the process of urban development unfolds over decades.

In the planning literature, the need for futures thinking is considered one of the central challenges for planners. Myers and Kitsuse (2000) argue that planners ought to encourage and shape alternative viewpoints on the future. According to Albrechts (2005), planning requires creativity to imagine and construct (structurally) different futures. Nonetheless, how are these different futures to be imagined? Moreover, what tools do planners possess for imagining alternative futures?

There exist, for example, various forecasts, visions, and scenarios that can all multiply into dozens of possible variations of methods (Börjeson et al., 2006; Chakraborty and McMillan, 2015; Shearer, 2005; Zapata and Kaza, 2015). Different methods serve different purposes, ranging from providing calculations (quantitative data about certain trends) and fostering collaboration and communication to igniting imagination or underpinning assumptions. Bill Gates (Gates et al., 1995) has claimed that we always overestimate the change that will occur in the next two years and underestimate the change that will take place in the next 10 years. In turn, Milan Kundera (1996) wrote that mankind is like a person walking in the mist, but whenever he looks back to judge the behavior of people in the past, he sees no mist but only clarity. We often tend to ignore this mist of uncertainty that always surrounds decisions. We habitually ignore it when making assumptions about the future and are quick to judge those who we now ‘see’ as having made questionable decisions in the past. The future is never a linear process. There is little clarity about looking into the past to inform present decisions, as the past is limited in its implications for the future. The future can be seen as a continuous unfolding in time that is rooted in both the
past and the present. Both the past and the present are mediated through the present component of the future (Myers and Kitsuse, 2000). Nevertheless, the present is only a short instant which escapes us, also referred to as the ‘tyranny of the present’ (Vervoort et al., 2015). That is why Mandelbaum (1984) regarded the very notion of the present in planning as a fiction. Instead, such a present is the collection of our understanding of the recent past and our short-term anticipations about the future. Consequently, that which is taken as the present often extends a decade into the past. Nevertheless, the present can act as a filter to both the past and the future. Elements of nostalgia, assumptions, and uncertainty all come into play here. What do we miss (or think we miss) about the past? What do we assume about the future? What elements have we not dared to consider (or have not thought to consider) or are reluctant to address? Vervoort et al., (2015), following Ramírez and Selin (2014), refer to such reflections as making our discomfort and ignorance productive. They continue by proposing that discomfort and knowledge gaps are the key criteria for scenario development, instead of plausibility and credibility, as the former point to problematic and usually ignored aspects of the reality of those involved in scenario processes. Thus, one can conclude that imagining futures is not focused on the future per se but is simultaneously a careful consideration of what is considered the present.

Our first contact with futures thinking is most commonly through science fiction. Raven and Elahi (2015) claim that scenarios and speculative designs can be collected alongside science fiction narratives under the broader category of ‘narratives of futurity.’ Such books or movies are our introduction to futures thinking, being both fantasies and warnings about how the future might look, they frame futurity. The city has been a crucial inspiration and backdrop for many such future frames. The cyberpunk genre, in particular, has exerted a significant impact on contemporary urban theory (Shepard, 2011; Warren et al., 1998). Fictional visions can become an inspiration or a metaphor for city planning or technological innovation. However, they can also be dystopian visions that serve as warnings of the future. There is a separate body of literature exploring the utopian and dystopian traditions (Kumar, 2003) as well as the relationship between utopias, scenarios, and plans (Hoch, 2016). It can be claimed that all of these help us in different ways to imagine how the future consequences of certain action might influence current expectations and hopes (Hoch, 2016).

For example, Fritz Lang’s *Metropolis* (1927) introduced the modern cityscape with its landmark high-rise buildings, still desired by every respectable city (Ache, 2013). It also introduced the multilevel traffic of contemporary cities with raised roads for public transportation and planes circling multi-story buildings. This is an image that characterizes our contemporary metropolises to this day. However, Lang’s *Metropolis* was not only above but also below the surface in the form of a factory where thousands of workers produced the power it required to function. This factory exists in the contemporary world, for example, in the form of cables and wires providing gas and electricity, thousands of kilometers of tunnels for metro lines, and district heating and cooling systems. This
underbelly of the city in its complexity and inequality is discussed in detail in the book *Splintering Urbanism* (2001), by Graham and Marvin. The ‘smart’ city of cables and wires might not necessitate as many human workers as Lang’s *Metropolis*, but it is an equally important and, at the same time, invisible backbone of the city. The third future element from *Metropolis* is also the emergence of robots or humanoids, the Frankenstein’s monsters of the 20th century. In *Metropolis*, the humanoid is a female robot who creates mayhem in the seemingly peacefully city by inciting a workers’ riot. One might interpret this character in a multitude of ways—as a general criticism of labor conditions and the situation of the working class at the time or as a warning to the future not to rely excessively on technology. Some science fiction even becomes more relevant over time. For example, *1984*, by George Orwell, became Amazon’s top selling book in January 2017, 68 years after it was first published.

Science fiction can also introduce technologies that might serve as an inspiration for innovations of the future. The hologram technology showed in the *Star Wars* movies does not work in our present reality, but video conferencing already does, with attempts to augment the chat experience with the possibility to touch and smell the discussion partner. Of course, video conferencing also became the main mode of communication during the COVID-19 period—the virus being the ‘wildcard’ that accelerated the everyday implementation of this technology. This change also resulted in other changes in, for example, work organization and remote working, subsequently resulting in direct spatial changes, such as considerable alterations in people’s expectations about their living (and work) environment.

The tablet-like control board of the 1980s TV show *Star Trek Next Generation* served as the inspiration for both Apple and Samsung to turn tablets into everyday objects. In addition, the movie *Blade Runner* is noted for its presentation of a dystopian city augmented by video screens and moving images (Shepard, 2011; Dijk, 1999).

While there is no doubt that science fiction can serve as inspiration, it nevertheless exhibits certain futures thinking flaws. These flaws are as important as the ideas that become reality, as they highlight the basic assumptions in our future foresight, such as our deterministic view of technologies. Indeed, our futures thinking is often deterministic: focused only on certain technologies while completely ignoring other changes in our societies and built environment. Söderström, Paasche and Klauser (2014), who analyzed the storytelling related to the ‘smart cities’ concept, refer to this phenomenon as technocratic fiction: where changes in technological hardware and software seem to suffice and where, as a consequence, knowledge, interpretation, and specific thematic expertise appear unnecessary. Or as Ackoff (1982, p.39) puts it, “technocratic culture runs the risk of getting the right solutions to the wrong problems. A humanistic culture runs the risk of getting the wrong solutions to the right problems.”

13 In retrospect, there had been reports pointing to the high probability of a global virus outbreak, such as a report by WHO in 2018 that referred to ‘Disease X’ (WHO (2018). Annual review of diseases prioritized under the Research and Development Blueprint. Meeting report, 6–7.2.2018, Geneva).
For example, early 20th century images of the future in the year 2000 focus solely on innovation in transportation, showing personal airplanes, flying buses, and firemen with wings. However, they ignore the possible changes in our physical environment, most importantly the building technology, which, during the same time, also began experimenting with steel constructions, allowing multi-story buildings that would perhaps be more suitable in a world where transportation is focused on flying. Several science fiction movies (*Blade Runner, Fifth Element*, etc.) are fixated on flying cars and transport, including the extension of transport corridors on multiple levels above the ground. This technocratic fiction continues to thrive in new forms, such as drone traffic development and self-driving cars that aim to provide a solution to problems caused by car dependency in contemporary cities. There is also the technocratic fiction of long-distance travel, such as the Hyperloop high-speed transportation system that would unite cities like L.A. and San Francisco at 900km/h. Henry Ford produced a famous quotation illustrating such logic: “If I had asked people what they wanted, they would have said faster horses.” This means that we tend to be extremely fixated on the technologies we are accustomed to, and familiarizing people with new technologies can (without wildcards such as COVID-19) take several generations. New technology must also become affordable to the masses to become an everyday object. In the beginning, objects and services such as private cars, airplane travel, and mobile phones were luxury products, until they become affordable.

Another aspect of futures thinking is the careful consideration not of what is to come but what remains and lingers from the past and present.

Science fiction is interesting just as much for the future it invents as for the things in the present it projects into the future. The design fictions it imagines are always a hybrid of the novelty of things yet to exist and the durability of some things that somehow continue to survive, at times almost in spite of this future. (Shepard, 2011, p. 17)

*Blade Runner* depicts the city of 2019 as an apocalyptic and dangerous place. Indeed, at the time, one might have imagined it as the product of the continued decay of the U.S. inner city, where the wealthy have escaped to suburbia. Another popular cyberpunk dystopian theme criticizing the inequalities in our society is the dangers related to surveillance. For example, the movie *Minority Report* depicts a future where crimes are foreseen and prevented before they occur. The movie’s central theme evolves around questions of free will versus determinism, and it serves as an apt warning of the control society towards which we might already be moving (e.g., *Cities under Siege*, by Stephen Graham), with CCTV-cameras, uncontrolled use of personal data, and the development of face-recognition software, and so forth. In the words of Simmel:

The enthusiasm for the progress achieved in lighting makes us sometimes forget that the essential thing is not the lighting itself but what becomes more visible. People’s ecstasy concerning the triumph of the telegraph and the telephone often make them

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overlook the fact that what really matters is the value of what one has to say, and that, compared with this, the speed or slowness of the means of communication is often a concern that could attain its present status only by usurpation. (Simmel and Frisby, 2004/1907 p. 482)

Works of science fiction allow us to live through different scenarios of the future. None of them are predictions, but they can serve as valid examples of our thinking patterns about the future. However, we often forget that the key to thinking about the future does not lie in using new technologies per se, but rather in the new qualities they bring to the way we live our lives. From a spatial planning perspective, one must also not forget, when analyzing technocratic fiction, that also the presumption of ‘spatial fiction’ or physicalism (Batty and Marshall, 2009) exists, which is derived from the idea of new urban forms being able to change the behavior of people and institutions. This can also be considered one of the root ideas of rational planning (Neuvonen and Lehtovuori, Forthcoming).

Finally, as the previous examples were dystopian rather than utopian, it is worth briefly reflecting upon the role of utopias. According to Hoch (2016), a utopia envisions how purposeful changes flow from compliance with inclusive doctrines. These are landscapes where our human desires find closure and significance. An example of this is the Old Testament story of the Garden of Eden. A utopia always imposes a moral horizon that anticipates perfection; thus, it invites the audience on a journey to an idyllic place, leaving the problems of the present behind. However, the utopia does not provide a manual or a backstory about getting there (Hoch, 2016), it just allows us to rest briefly and take in this ideal landscape. While dystopias predominantly serve as warnings about the future, utopias revive the possibility of hope for the future. Inch (2021), for example, emphasizes that, in our current times of ‘pessimism,’ utopias are something that planning should again become passionate about.

2.2 Scenario planning—a brief history

Scenario thinking was first introduced during the Cold War as a way to consider the potential outcomes of nuclear war. Herman Kahn, a military strategist, used this approach to study the effects of nuclear warfare and methods for survival (Kahn, 1962). However, it was not until it was applied to business by Royal Dutch Shell that scenario thinking gained widespread recognition (Wack, 1985). In the 1970s, Pierre Wack adapted the technique to render it more practical for use in the company’s forecasting and guiding strategies. Following the Oil Shock of 1973, scenario thinking became widely accepted in the business world as a way to anticipate a range of possible outcomes, including undesirable ones, in strategic planning. Today, scenario thinking still thrives in the corporate world as a tool for looking into the future, enjoying greater popularity than SWOT or Delphi (Konno et al., 2014).

There are many coexisting scenario thinking methods (Bishop et al., 2007), and in the research literature this has also been described as methodological
Scenario thinking

chaos (Spaniol and Rowland, 2018). From an historical perspective, we can identify three different schools of scenario techniques, which differ in their origin and features of scenario work (Mäntysalo and Gриšаков, 2016). The success of Royal Dutch Shell scenarios led to the emergence of the Anglo-American school of scenario thinking, better known as the Intuitive Logics scenario development methodology. In this dissertation, the Intuitive Logics scenario methodology is used for scenario work, as it is considered the dominant scenario technique (Wright et al., 2013; Bishop et al., 2007).

Additionally, there is also the ‘Probabilistic Modified Trends’ school of scenario thinking. This methodology attempts to (quantitatively) evaluate changes in the probability of the occurrence of events that may cause deviations in the extrapolations of historical data (Bradfield et al., 2005). Third, there is the ‘La Prospective’ school, developed by French future thinkers such as Gaston Berger and Bertrand de Jouvenel at the end of the 1950s. Their methodology is motivated by humanist and societal concerns. In the ‘La Prospective’ methodology, the scenario building process resembles that of the Intuitive Logics methodology. However, in this case, the scenarios are not connected in terms of binary axes but are instead linked by variables. The “La Prospective” methodology generates a large number of scenarios, but only a few are chosen, based on their ability to showcase a broad range of potential futures. Similar to the ‘Probabilistic Modified Trends’ school, the methodology of ‘La Prospective’ relies more heavily on computer-based mathematical models (Wright, et al, 2013; Bishop et al., 2007). These two schools, which developed in the 1960s on both sides of the Atlantic, gave rise to a large number of organizations dedicated to futures research in the 1970s.

In recent decades, the main areas of research have changed along with the methods employed by each school and their main protagonists (Jouvenel, 2004). The main difference between the U.S. and French centers of scenario development is their scope, which in the U.S. tends to be of a global nature, while in France it is more narrowly delineated, focusing, rather, on the future of France itself (Bradfield et al., 2005).

Based on their analysis of the scenario literature and the strengths and limitations of scenarios, Wright et al. (2013) propose that a clearer scenario terminology is necessary. According to them, instead of using ‘scenario planning’ as a broad umbrella term, one should differentiate between scenario methods, scenario analysis, and scenario thinking. The concept of ‘scenario method(s)’ or techniques should be used when discussing the variety of methods for constructing scenarios. ‘Scenario analysis’, in turn, is to be used to indicate the process of application of the chosen scenario method(s). Bishop et al. (2007), for example, use the term approach and further emphasize the sub-category of tools as devices used in applying the method. They also propose a useful separation between the wider scenario project and a particular step within that project: forecasting or scenario development (Bishop et al., 2007). Wright et al. (2013) propose the use of ‘scenario thinking’ as a more general concept representing a
mode of thinking that is grounded in seeing multiple futures, with different options and possibilities for outcomes. In this dissertation, I intend to follow their conceptual delineations.

Furthermore, at least eight different techniques can be identified within scenario thinking (Bishop et al., 2007). These all vary in their starting point, process, and products, and they can be either judgement or quantification based. Within one technique there might be different additional variations regarding the process and selection of tools. In addition, each technique can be adapted to both normative and descriptive approaches.

2.3 Integrating scenarios and spatial planning

As a field, strategic spatial planning has been slow to fully incorporate scenario thinking into its approach (Avin and Goodspeed, 2020; Chakraborty et al., 2011). Various public and private agencies use different scenario methods to identify regional issues and suggest policy changes that benefit multiple jurisdictions (Harmaakorpi and Uotila, 2006; Cairns et al., 2017). The aim of these ‘vision documents’ varies from the development of large-scale regional or metropolitan visions and strategies to the generation of debate on local agency. Often, however, the practice still focuses on developing a single preferred scenario and does not adequately consider multiple uncertain futures (Albrechts, 2005; Bartholomew, 2007; Chakraborty et al., 2011; Goodspeed, 2020). Despite conducting a thorough scenario analysis, the resulting documents are often reduced to appendices, rather than being fully integrated into the planning process. This practice tends to diminish the practical applicability and usefulness of the analysis (Myers and Kitsuse, 2000).

Over the last decade, several authors have proposed a scenario thinking or scenario evaluation user guide for strategic spatial planning, although often in varying sub-contexts, such as transportation and land-use planning, urban planning, and landscape planning (Shearer, 2005; Börjeson et al., 2006; Bartholomew, 2007; Ratcliffe and Krawczyk, 2011; Swartz and Zegras, 2013; Chakraborty and McMillan, 2015; Zapata and Kaza, 2015; Goodspeed, 2020; Abou Jaoude, Mumm and Carlow, 2022; Mäntysalo et al., 2022). In most cases, this is achieved by reviewing scenario thinking and methodology articles and by analyzing completed scenario projects in the planning field. Swartz and Zegras (2013) concentrate on urban modeling and applying computational scenario-discovery techniques. Bartholomew (2007) reviews over 80 land-use-transportation scenario planning projects in U.S. metropolises and analyzes their shortcomings. Shearer (2005) concentrates on considerations for adopting scenario thinking in landscape planning. Zapata and Kaza (2015) review the evaluation of uncertainty in four scenario thinking processes, developing their own analytical categories for evaluating such a process. Börjeson et al. (2006) and Chakraborty and McMillian (2015) each provide a practitioners’ guide that offers an overview of scenario typologies to choose from and scenario process components to follow and/or adjust to the specific task at hand. Ratcliff and
Krawczyk (2011) propose their own scenario method for urban planning by reviewing completed projects where the method was adapted. Finally, Goodspeed (2020) provides a comprehensive guide to the use of scenario planning for cities and regions—a guide that specifically contributes to the topic of how to integrate various planning and modeling tools into the scenario development process. Moreover, Goodspeed also proposes a framework for scenario evaluation.

Overall, three different approaches prevail when discussing scenario thinking in relation to strategic spatial planning, although in some articles they are combined. The first approach focuses on general considerations for applying scenario thinking in spatial planning. This is where various scenario typologies come into play as planners seek projections to highly different futures, from possible to probable and preferable futures. Understanding the scenario typologies helps the planner choose an appropriate typology for the task at hand.

By contrast, the second approach concentrates on the process of utilizing scenario thinking in the context of spatial planning. This approach reviews the whole scenario making process, from choosing the scenario method to reviewing the participation, engagement, resources, and outcome of the scenario work. This approach is most useful for comparing completed planning projects and for constructing a new scenario thinking process for practical adaptation in spatial planning or as a research methodology.

The third approach focuses on specific scenario thinking methods and/or tools, such as computational modeling (Swartz and Zegras, 2013), adaptations of the ‘La Prospective’ method in urban planning (Ratcliffe and Krawczyk, 2011), or the backcasting method (Neuvonen and Ache, 2017), which is one of the normative scenario approaches.

In the context of this dissertation, it is most useful to briefly review various scenario typologies, as proposed by several authors (Shearer, 2005; Börjeson et al., 2006; Chakraborty and McMillan, 2015; Zapata and Kaza, 2015). As mentioned previously, scenario thinking can be applied to seek very different futures (Shearer, 2005; Börjeson et al., 2006). Futures can be possible, probable, or preferable (Börjeson et al., 2006), but they can also be characterized as reasonable, feasible, and considered (Shearer, 2005). A staggering number of authors, from Habermas to, for instance, Milojević and Inayatullah (2015) and van Notten et al. (2003), have proposed different futures thinking approaches (Börjeson et al., 2006). The majority of these approaches distinguish between three main categories: predictive, explorative, and normative (Figure 2.).
Predictive scenarios respond to the question ‘what will happen?’ Such scenarios can be divided into two categories depending on their approach to conditions. Forecasts attempt to identify what will occur on the condition that a likely development unfolds. ‘What if’ scenarios, by contrast, take some specified events as the condition and strive to discern what will occur. Predictive scenarios thus depict the most likely future based on data-driven trends and forecasting (Chakraborty and McMillan, 2015). The key issue with predictive scenarios is that they tend to be self-fulfilling and can contribute to preserving past and present trends (Börjeson et al., 2006).

Explorative scenarios respond to the question ‘what can happen?’ Here, two types can also be distinguished. External scenarios aim to discern what can happen to external factors. In this case, the role of internal actors is more passive, as they are influenced by forces from the outside environment. By contrast, strategic scenarios start from the inside, i.e., they explore what can occur if we (the organization, etc.) act in a certain way. Thus, in strategic scenarios, internal actors play an active role in changing the future through their actions and decisions. Contrary to external scenarios, they do not merely respond to external forces. Explorative scenarios thus explore a variety of scenarios and a variety of perspectives, and they develop both plausible and possible futures. They are also elaborated on a long time-horizon and are useful in cases where we possess a relatively good understanding of the present situation but are interested in exploring key uncertainties or alternative developments.

Finally, normative scenarios ask how a specific target can be reached? They are also divided into two categories depending on how the present system is treated. Preserving scenarios aim to reach the target by modifying the current situation. By contrast, transforming scenarios concentrate on achieving the target in a situation where the current system prevents the necessary changes. Normative scenarios begin with a well-defined target or targets—for instance, a carbon neutrality goal. Börjeson et al. (2006) provide the example of regional planning as an instance of a preserving scenario where planners or experts make judgements on the most efficient path to a specific target. In turn, examples of transforming scenarios are backcasting studies (Neuvonen and Ache, 2017).

The planning literature emphasizes that planning is often overly focused on developing a single desired scenario, primarily utilizing the normative approach.
and relying on forecasts (Avin and Goodspeed, 2020; Mäntysalo et al., 2022). According to Avin and Goodspeed (2020), the explorative scenario approach is currently underutilized in planning for various reasons: as it requires a different project structure and mindset, the process of creating exploratory scenarios is more time consuming and complex than normative scenarios; moreover, it requires a broad range of integrating factors. Furthermore, exploratory projects prioritize learning to a greater extent.

Shearer (2005) writes about a division between normative and descriptive approaches to scenarios. Here, the descriptive approach can be equated with the explorative. The omnipresent division between normative and descriptive approaches reflects our different attitudes towards the future: reactive, inactive, proactive, and preactive (Ackoff, 1982; Shearer, 2005). The reactive attitude is one of nostalgia, seeking to reanimate the past. In turn, the inactive attitude is deeply satisfied with the present and does not seek to change it. By contrast, the proactive attitude is satisfied with neither the present nor the past. It captures the belief that the future is the result of actions taken in the present. The proactive attitude requires positive visions. The final attitude is preactive, based on the assumption that future cannot significantly be controlled and will emerge from forces that, themselves, are not readily controlled. Embedded into the preactive attitude are forecasts of what may happen. Nonetheless, as Ackoff (1982) himself admits:

My presentation of the four orientations to planning has, of course, been biased. I am a proponent of the proactive approach and advocate it because I believe it provides the best chance we have for coping effectively with accelerating change, increasing organizational complexity, and environmental turbulence. Ackoff (1982, p. 40)

Moreover, evaluating futures typologies based on attitude is a complex matter. The preactive attitude applies rather to predictive scenarios, while the proactive attitude can be used to describe explorative scenarios. In turn, the normative scenarios proposed by Börjesson et al. (2006) perhaps fall somewhere between proactive and preactive attitudes, being, to an extent, composed of both elements and related somewhat to the specific future attitude of the planner or other expert in charge of the actual scenario work. However, the key difference between explorative and normative scenarios is desirability. While explorative scenarios focus on uncertainty and very little on desirability, normative scenarios tend to concentrate on the desired outcome. Furthermore, exploratory scenarios are designed to remain impartial, although they may still be influenced by the authors’ motivations or ideologies (Shearer, 2005; Chakraborty and McMillan, 2015). Those underlying desires are simply less visible. Thus, the choice of a normative, explorative, or predictive scenario approach might not reflect actual attitudes towards the future. Instead, those attitudes might present themselves more clearly when considering the specific scenario development project at hand.
2.4 ‘Intuitive Logics’ scenario methodology

The ‘Intuitive Logics’ scenario methodology was not clearly defined until the 1980s. Prior to that, it was dependent on the capabilities and imagination of the ‘scenario gurus’ of the time, such as Kahn, Schwartz, and Wack (Ogilvy, 2005). Schwartz’s book *The Art of the Long View*, published in 1991, remains a key textbook for scenario planners, providing a clear and comprehensive step-by-step guide for novices. However, René D. Zentner published the first comprehensive model for scenario development in a journal as early as 1975 (Bradfield, 2008). Nevertheless, few techniques in futures studies have given rise to so much confusion as scenario techniques. Wright et al. (2013) propose two explanations for this perplexity. First, the application of scenario thinking (especially in a business context) has been a relatively new phenomenon, and thus it still requires time to form a solid foundation. Secondly, the application of scenario thinking has been popular for practical rather than theoretical reasons. Consequently, the practical use of scenarios has been emphasized at the expense of elaborating the methodologies used to construct those scenarios. Wright et al. (2013) conclude that it is unlikely that there will ever be a widely accepted uniform system for developing scenarios. As the process of using scenario techniques is inherently intuitive, practitioners will always tailor methodologies to their own requirements. That could also be the reason for the dominance and popularity of the ‘Intuitive Logics’ scenario methodology.

The ‘Intuitive Logics’ methodology, which in this dissertation was chosen for scenario development in the examples of Naissaar and the *Estonian Human Development Report*, involves identifying new opportunities, storytelling, questioning assumptions, and pinning down critical uncertainties. The ‘Intuitive Logics’ methodology thus belongs to the explorative scenario typology and allows for extensive use of qualitative data, in contrast to other scenario typologies, which typically rely on quantitative data alone. The ‘Intuitive Logics’ methodology includes a thorough analytical part for which an extensive amount of various quantitative and qualitative data is necessary. This data is used to recognize global/local trends and drivers (social, technological, economic, environmental, political, value-related, spatial) and identify actors and their agendas (niches) and uncertainties. It is crucial to acknowledge both the impact of global forces and the agency of local forces in shaping and bringing about each scenario. The related actors can range from individuals to businesses, organizations and public officials, for example (Wright et al., 2013).

To initiate the scenario process, a key issue is identified and framed as a central question for the targeted area. The issue is usually broad, such as a lack of direction, the need for new functions, or poor connectivity. In addition, a time frame is established, typically ranging from five to 50 years. A shorter span would result in predictable outcomes, while a longer one would create too much uncertainty. The scenario method operates on the premise that there never exists sufficient information to make a decision with complete certainty about the future (Garreau, 1994; Ogilvy, 2005). It also acknowledges that the future is inherently unpredictable. Without unpredictability, there would be no need for
alternative scenarios or plans. Thus, the scenario method emphasizes the necessity of preparing for multiple futures rather than relying on deterministic predictability, since, as history has shown, we can rarely count on predictions.

The fantasy of deterministic predictability lives on and lurks among the assumptions of those who regard scenario planning as insufficiently scientific. Connect these points together in any of several combinations and you will see that judging scenario planning against the standard of deterministic science is non-sensical, paradoxical, and ultimately absurd. (Ogilvy, 2005, p. 337)

Hajer (2003) adds that in the new political reality, the practice of ‘first getting the facts right’ is no longer a credible policymaking strategy. The new circumstances are those of ‘radical’ uncertainty, while social protest cannot be controlled with the traditional politics of expertise. Moreover, Hillier (2013, p. 33) finds views with assumptions of perfect knowledge and control ignorant to the actualities of an uncertain world: “The uncertainty of futures brings a need for rethinking the praxis of strategic spatial planning as both statements of intent and also statements of rationality.”

According to Albrechts and Balducci (2013), strategic planning does not claim to eliminate uncertainty through making predictions; rather, it aims to work as well as possible with uncertainty and to enable the actors involved to open to different future possibilities.

The key advantage of the ‘Intuitive Logics’ method is its ability to address undesirable future scenarios. Indeed, this is what originally inspired the development of the method. It focuses on the ‘unimaginable’ and identifies critical uncertainties that impact the problem at hand. These critical uncertainties are present in all plans and are closely tied to elements we believe to be fixed. By questioning our assumptions about these fixed elements, we can uncover such uncertainties. According to Dator (2019), any useful statement about the future should at first appear ridiculous. Additionally, this approach can provide greater insight into the potential outcomes of our actions, or even highlight the consequences of not taking any action at all.

For example, we know that the population is aging, global warming will accelerate, and new technologies like AI are emerging. However, the question at hand is not just what the future holds but also whether people will be willing to adapt their habits and values in response to these changes and, if so, how they will do so. This necessitates contemplation of extreme scenarios and the devising of coping mechanisms that may not be evident in stable and secure environments. This was considerably harder to explain before COVID-19. However, after this experience, extreme coping mechanisms are probably more familiar to us all. That, of course, does not mean that we are more knowledgeable about the future, it is just that we are more aware of the effects of uncertainty.

Another important characteristic of the ‘Intuitive Logics’ method is its ability to create stories about possible futures (Garreau, 1994; Hoch, 2016). These stories help us understand the underlying worldviews, myths, and metaphors of alternative futures (Milojević and Inyatullah, 2015; Miller 2007). A successful
scenario possesses the power to engage and captivate, much like a character in a novel, whether it is the villain or the hero. A scenario does not simply concern numbers and facts, it is about the story and the underlying assumptions, perceptions, and imaginations (Hoch, 2016; Ramírez and Wilkinson, 2016). It is similar to a good history lesson, focusing on explaining the forces that shape events, rather than just providing statistics. This approach makes it easier for people to connect with the scenarios, select a desirable future and begin discussing how to turn it into a reality.

The scenarios, presented in the form of narratives, can be incorporated into planning theory and practice that emphasizes the role of storytelling (Albrechts, 2005; Throgmorton, 1996; Forester, 1999; Sandercock, 2003): “By learning to understand the work that stories do, one can recognize the moral ordering and interests embedded in certain plots and character types” (Sandercock, 2003, p. 12).

However, it must be noted that most scenario thinking methods provide little information on the actual process of creating the stories (Bishop et al., 2007). The topic of scenario story development is further explored in Chapter 5.

Wright et al. (2013) identified three main objectives that various scenario approaches should help to fulfill. First, they should enhance understanding of the causal processes of how a future state may evolve. Second, they should help to challenge conventional thinking. Third, they should improve decision-making and inform strategy development. However, according to Wright et al. (2013), the basic intuitive method is focused primarily on the first objective of understanding causal processes and thus can fail to fulfill the second and the third objective. Many augmentations to the basic intuitive method have been developed, such as additional evaluation of the ‘best’ and ‘worst’ driving forces, role-playing, the critical scenario method, or the backward logics method (Wright et al., 2013). These modifications could be added to the basic method to ensure that all the necessary objectives are fulfilled. Additionally, more retrospective evaluation is required regarding the effectiveness of scenario interventions to evaluate, if necessary, whether the objectives were fulfilled and which augmentations were effectively used to fulfill them (Goodspeed, 2020).

2.5 Scenario thinking as part of strategic spatial planning

Strategic spatial planning should not be conflated with long-term urban planning, as the former does not solely prioritize the creation of a long-term blueprint. Instead, it emphasizes the present moment: how we gain well-rounded and future-oriented understanding to make informed and effective decisions in our immediate sphere of activity. As Friedmann et al. (2004) note, in strategic spatial planning the objective is:

not to produce ‘plans’ (not even strategic plans), but insights into prospective change to encourage and promote public debates about them. . . . It is a way of probing the future in order to make more intelligent and informed decisions in the present. (Friedmann et al., 2004, p. 56.)
Strategic spatial planning should aim for strategic wisdom in planning practices, rather than solely producing long-term plans. The focus should be on creating plans that can be utilized as tools for strategically wise planning practices. This approach makes strategic spatial planning an active force in enabling change, rather than just a reactive response to external forces (Albrechts and Balducci, 2013).

This is where scenario thinking, particularly the approach of the ‘Intuitive Logics’ school, becomes important for strategic spatial planning. Scenarios are not intended to predict the future but to provide insights into potential futures to inform decision-making in the present (Schwartz, 1991; Zegras and Rayle, 2012). According to Albrechts (2005), scenarios help us consider how places and institutions would operate under different conditions and allow decision-makers and civil society to explore alternative futures in order to understand the potential consequences of current actions.

Despite considerable progress, a significant amount of work remains to effectively integrate scenario thinking into strategic spatial planning. Moreover, while there are many guides for scenario planners, few are specifically tailored to spatial planning. Today, scenario methods are often used in land-use and transportation planning and in large-scale projects like metropolitan and cross-border initiatives through surveys conducted by think tanks and experts in such fields as economic geography and public administration. An example of this is the planning process between the capital cities of Finland and Estonia, further discussed in the next chapter, which included a range of scenario documents (Terk, 2012; Demos Helsinki, 2009; Uusimaa Regional Council, 2001).

In such cases, these scenario documents typically focus on various processes, including innovation, investments, business climate, transportation, and governance, but they rarely include a spatial dimension. This means that future developments are described in a narrative form but are not visualized on a map or physical plan providing a different understanding and illustration of the (spatial) impact of each scenario. Petrov et al. (2011) note that many stakeholders and policymakers are familiar with scenarios, but they are less accustomed to spatial modeling.

In the context of spatial planning, the application of scenario thinking must consider the issue of organizational complexity. Unlike the business world, where the approach originated, the world of spatial planning involves a more diverse relationship between the public and private sectors as well as civil society. As such, goal setting and the distribution of responsibilities can be more complex (Avin and Dembner, 2001). In spatial planning, it is not always clear whose strategic practice is being considered: that of the local or regional government responsible for making strategic plans or that of the stakeholders (e.g., developers, investors, citizens, NGOs) required to implement the strategic decisions and provide legitimacy to the decision-making process. Moreover, in urban planning, the organizational boundaries are often fuzzy and involve multiple organizations, making it difficult to determine who and what is included and excluded (Mäntysalo and Grišakov, 2016). As Zegras and Rayle (2012, p. 314)
note, “given heterogeneous participants with different realms of influence, factors clearly external to one organization might be within the influence of another, making it difficult to separate scenarios that represent uncertainties from scenarios that represent possible strategies.”

Zegras and Rayle (2012) underscore the promising role of scenario thinking, particularly the ‘Intuitive Logics’ approach, in tackling the intricacies of organizational complexity in strategic spatial planning. In its optimal form, scenario thinking can be a valuable tool for learning and transformation, as it can challenge existing perspectives, enhance comprehension of the organizational landscape, facilitate communication among various stakeholders, and promote collaboration among participants. Zegras and Rayle term such collaboration-stimulating aspects of scenario thinking its “second-order effects” (Zegras and Rayle, 2012, p. 305).

Similarly, Healey’s (2009) concept of strategic framing also acknowledges such second-order effects. It is worth noting that the idea of strategic framing can also be found in the scenario planning literature. For instance, Ramírez and Wilkinson (2016) advocate the Oxford Scenario Planning Approach (OSPA) methodology, which is defined as a strategic learning process enabling practitioners to “re-perceive self-interest and options, and others’ interests and options and experiences—all enabled through the process of reframing” (Ramírez and Wilkinson 2016, p. 3). Ramírez and Wilkinson (2016) draw their inspiration for the concept of strategic reframing from the work of Schön and Rein (1994), as does Healey (2009).

From Healey’s perspective, strategic framing combines local resources with visionary thinking in a way that encourages actors to change their thinking and actions, as well as their interactions with each other. Healey, following Dewey’s ideas, considers that strategic work should create a ‘community of inquiry’ that fosters the collective intelligence of those involved (Healey, 2009). In striving for this, critical judgement is key:

A key area of judgment relates, then, to an assessment of the institutional moment, or “opportunity structure”, for spatial strategy making. This leads spatial strategy makers to consider such questions as: what is the momentum for an explicit spatial strategy-making initiative? What forces and actors are driving this? What is the scope for the transformation of discourses and practices through such an initiative? How strong is the momentum? Can it be strengthened and what might weaken it? What kind of process is already underway, what might evolve and what could be created? What seems to be at stake and around which issues will critical judgments have to be made? How are the initiators situated in relation to this momentum, and how am “I” as an actor in such a process situated, in terms of role, skills, potential to exert influence and legitimacy? (Healey, 2009, p. 443)

Healey views critical judgement as a “practical art” (Healey, 2009, p. 440), but the concept of art in this context differs from Schwartz’s notion of the ‘art’ of scenario thinking (Mäntysalo and Grišakov, 2016). Healey’s ‘practical art’ relates to Zegras and Rayle’s (2012) ‘second-order’ level of scenario thinking,
while Schwartz’s ‘art’ is on a ‘lower’ level. Schwartz and Healey approach scenario thinking from different angles. Schwartz views it as the art of crafting compelling and cohesive narratives that integrate real and potential driving forces within a specific timeframe. By contrast, Healey focuses on the ‘practical art’ of framing the scenarios in a way that identifies a desired outcome (normative) and outlines the necessary initiatives, agreements, and decisions to garner support and momentum for the chosen scenario. Healey’s approach to scenario thinking is less focused on creative production and more focused on addressing the political complexities of working with different stakeholders and managing conflicting interests (Mäntysalo and Grišakov, 2016). The notion of reframing with scenario thinking, as well as the different types of capacities that are necessary in strategic spatial planning that utilizes scenario thinking, will be further elaborated in Chapters 4 and 6.

2.6 Summary

The use of scenario thinking in strategic spatial planning can be a valuable tool for understanding and addressing the complexities of the future. The ‘Intuitive Logics’ methodology, in particular, allows for the exploration of different possible futures, including those that may be undesirable. It encourages storytelling, the questioning of assumptions, and the identification of critical uncertainties. This approach differs from other scenario typologies, which tend to focus on desirability and rely on quantitative data. It is a more explorative and qualitative approach that can be used to gain a deeper understanding of the potential consequences of current actions and to inform decision-making.

Indeed, the key advantage of the ‘Intuitive Logics’ method is its ability to address undesirable future scenarios. Moreover, as previously mentioned, this is what originally inspired the development of the method. It focuses on the ‘unimaginable’ and identifies critical uncertainties that impact the problem at hand. By questioning our assumptions about predetermined elements, we can better understand the outcomes of our actions or even illustrate what would happen if no action were taken at all.

When thinking about the future, it is important to understand that it is rooted in both the past and the present. The present is a collection of our understanding of the recent-past and short-term anticipations about the future. Imagining futures is not just about looking forward; rather, it also concerns understanding and challenging our current perceptions and assumptions. Ramírez and Selin (2014) refer to such processes as making our discomfort and ignorance productive. This means that imagining futures is not related solely to the future itself; instead, it also concerns carefully considering what is regarded as the present.

Science fiction can serve as inspiration, but it also contains its own limitations in futures thinking. These limitations are just as important as the ideas that become reality, as they reveal the basic assumptions in our foresight approach, such as our determinism about technologies or relative blindness to other changes in our societies and built environment.
Scenario thinking, particularly the ‘Intuitive Logics’ method, can allow for a deeper understanding of alternative futures by highlighting critical uncertainties and exploring the potential impact of different scenarios. However, it is important to consider the limitations and challenges of applying scenario thinking to strategic spatial planning, such as dealing with organizational and political complexities and addressing the spatial dimension of the scenarios created. There is both a need for and interest in further exploring the possibilities of adapting scenario thinking to strategic spatial planning, as, over the last decade, several authors have proposed scenario thinking or scenario evaluation approaches for the field of strategic spatial planning. As they are often presented in varying sub-contexts, such as transportation and land-use planning, urban planning, and landscape planning, this can also lead to further methodological confusion rather than clarity.

The concept of strategic framing is valued and used in both the field of futures studies and strategic spatial planning. It emphasizes the importance of bringing together local resources and visionary thinking to encourage actors to change their thoughts and actions and to overcome the difficulties of organizational complexity and political contention. Ultimately, imagining futures is a participatory process of understanding the present and challenging assumptions to create a better future or futures.
3. Comparing scenarios

We should at least learn to understand each others’ humor.\textsuperscript{15}

Tarja Halonen,

11\textsuperscript{th} President of Finland

Planners should be able address the future with authority (Myers and Kitsuse, 2000), but they often lack a framework for approaching future-oriented methods and techniques. As discussed in the previous chapter, much of the planning literature advocates the use of scenario thinking in strategic spatial planning. However, inspired by Myers and Kitsuse’s (2000) overview of the tools and techniques used for constructing the future in planning, I claim that, as a basic capability, planners should also be able to analyze and evaluate existing future documents and, most specifically, scenario reports. The reasons for developing such a capability are manifold. First, future documents, including scenario reports, are developed by different parties with different interests. As emphasized by Weber (2021):

We know that planners are not the only ones with interests in urban futures. Indeed, the future city is crowded with the speculations of architects, developers, appraisers, residents, neighborhood groups, and investors, among others. These actors share many of the same predictive tools and rely on similar assumptions about time. They are influenced by popular trendwatchers and consulting firms, who, as modern day prophets, harmonize diverse imaginaries into more uniform and influential expectations. (Weber, 2021, p. 631)

Consequently, the quality, contents, and outcomes of scenario projects can vary considerably. Furthermore, anticipation of the future does not only exert a rhetorical or performative effect (Groves, 2017). Representational and material capacities, such as narratives and images about the future, can begin to shape the social, representational, and physical spaces in which public needs are constituted. Therefore, it is not only about the power of future narratives or images; it equally concerns who possesses the agency to create and present such future needs or desires. As such, it is important to consider power relations as modulated through the construction of the future. It is crucial that we do not only

\textsuperscript{15} Tarja Halonen’s reply when asked what was the most important goal in Finnish-Estonian cooperation.
Comparing scenarios

address the technical methods by which scenarios are developed, but also consider who possesses the authority to determine the terms and assumptions behind the scenarios and future plans (Goodspeed, 2020). According to Sandberg (1976), planning the future can serve two different aims: colonization or emancipation. Through colonization, today's powerful interests are extended into the future and often become a self-fulfilling prophecy. However, future planning can also foster emancipation, as proper foresight should not settle for self-fulfilling prophecies.

Recent scenario thinking discussions in relation to spatial planning (Abou Jaoude, Mumm and Carlow, 2022; Mäntysalo et al., 2022; Goodspeed, 2017) have concentrated primarily on the evaluation of scenario outcomes from the perspective of learning, institutional change, and system change. However, preceding the evaluation of outcomes, planners should also be capable of understanding the approach and logic of existing scenario documents composed by different interest groups. Furthermore, a thorough analysis of existing scenario work can be used to form the basis of designing a new scenario project, defining its aim and approach.

This chapter discusses the possibilities for comparing scenario reports on the basis of the cross-border region of Tallinn-Helsinki, in Northern Europe. In the planning literature, cross-border regions have mostly been explored from the perspective of their governance networks and infrastructure projects, often in relation to the territorial cohesion debates in the European Union. Research on border areas has also concentrated on border negotiations and regional identities (Kramsch, 2001; van Houtum and Legendijk, 2001; Paasi, 2002; Perkmann, 2003; Jensen and Richardson, 2007; Haselsberger and Benneworth, 2010; Hansen and Serin, 2011; Goodwin, 2012; Scott, 2016; Metzger and Olesen, 2016; Faludi, 2012). Spatial imaginaries and related boundary objects (Mäntysalo et al., 2020) are an important part of the cross-border planning discussion, as the integration and establishment of the joint momentum of two areas with their own national contexts, local histories, and identities can be challenging (O'Dell, 2003; Collinge and Gibney, 2010). The spatial context and its division play a crucial role in these imaginaries, as the imagined ‘new’ territory is always separate—belonging to one side or the other; thus, boundary objects such as tunnels or bridges begin to play a crucial role (Grišakov, 2013).

One of the inputs for the reading of scenario reports in this chapter is based on the work of Ryan (2011), who proposes that ‘plans’ or reports should not only be read but also related to a larger intellectual sphere that also considers temporal changes or statements on the social and political values of the time. Thus, the reading of the ‘plain’ contents of a report should always be augmented by the provision of additional situational context and reflection on temporal changes, for instance, the irrelevance or impact of the given report in time.

Helsinki, the capital city of Finland, and Tallinn, the capital city of Estonia, are divided by the Gulf of Finland in the Baltic Sea, which is 78 kilometers wide at that point. Therefore, these two capitals cannot, in any way, be considered traditional paired border cities (Buursink, 2001; van Houtum and Ernst, 2001) if we consider the distance between them and the different history and age of
Comparing scenarios

the two cities. Nevertheless, despite their distance, there have been talks about establishing a twin city for 30 years now. Therefore, Tallinn-Helsinki could be considered a working process, slowly moving towards establishing connected cities, since no official decisions leading to the formation of a twin city have been taken. An important precondition actively mentioned in the discussion about the twin city has been the possibility of a tunnel creating a fixed link between the two capitals, which would lead to further integration (Grishakov, 2013). Building the tunnel would make Tallinn-Helsinki by definition a connected city (Buursink, 2001). The Öresund Region is seen as a role model for its Gulf of Finland counterpart. In addition to visions about connecting Tallinn and Helsinki, a wider regional approach has been discussed that includes two other major cities, Stockholm and St. Petersburg. That approach can also be termed the Baltic Diamond. In the past few years, two major wildcards have seriously affected the twin-city thought and action. First, the impact of COVID halted regular movement between the city regions, resulting in the abrupt arrival of the era of telenetworking. Second, the start of the Ukrainian war has reinforced the physical and imagined border with Russia and dissolved any near-future ideas of cooperation or close connections with St. Petersburg.

Tallinn-Helsinki is a unique context for the purpose of scenario thinking, as it offers rich material about different narratives, visions, and, most importantly, scenarios, not only for the past 30 years but also for a longer collection of imaginaries that can be traced to the 19th century and that still act as metaphors, preconceptions, and conceptual hooks (Ramírez and Wilkinson, 2016). Therefore, all this material composes a rich library of imaginaries that can be strategically analyzed and evaluated to inform the next steps in this process. Between the years 2001 and 2011, Helsinki-Tallinn Euregio commissioned three scenario planning studies exploring the future development of the Tallinn-Helsinki twin region—all conducted by different authors. This scenario work provides a unique opportunity for scenario comparison in the context of strategic spatial planning in general and planning border-crossing regions in particular. First, the specific context and evolution of the Tallinn-Helsinki twin-city idea and imaginaries are presented, which provide a wider context to the commissioned scenario reports. This is followed by a description of the framework for scenario comparison, which integrates and elaborates upon multiple existing proposals.

16 I call it the twin-city idea because, although the proper terminology would suggest border-crossing cities or connected-cities, the best-known term used by the elites and the media is that of a twin city (kaksikliin or kaksiskaapunki in Estonian and Finnish, respectively).
17 The Öresund Region is a cross-border region in Northern Europe that encompasses the Danish island of Zealand and the southern part of Swedish Scania, as well as the Öresund strait, which separates them. The region is known for its strong economic and cultural ties. The Öresund Bridge, a 16-kilometer-long bridge-tunnel that connects Denmark and Sweden, serves as a major transportation link between the two countries.
19 In futures studies, horizon scanning, and foresight, wild cards are low-probability, high-impact events. Of course it depends on who defines the probability. For example, after the Russian occupation of Crimea in 2014, further escalation of conflict became far more probable.
Comparing scenarios

Third, the Tallinn-Helsinki scenarios are compared and discussed according to the proposed framework.

3.1 Historical evolution of the cross-border relationship

Long before the idea of the twin city and the tunnel, there was the notion of a Finnish bridge and a common state for Finns and Estonians as tribal brothers. It is a question of kinsfolk (kindred people with similar languages) whose attitude to each other has been, during their long history, positive (this being a rare exception among neighboring peoples). Historical evidence suggests that close personal relationships between Estonia and Finland originated from cultural cooperation (Medijainen, 2007). Local Fennomans, the leaders of Finnish national awakening, conducted an expedition to Estonia as early as the 1840s to compare the similarities between the two countries' language and culture. However, the findings of that expedition suggested that these similarities were less compelling than the Fennomans had hoped, and the idea of creating an extended Finno-Ugric cultural space with a combined language and culture was abandoned. However, this did not mean that other connections were not further explored. During the first Song Festival, held in Tartu in 1869, a considerable Finnish delegation was also present. During that event, the idea of a shared future for Estonia and Finland was, for the first time, officially discussed. Inspired by the meeting, Lydia Koidula, a renowned Estonian poet and cultural leader, created a poem about a bridge between the two countries. The name of that poem, “The Finnish Bridge,” is used as a symbol for describing the close personal relationship between the two countries to this day.

The idea of a shared Estonian-Finnish state was raised before the independence of both countries. For instance, in 1917, Gustav Suits imagined a shared socialist or proletarian republic. Later, in 1920, Friedebert Tuglas wrote about the dream of a Finnish bridge that could come to existence if we really desired it:

Again, the question of the Finnish bridge has become relevant. Not anymore as a romantic dream but as a political question that not only interests naïve utopists but also serious men of state. This is a question that should be quickly answered and it determines the fate of our nation. (Tuglas, 1920, p. 89)

He describes his dream of this bridge thus:

It was a giant bridge stretching across the sea... a creation with an uncommon structure, powerful and magical like Brangwyn’s most monumental visions of bridges. I saw sparkling fast trains speeding along mighty arches carrying people from one land to

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20 The Estonian Song Festival (in Estonian: Laulupidu) is one of the largest amateur choral events in the world, a masterpiece of the oral and intangible heritage of humanity. It is held every five years in July in the grounds of the Tallinn Song Festival (Lauluväljak) simultaneously with the Estonian Dance Festival. The joint choir comprises more than 30,000 singers performing to an audience of 80,000. The tradition of the song festival was born along with Estonian national awakening.
Comparing scenarios

another enabling the exchange of views and substances. And this weird simulacrum seemed albeit all to be feasible to an extent. In any case, not less possible that Kellermann’s tunnel idea from Europe to America (Tuglas 1920, p. 87)

Tuglas’s vision is not so different from the current vision of a tunnel connecting the two capital cities, although the poet Hasso Krull (2016) argues that the idea of the bridge is separate from the idea of the tunnel. According to him, the tunnel lacks the mythical heritage that the bridge embodies. For Krull, the tunnel is practical, a physical connection. However, the bridge is something allegorical, a mental link between the two nations. It could be said that the dream of Koidula’s Finnish bridge remained a conceptual hook to support the Estonian orientation towards Finland, exploring the rest of the world through Finland as Estonia’s ‘big brother.’ However, one potential difference between the two cultures is that Finnish culture has evolved in active dialogue with its own tradition while Estonian culture has emerged as a Baltic-German counterculture and thus possesses an aptitude for cultural exchange (Hallas-Murula, 2005). Nevertheless, both Estonians and Finns struggle with the same question of how to maintain a balance in their culture between the European and the Finno-Ugric.

According to Mikita (2015), both countries have preserved an archaic world of indigenous nature, language, and culture. This renders them extremely inspiring cultures, as, in many other places in the world, such originality has been lost to globalization (Mikita, 2015). The phenomenon of Estonian and Finnish culture is rooted in the fact that the two countries are not stuck in their past but are also not overly civilized. They themselves are bridges between the new and the old world order (Mikita, 2015).

The basic pattern of relations between Finland and Estonia, deeply connected to the previously described narratives, have remained broadly the same from the 19th century until the present (Alenius, 1998). Historical research on national images and relationships indicates that the smaller of the two parties has sought support from the larger, especially in times of crisis, but has time and again been disappointed (Alenius, 1998). Thus, it could be suggested that Estonia has never been important to Finland in the same way. According to Alenius (1998), the dynamic between Estonia and Finland can be characterized as a fluctuation between admiration and scorn, hope and disillusionment. Despite this, there has always been a desire for some kind of close connection between the two countries, and the ties have never been completely broken.

3.2 Window to the West

During the period when Estonia was incorporated into the USSR, Finnish television and Finnish tourists wandering around Tallinn became an important and almost exclusive means of contact with the Western world and free Europe for Estonians. It was during this time that a familial bond began to develop between Estonians and Finns, especially among Tallinn residents. The popular term “domesticated Finn” originates from this period, meaning the relevance of a personal Finnish friend or at least an acquaintance. The ferry connection between
Tallinn and Helsinki was reopened in 1965. Between 1965 and 1990, over three million tourists from Finland visited Estonia. Thus, Finns physically came to embody Estonians’ contact with the Western world.

Perhaps the most significant event of that time occurred in 1971,\(^2\) when a new TV tower was erected in Espoo, Finland. Its transmitter was so powerful that Finnish TV was now viewable in Tallinn and most of Northern-Estonia. The impact of Finnish TV on most Tallinners is hard to overestimate. A whole generation of children grew up watching Finnish tv-shows and Western movies and soap-operas that would otherwise never have been broadcast in Soviet Estonia. Furthermore, generations of people learned Finnish language through watching TV and subsequently also acquired an understanding of Finnish culture. Jaak Kilmi, the director of the documentary *Disco and Atomic War*,\(^2\) which portrays the impact of Finnish TV on Soviet Estonia states:

> Not only me, but many other children and adults used Finnish television to live out their dreams and fantasies. Finnish TV was an especially huge magnet for children. . . . One thing that we are now grateful for is that we could undermine the Soviet Union with the “soft force” of Western politics e.g., pop culture. (Teder, 2009, para.3)

Whether Finnish TV really was a powerful media ‘weapon’ for destroying the Soviet Union is arguable, however the personal contacts and understanding of Finnish culture and language did create a supportive backdrop for the emergence of the twin-city idea after Estonia became independent again. Prior to and during the period after Estonia regained its independence, the models available through Finland and adopted by Estonians—such as hotels, and service and catering culture—played a crucial role in elevating Estonia’s economy and society to European standards. Additionally, during the difficult period following independence, international aid received from Finland, such as training opportunities and assistance with environmental protection, were enthusiastically welcomed in Estonia. The linguistic and cultural similarity, and interpersonal contacts made earlier, were doubtlessly an important reason, besides the territorial proximity, for Finns being the first to reinstitute business relations in Estonia after re-independence (Kurik and Terk, 2000).

With the end of the Cold War and Estonia’s renewed independence, the iron curtain was lifted, paving the way for a growing level of interaction and integration between the Finnish and Estonian capitals of Helsinki and Tallinn. Given their close physical location as well as likely complementarities and synergies, the city pair’s reaching towards each other has been the topic of lively yet somewhat episodic discussion since the early 1990s (Grišakov, 2013), with persistent talks about a twin city as well as viewpoints emphasizing strong interaction without twinning (Ruoppila et al., 2007). There has also been ironic speculation about whether the city pair should in future be called Talsinki or Hellinn.

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22 [https://www.youtube.com/watch?v=D80cuy6LsDw](https://www.youtube.com/watch?v=D80cuy6LsDw)
The collaboration between Tallinn and Helsinki can be approached from both an economic and a broader cultural and historical perspective. From an economic standpoint, the proximity of the two cities greatly facilitates their cooperation. Tallinn, located in the northernmost part of Estonia, and Helsinki, located in the southernmost part of Finland, form a unique pair of capitals with the shortest possible distance between them. Since the majority of Estonia’s economic potential and a significant portion of Finland’s economic potential is concentrated in their metropolitan areas, it is clear that the economic interaction between Helsinki and Tallinn is equivalent to the economic relations between the two countries (Kurik and Terk, 2000).

3.3 Establishment of the cross-border city

The concept of a twin city between Tallinn and Helsinki originates from as early as 1992. The period following Estonia’s independence witnessed a great deal of positivity about reinforcing the ties between Finland and Estonia. Moreover, a possibility was seen from the Finnish side to increase the country’s role in the Baltic Sea region (Raagmaa, 2000). More specifically, Helsinki wanted to improve its peripheral position by becoming a European port to Russian markets via St. Petersburg. Establishing a common twin-region with Tallinn was an important step towards realizing this idea. The cultural and national similarities were seen as an excellent precondition.

In July 1992, the renowned Estonian writer Jaan Kaplinski presented for the first time the new, appealing, and playful names Talsinki (or Hellinn) for the future twin-city-to-be in the Finnish newspaper Helsingin Sanomat. What is interesting for the context of this research was the headline of the article: “The Finnish Bridge is finally being built—Helsinki and Tallinn are approaching each other and setting themselves apart from other cities.”

As mentioned before, the symbolic notion of the Finnish Bridge could, to some extent, be considered a predecessor of the tunnel, at least as a mental rather than physical link between the two countries.

The next important step on a non-official level was taken in 1994, when a book titled Helsinki-Tallinn twin-city—myth or reality? was published at the initiative of the Helsinki-Tallinn Association. The book combined an overview of the historical perspective of the Estonian-Finnish relationship with possible aspects of future cooperation between Tallinn and Helsinki. Experts and opinion leaders wrote 27 articles from different fields—business, politics, and culture. The underlying idea of the book, apart from elaborating on future cooperation between the two capitals, was the introduction of the tunnel idea, with expert opinions and a draft project.

Tallinn and Helsinki are too far apart geographically to even consider the possibility of an actual bridge; thus, the idea of a tunnel was more appropriate to unite the two capitals with a fixed link. Although, in the 1990s, it was probably

23 Original citation: „Suomen silta vihdoin rakenteilla – Helsinki ja Tallinna lähentyvät toisiaan ja etääntyvät samalla muista kaupungeista.”
considered a utopian and remarkably expensive project, the firm belief was established that cooperation between the two capitals could not be truly effective without a physical connection in the form of a tunnel.

The official launch of the Helsinki-Tallinn EUREGIO, as a cross-border cooperation network to promote collaboration inside the region and enhance positive regional integration, occurred in 1999. The goal was for this cross-border region to become the most innovative regional economy among Northern welfare societies. This common future was to be achieved through well-functioning cooperation in such conditions where the diversities of the two regions were utilized. Several vision conferences were organized with the aim of enhancing collaboration between the cities, such as the Helsinki-Tallinn Twin Region Vision project (2001), and a number of sector cooperation projects were conducted in partnership with Helsinki-Tallinn EUREGIO. Therefore, there was a political consensus that closer cooperation between the cities and regions was crucial for ensuring sustainable growth in a global context (Ruoppila et al., 2007).

In 2003 and 2004, EUREGIO focused on developing the Science Twin-City concept, which was one of its most visible activities during that time. The 2005–2007 strategy positioned EUREGIO as a networking and information exchange organization for partners and other actors in the twin region. From 2007 onward, the new EU structural funds period introduced a novel cross-border region, the Central Baltic Region sub-program, as part of European Territorial Cooperation. The program prioritized sustainable regional planning and the creation of a common business environment. After 2010, EUREGIO’s activities became more directed towards transportation studies and the tunnel project. In 2011, a new project, Helsinki-Tallinn Transport and Planning (HTTransplan), was started, financed by the Central Baltic IVA program. The project, which lasted until 2013, was successful in collecting, probably for the first-time, authentic data on actual mobility between Tallinn and Helsinki.

In 2014, however, the activities of Euregio were stopped, and EUREGIO as an organization was terminated. One of the principle reasons was that EUREGIO no longer fulfilled the expectations of the partners. Moreover, no new visions or ideas were proposed for restructuring the organization. Thus, at present, EUREGIO does not exist, and its web archives are no longer available—archives which held all the information about the organization’s previous work, data, presentations, and other materials. Currently, however, there is a new initiative, FinEst Link, initiated by six partners24 (both cities, regional councils, and ministries in charge of transportation). As a result, a Finnish-Estonian Transport Link cooperation document was approved in January 2016. Moreover, a new webpage25 introducing the initiative and presenting the results of transportation and mobility studies, as well as the tunnel pre-feasibility study, was established.

In 2016, another private initiative was started in parallel with FinEst Link to build the Tallinn-Helsinki tunnel along with an artificial island. Called the

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24 City of Helsinki, the City of Tallinn Government, the Estonian Ministry of Economic Affairs and Communications, the Finnish Ministry of Transport and Communications, the Helsinki-Uusimaa Regional Council and the Harju County Government of Estonia

FinEstBayArea, it was advocated by the well-known Finnish start-up entrepreneur and founder of the Angry Birds franchise Peter Vesterbacka. The initiative received much media attention on both sides of the gulf and was introduced through buzzwords emphasizing its global relevance, such as establishing a new Silicon Valley, or the Heart of Eurasia. This was very different rhetoric from the preceding tunnel discussion, which mainly positioned it as part of the European TEN-T network. The project webpage claimed that the tunnel would be built and running by 2024 in record time, and even today one can still purchase tickets on the first trains departing in December 2024.26

Although it received intense publicity, the project was financed by Chinese investors and thus considered as risk by the planning authorities in Estonia and Finland. However, in 2021, Estonia and Finland signed a memorandum of intent to build the tunnel, nevertheless emphasizing that the infrastructure project must feature state involvement and that further research was required to plan the tunnel.

Nonetheless, one of the takeaways from this process is that the private initiative of FinEstBayArea and the resulting media pressure pushed state representatives to approach the tunnel project with seriousness and express a clear statement27 that the tunnel project must be a public initiative involving both states. However, any further steps are unlikely to be planned before the completion of the Rail Baltic TEN-T corridor.

Thirty years have passed since Jaan Kaplinski first proposed the idea of Talsinki as a catamaran city. Has the dream of a twin city moved closer over those decades or is it now further away than in the 1990s? What is clear is that the mythical bridge has currently been consigned to history. Nor is there, at present, a strong focus on the relationship and connection between the two cities. Furthermore, the project has evolved from Talsinki/Hellinn to FinEst Link. In addition, the focus has shifted from the connection between the cities to a physical link between the countries. Therefore, the Tallinn-Helsinki story illustrates how the original narrative, which was developed to support the emancipation of Estonian and Finnish national cultures, has, over subsequent decades, been re-packaged and re-interpreted for other purposes, including those which are colonizing by nature. Nevertheless, Tuglas’s dream from 1920, with sparkling trains carrying passengers, is as relevant as it was 100 years ago.

In 2022, the most recent Finnish-Estonian future cooperation report was published (the previous ones being released in 2003 and 2008). As a document, it succeeds in utilizing all the metaphors and conceptual hooks mentioned in the previous pages. The tunnel is presented in the report as a piece of infrastructure, but also the Finnish bridge is emphasized as the backstory in the cultural cooperation chapter. Moreover, The Window to the West is used to introduce the aim of shared language learning. Finally, the global ambitions and current trends cleverly advanced by Vesterbacka are echoed in the core vision of the report: The FinEst hub for digital and green cross-border cooperation.

26 https://shop.finestbayarea.online/
3.4 Scenario reports of Helsinki-Tallinn

Between 2001 and 2011, Helsinki-Tallinn Euregio commissioned three scenario planning studies exploring the future development of the Tallinn-Helsinki twin region, which were all conducted by different authors. This research compares the contents of these three reports based on categories developed by Chakraborty and McMillan (2015) and Zapata and Kaza (2015). These categories enable comparison of the content of the scenarios developed in the studies, such as their scope and attitude towards the future or futures. However, they also enable comparison of the scenario planning process in terms of participation and diversity: in other words, whose viewpoints were included during scenario planning exercises and what different perspectives the final scenarios represented. Finally, the use of the scenarios after the process is compared.

The selection of a scenario technique is just one of the steps in making and using scenarios. Table 3, below, is based on the work of Chakraborty and McMillan (2015) and outlines the nine components for designing a scenario thinking project. These nine categories end with the resulting final scenarios. However, the question remains of how to integrate scenario analysis into the broader planning process. A similar scenario analysis comparison model by Zapata and Kaza (2015) follows roughly the same categories of scenario typology and public engagement. However, their categories are more focused on the actual diversity of both the scenarios and the participants involved in the scenario formation process. For Zapata and Kaza (2015), different typologies of scenario planning already suggest and lead up to very different kinds of participation. In this case, it is not only a question of who participates in the scenario formation process but how issues related to diversity are raised in that process and how diversity is represented in various scenarios.

Table 3. Nine components of a scenario project following Chackraborty and McMillan (2015)

<table>
<thead>
<tr>
<th>Scenario component</th>
<th>Explanation</th>
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<tbody>
<tr>
<td>The organizational structure: unitary, strong leader or loose coalition</td>
<td>In the unitary case, scenario analysis is performed by a single organization. In the case of a strong leader, there are several agencies involved in the process, but it is led by a clear manager at the top. In the case of a loose coalition, there is no clear leader, and different organizations perform various scenario analysis tasks.</td>
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<tr>
<td>Scope: single issue, comprehensive or problem oriented</td>
<td>Here, the division is between scenario processes concentrating on a single issue (such as transportation or housing) and comprehensive issues where a range of factors in the planning domain is analyzed. In this case, the scenario analysis can also be part of a comprehensive plan/strategy update. Finally, there is also an option to address specific challenges, which makes the scope problem oriented.</td>
</tr>
<tr>
<td>Scenario type: normative, predictive, or explorative</td>
<td>Already explained in the previous chapter.</td>
</tr>
<tr>
<td>Outcome: awareness, vision, or policy</td>
<td>If the primary desired product of scenario analysis is the development and exchange of knowledge with stakeholders, the outcome can be deemed that of awareness. Vision</td>
</tr>
</tbody>
</table>
### Recommendation

Outcome seeks to define common goals for a future state and is often produced by comparison of various future scenarios. In the case of policy recommendations, the focus is on illustrating how present-day decisions lead to various futures.

### Stakeholder Engagement:

General public, government agencies or interest groups.

This illustrates the nature of participants involved in the process. Here, a myriad of options is possible for engaging the public with different methods and at various stages of the scenario analysis. However, scenarios can also be formulated within and between public partners or by engaging specific organized stakeholder groups. In addition, various combinations are also possible, such as involving both interest groups and the general public in different stages.

### Participation Extent:

Inform only, seeking feedback, or joint fact finding.

Inform only serves the educational goal of educating groups about potential futures. Seeking feedback allows for information exchange between scenario makers and outside groups. Finally, joint fact finding allows for collaborative discovery methods to inform scenario creation.

### Engagement Medium:

Web-based, face-to-face, hybrid.

This component captures the ways by which engagement is sought and whether it is primarily web-based or meeting based.

### Scenario Construction and Analysis Tools:

Qualitative, planning support systems, or computer modeling.

Here the qualitative part is self-explanatory. Planning support systems are various computer-based tools that allow for mapping, analysis, and, in some cases, also external participation for data gathering. Modeling tools are used to model the interaction of multiple urban phenomena and their response to different policy interventions.

### Resources:

Statutory or recurring, opportunity-based, fundraised.

The resources category captures the funding of the process. In the statutory case, funding is public and part of the resources of the organization(s) crafting the scenarios. In the opportunity-based case, funding is tied to a specific project and its timeline. The fundraised category is supported by various sources, also including private scenario planning performed by various NGOs.

Finally, Zapata and Kaza (2015) also add the crucial component of subsequent use. The aim of scenario planning should not be to create scenarios but to prepare for scenarios. However, often these ends are not achieved, and scenarios are not seen or used as part of a larger planning process. Furthermore, in the case of the wider participation of different groups, those groups might use scenarios long after the completion of the process to serve their own specific needs. Thus, the afterlife of the scenarios defines the actual success of the whole process. More diversity, both in the formulation process and in the scenarios themselves, can ensure that they will be used afterwards. Additionally, the work of Shearer (2005; see Chapter 2) is used to compare the future attitudes used in the scenario work.

Goodspeed (2020) has, in turn, further augmented Chakraborty and McMillan’s model by focusing additionally on information infrastructure and process evaluation. He emphasizes the type of information (e.g., computer models and data) used in the scenario project as existing data. Most importantly, he also
Comparing scenarios underlines the afterlife of scenarios in his evaluation framework of learning, institutional change, and system change, i.e., in the actual integration of scenarios into the planning process (Goodspeed, 2020). However, while these are crucial, it is important to stress that it can be challenging for an outsider to evaluate these categories without further extensive qualitative research (e.g., interviews or questionnaires). Goodspeed (2020) himself already emphasizes that exploratory scenario work is often discarded as excessively resource intensive and complex. Thus, one should be aware that the further resource intensiveness of proper evaluation procedures can further influence whether and how scenario projects are realized in practice. In this case, there should be a thorough understanding of who is responsible for the continuous evaluation—for example, in the case of Helsinki-Tallinn, Euregio could perform such a role. Then again, neither Euregio as an organization nor its archive exist anymore, so the central question remains how scenario evaluation work is performed in such a manner that knowledge is not lost over time.

Thus, in the context of this chapter, the primary interest is how one is able to compare scenario projects based on the available information from scenario reports—often the sole artifacts that remain from a project. Additionally, when considering scenario reports specifically, what can certainly also be compared are the contents of scenarios: for example, the scenario presentation and its components, its stories and narratives, the visuals and graphics they include or lack, as well as the general comprehensiveness of the final scenario analysis report in terms of understanding the logic and process of the work that was performed. The next chapter reviews the approaches chosen for the scenario thinking reports of Helsinki-Tallinn. The key features of and differences between the scenario projects are presented in Table 4.

### 3.5 Helsinki-Tallinn scenarios

The earliest scenario planning exercise was completed in 2001 by Tarja Meristö (2001). She used an action scenario approach (Meristö, 1991) that she developed herself. The title refers to a vision project; however, scenario methodologies are used and explained throughout the report. This is one of the most compelling aspects of the report, distinguishing it from the others. It seems to be almost a conspectus of the scenario methodology, where the methodological thoughts and explanations overshadow the scenario outcomes. Nevertheless, it is the most meticulous of the different reports in its thorough explanation of the scenario project steps and the most relevant outcomes. In terms of the process, the report uses expert focus groups to identify key assumptions and taboos and proposes four Helsinki-Tallinn Business Scenarios. These scenarios are by type explorative-strategic using option-alternatives that are presented on scales showing time and success potential. The focus in the scenario stories is on the strength of the EU and the role of both countries within this context. This was a time before Estonia joined the EU, so Estonia’s future role as a member state was considered one of the key uncertainties. The goal of the vision (or scenario) exercise was thus mainly to identify cooperation options for coping with
Comparing scenarios

changes in the external environment and to agree on a shared vision—with the aim of learning- and institutional change outcomes (Goodspeed, 2020). Although already 20 years old, this vision exercise can also be used as material today, as it lists assumptions and taboos that have largely remained in place. However, the scenario work itself became irrelevant after Estonia joined the EU in 2004. It is also peculiar that the timespan was set for just 5 years—an uncommonly short span for extensive scenario work. Finally, the report includes a section on ‘vision to action,’ outlining immediate and longer-term steps and activities. This means that part of the project indeed concentrated on scenario synthesis and implementation work. A reference to another scenario exercise (Terk et al., 2001) was found in the same vision document; however, those scenario materials were no longer available. According to Meristö, Terk et al.’s scenario exercise also presented option-alternative scenarios examining the pace of convergence between the two countries and Finnish economic success. The same author also prepared the Transport and Planning Scenarios (2012) compared in this chapter.


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<td>Context</td>
<td>Financial resources</td>
<td>Opportunity based</td>
<td>Opportunity based</td>
<td>Opportunity based</td>
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<td></td>
<td>Information</td>
<td>Statistical data</td>
<td>Statistical data</td>
<td>Statistical data</td>
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<td></td>
<td>infrastructure</td>
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<td>Project</td>
<td>Scope</td>
<td>Comprehensive</td>
<td>Comprehensive</td>
<td>Single Issue</td>
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<td></td>
<td>Timespan</td>
<td>5 years</td>
<td>40 years</td>
<td>28 years</td>
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<td></td>
<td>Attitude</td>
<td>Preactive</td>
<td>Proactive</td>
<td>Preactive</td>
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<td></td>
<td>towards the future</td>
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<tr>
<td></td>
<td>Type of scenario</td>
<td>Option alternatives high-low; Explorative-strategic</td>
<td>Structurally distinct,</td>
<td>Option alternatives high-low; Explorative-external</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>although two scenarios run in parallel. Normative-transforming.</td>
<td></td>
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<tr>
<td></td>
<td>Outcome</td>
<td>Awareness/Vision</td>
<td>Vision</td>
<td>Policy recommendations</td>
</tr>
<tr>
<td></td>
<td>Scenario generation and goal</td>
<td>Develop alternative views, devise a shared vision. Stakeholders involved in focus groups; scenarios generated by expert.</td>
<td>Develop alternative views. Scenarios compiled by experts. Stakeholders involved in expert interviews and focus groups.</td>
<td>Develop transportation planning and cooperation scenarios. Scenarios compiled by experts. Stakeholder opinions considered after first scenario drafts.</td>
</tr>
<tr>
<td></td>
<td>Evaluation and use after process (if known)</td>
<td>No outcomes from the perspective of systemic change. Most likely some outcomes from the perspective of institutional change and learning (e.g., mental models, individual or collective learning).</td>
<td>No outcomes from the perspective of systemic change. Most likely some outcomes from the perspective of institutional change and learning (e.g., mental models, individual or collective learning).</td>
<td>No outcomes from the perspective of systemic change. Most likely some outcomes from the perspective of institutional change and learning (e.g., mental models, individual or collective learning).</td>
</tr>
<tr>
<td>Process</td>
<td>Participation extent:</td>
<td>Inform only</td>
<td>Seeking feedback</td>
<td>Inform only</td>
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In 2009, Helsinki-Tallinn Euregio commissioned another scenario exercise from ThinkTank Demos Helsinki. The resulting book, Talsinki/Hellinna, presents key international drivers and local creation possibilities for the twin-city development. The book is not structured to follow a scenario planning methodology, although it loosely follows the intuitive approach. There are two resulting scenarios presented, which are normatively transforming and structurally distinct. The two presented scenarios are commensurable; both scenarios are presented on a timeline as parallel processes in which the Talsinki scenario events focus on official cooperation and the establishment of an international twin city, while the Hellinna scenario concentrates on informal activities, such as grassroots initiatives and cultural events. The Demos scenarios are the only cross-border scenario planning exercise that focused on the diversity of stakeholder groups by including in their interviews and focus groups a range of commuters with various interests. The parallel worlds of—or alienation from—local culture (Hellinna) and global economics (Talsinki) are emphasized both in the scenario work as well as in the layout and colors of the book. The scenario stories are illustrated by interview quotes that represent the characters living their twin-city lives in the scenarios. The geographical placement of Tallinn-Helsinki is also presented in the layout of the book—reminiscent of a playing card consisting of a mirror image representing the geographical locations of Tallinn and Helsinki. One can read the book in Estonian and then turn it upside down and read it in Finnish. There are many conceptual ideas in this scenario work that the authors have attempted to express in the visuals of the report, including how one should feel when reading it. For example, the reader first sees the two worlds and timelines side by side at the beginning of the book and then becomes ‘lost’ in-between the scenario stories and characters. Apart from the meticulous scenario timeline, the report allows ‘the people’ to speak about what should be done and does not attempt to further organize visions into action.

The most recent (albeit already 10 years old) scenario planning exercise was conducted during the HTTransplan project (Terk, 2012). As the project itself was concentrated mainly on transportation, the focus of the scenario planning exercise also concerned transportation systems, cargo flows, and economic growth. The scenario axes were chosen to be EU economic growth and Estonian and Finnish actors’ motivation and capability to cooperate. The resulting scenarios were explorative-external and used option alternatives from forecasting. The scenario stories focus primarily on cargo transportation. People’s mobility is only discussed in relation to new transportation systems and urban planning in the context of harbor development. Thus, these scenarios serve their purpose for the transportation part of the project but focus less on the question of urban planning or the future of the transnational community, most likely due to the character of the umbrella project. Interestingly, the capability to engage in any level of cooperation is presented as a key uncertainty. This indicates that the cooperation issues that led to the termination of Euregio were present already at the time of the scenario analysis. This is further indicated in the part of the report discussing the background studies for the scenarios, where a separate chapter concentrating on cooperation difficulties is presented. This creates the
Comparing scenarios

bizarre situation of an otherwise clearly structured scenario report discussing and presenting the key uncertainty of cooperation primarily in an annex, rather than in the trend section or even in the scenario stories, as one might assume. One of the possible explanations for this could also be the organization of practical report writing, where scenarios are written by individual experts in a single field rather than collectively. The scenario report concludes by explaining the ways the scenario work can be used by the stakeholders (mainly learning-related outcomes) and discussing the desirable scenarios, but it does not propose any type of action plan or timeline of steps.

However, the scenarios also propose means of cooperation in the absence of deeper collaboration, indicating the scenario that the Tallinn-Helsinki project has, in retrospect, moved towards is not the *twin-city scenario* favored in the report but rather *partners in transportation*, which does not require a high level of motivation and allows the partners to concentrate solely on transport-related projects, as now demonstrated by the ongoing FinEst Link initiative.

**3.6 Discussion**

As official cooperation between Tallinn and Helsinki is problematic and as there is no shared vision, it is understandable that all scenario developments (Table 4.) compared in this dissertation involve seeking ways to move towards border-crossing city collaboration or at least a shared vision or an action plan. This means that in terms of process evaluation they aim for learning- and institutional-change related objectives. System change is mostly addressed from the perspective of behavioral change in order to support cooperation and remove tensions. Descriptive (or exploratory) scenarios tend to compare a more localized decision and test its endurance in multiple futures (Shearer, 2005). The 2001 and 2012 scenarios are explorative in terms of selecting key uncertainties. However, these scenarios are not structurally distinct; rather, they are option alternatives (high-low). According to Zapata and Kaza (2015), the outcome of scenario planning should not only be variables of the same model of the process, but outcomes of radically different and perhaps even incommensurable models that highlight different aspects of reality. The scenario reports or resulting stories do not include conceptual hooks from the history of the twin-city development (bridge, window, etc.). All three reports have chosen different approach for scenario titles (Table 5.) with Meristö report (2001) emphasizing (mainly Estonian) relationships with others, Demos Helsinki (2009) report, with its ironic use of “Hellinna” or the report of Terk (2012) accentuates the nature of official cooperation.

Nevertheless, it is relevant that all scenarios commissioned by Euregio deal with the question of reaching a common vision rather than contemplating key decisions or elements of the necessary systemic change. This also clearly shows the weak state of cross-border cooperation, with no shared agreements. The Talsinki/Hellinna backcasting scenarios from 2009 present a roadmap for developing the Helsinki-Tallinn twin city. Regarding the other scenario processes, development of a twin city is presented as only one of the scenarios and becomes
quickly the least probable one. According to Schwartz (1991), one should avoid formulating scenarios that are very different in probability, as it is likely that only the one with the highest probability will be taken seriously. However, it is even more difficult to propose positive scenarios to relevant problems.

Table 5. Helsinki-Tallinn scenario-story titles

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<tbody>
<tr>
<td>Globalizing Estonia</td>
<td>Talsinki</td>
<td>Partners in Transportation</td>
</tr>
<tr>
<td>EU-Estonia</td>
<td>Hellinna</td>
<td>Twin City</td>
</tr>
<tr>
<td>In the shadow of Russia</td>
<td></td>
<td>Failed opportunities</td>
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<tr>
<td>Wild South</td>
<td></td>
<td>Alliance for a new beginning</td>
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Focusing solely on external (high-low) factors for axis development has pushed internal factors to the background. Thus, the only scenario analysis demonstrating a proactive attitude is the Talsinki/Hellinna one. The other two are characterized by a preactive attitude, where the future will emerge from forces that are not readily controlled (such as EU regulations and EU economic growth). Embedded in the preactive attitude is the desire to forecast what might happen in the hope of avoiding pitfalls, but it does not capture the belief that the future is the result of action taken in the present (Shearer, 2005). As such, the attitudes to futures expressed in the reports can also be linked to examining the transformative nature of those futures (Goodspeed, 2020). A preactive attitude presumes colonization of the future by external forces and pushes the emancipatory qualities of foresight work consciously or sub-consciously into the background.

Regarding participation, the Talsinki/Hellinna scenario process was the only one to include diverse interest group perspectives and especially people’s cross-border practices—the ‘community of inquiry’ (Healey, 2009). Ideally, this scenario process would have proposed multiple incommensurable scenarios, which subsequently could have also been very interesting and usable for learning outcomes. However, in their report, they backcasted only a single scenario, while presenting the story from two different perspectives (alternatives).

None of the three scenario exercises were used afterwards, which demonstrates that the context for commissioning them was based on the availability of resources and not particularly on outcome or strategic usage. Moreover, at least one scenario project was the outcome of Euregio’s need to spend some remaining funds before their deadline for use expired, as was confirmed by interview with the report authors. In that particular case, the focus on scenario work was not suggested by Euregio but by the scenario report authors themselves. The authors described the outcome as more the result of their interest and ambition to approach the Tallinn-Helsinki topic from another perspective than a conscious effort by the commissioning authority to direct the process strategically and participatively. This example illustrates that the opportunities for subsequently using scenario work for the creation of awareness, the gaining of public support, and education purposes, for instance, were not really thought through by the commissioning organization.
3.7 Summary

Without understanding the context of where and when the scenario projects were initiated, it is rather challenging to compare the existing scenario reports. As evident also from this comparison, the reports use different techniques and timelines, while sometimes approaching the assignment at hand creatively both from the methodological as well as the report layout perspective. Moreover, the context, background work, and method of compilation is often insufficiently explained, thus using the proposed comparison framework will most likely require extra qualitative research with individuals involved in producing the reports.

Being an insider in the organization that has commissioned the work renders it easier to understand the context but perhaps more difficult to maintain an objective distance for evaluation. The proposed comparison framework, however, can be further specified to include the aspects of how the scenarios are presented (e.g., contents and order of the report, scenario stories, and other explanatory visuals). The scenario presentation and content are, ultimately, what also affects the scenario outcomes.

From the perspective of using the comparison for scenario project design, it can be concluded that the scenarios compared here lacked a proactive attitude towards the future. Unfortunately, the inactive role assigned to the actors rendered the scenarios preactive, allowing the future to be colonized by external interests and not by internal agency. Thus, the only scenario analysis demonstrating a proactive attitude was the Talsinki/Hellinna report. The other two are characterized by a preactive attitude, where the future is considered to emerge from forces that are not readily controlled. Embedded in the preactive attitude is the desire to forecast what might occur in the hope of avoiding pitfalls, but it fails to capture the view of the future as a result of action taken in the present (Shearer, 2005). As the majority of scenarios focused solely on external (high-low) factors for axis development, the relevance of internal factors was pushed into the background. However, a focus on actors is considered a characteristic that sets scenarios apart from more general forecasts (Ramírez et al., 2015).

All the scenarios commissioned by Euregio concentrated on the question of reaching a common vision, rather than contemplating the necessary key decisions. The futures represented in the scenario analysis also reflect the weak state of cross-border cooperation, with no shared agreements. Moreover, the Talsinki/Hellinna backcasting scenarios from 2009 were the only ones to present a roadmap for developing a Helsinki-Tallinn border-crossing city. Regarding the other scenario processes, development of a border-crossing city was presented as only one of the scenarios and often viewed as the least probable one. Consequently, the scenarios made the ‘desired’ scenario unfeasible or at least unattainable.

One of the issues with previous scenario studies is that they have failed to include a diverse range of perspectives. Regarding participation, the Talsinki/Hellinna scenario process was the only one to include diverse interest group perspectives outside the spheres of politics and business. Ideally, this scenario process would have proposed multiple incommensurable scenarios, which could also have been extremely interesting and beneficial afterwards for educational purposes. However, in their report, the Talsinki/Hellinna scenario work
backcasted only a single scenario, while presenting the story of two diverse perspectives. This approach somewhat resembles the ESPON BT2050\textsuperscript{28} scenarios, which emphasize only two option alternatives or extremes and strive to identify and debate a common ground in-between.

The non-existent use of scenarios after the process shows that they were not, in this case, designed with institutional or systemic change components in mind—for example, scenarios as communicative tools to educate and capture the collective imagination about the border-crossing region. None of the three scenario exercises examined in this chapter found further application, indicating that their initiation was probably driven by resource availability rather than a deliberate focus on outcomes or strategic utilization.

\textsuperscript{28} https://www.espon.eu/BT%202050
4. Scenario development: reframing with evidence

Don’t worry about your files, worry about your perception.
Peter Schwartz

From the theoretical literature it is evident that scenario thinking and strategic thinking both utilize the concept of framing. Here, framing can be considered both in the narrower sense of a particular perspective (Goodspeed, 2020) or in the broader sense of a strategic frame for future decision making (Faludi, 2000; Healey, 2009). The concept of framing is borrowed from the work of Schön and Rein (1994), who link it to the concept of worldmaking (Goodman, 1978; also, see Fischler, 1995 for strategic spatial planning) as well as other mental structures and features that we use to construct interpretations of problematic situations and to provide ourselves with evaluative frameworks for how we can choose to act. What Schön and Rein (1994) emphasize as problematic is that such framing thus leads to different views of the world and creates multiple social realities.

The second important element discussed in this chapter in relation to framing is the role of evidence. From the perspective of strategic spatial planning, the hegemony of evidence-based knowledge has been considered especially problematic, as it only considers known and existing development paths and is unable to consider ‘weak signals’ for which we currently lack evidence (Davoudi, 2006; Mäntysalo et al., 2022; Mäntysalo and Grisakov, 2016). Furthermore, quantifiable data can be derived only from the past, even if it is inserted into a forecast model. Any evidence-based model includes assumptions that were held at the time of data collection and thus might not remain valid in the future, but this aspect is typically ignored (Ramírez and Wilkinson, 2016). Finally, depending on ‘our’ frame, we might interpret, validate, or invalidate this ‘evidence’ in different ways. Mäntysalo et al. (2022) have characterized this conflict as a struggle between two planning frames, namely evidence-based and deep-uncertainty, and their respective approaches to comprehending and validating knowledge in planning. The attitudes to the future(s) (Albrechts, 2005; Shearer, 2005) described in the previous chapters are also linked to this discussion. Ramírez and Wilkinson (2016) emphasize that issues associated with knowledge acquisition, production, generation, and deployment in scenario planning are socially complex and always demand a combination of analytical, creative, and critical thinking.
This chapter aims to contribute to the discussion on the role of evidence in different types of framing with scenarios. Here, evidence refers to different types of knowledge that are collected, analyzed, and synthesized to make sense of future development paths and render them into scenario stories. This will be achieved through the example of the design process for three scenario projects in Estonia, all with different contexts and aims as well as territorial focuses.

4.1 Theoretical framework

The importance of evidence-based knowledge in spatial planning has been magnified by the sustainability and climate change discussions as well as the consequent requirements for impact assessments (Davoudi 2006; Davoudi, 2015; Krizek et al., 2009). The dominance of evidence-based knowledge in planning is problematic because planning is primarily concerned with the unknown future, which cannot be supported by evidence. This is particularly relevant in strategic spatial planning, which involves the use of scenario thinking methods (Albrechts, 2005; Zegras and Rayle, 2012). The evidence-based approach assumes that the future will continue along existing and known development paths. However, in scenario thinking, it is important not only to project the future implications of current development paths but also to possess the ability to imagine other potential development trajectories that are not yet evidence based but may emerge in the future. By acknowledging the possibility of multiple futures, scenarios can help reduce the bias of underestimating uncertainties (Mäntysalo and Grīšakov, 2016).

In scenario thinking, the evidence-based approach is thus insufficient. The knowledge generated in scenario planning is derived from crafting stories that combine future extensions of known development trends with imagined possibilities (Mäntysalo and Grīšakov, 2016). For example, Ramírez and Wilkinson (2016) highlight the specific exercise of asking participants to become aware of how, in different situations, their judgement relies on stories rather than numbers. According to early scenario planners (Schwartz, 1991), scenario thinking was considered an art rather than a science. The objective of scenario planning was to identify significant social and environmental drivers that propel development in certain directions, as well as to anticipate the emergence of yet unknown and hidden drivers that may interact with existing drivers in the future. Such an analysis enables the creation of alternative scenario narratives that extend beyond the organization’s scope of activity. The most popular scenario thinking method, the ‘Intuitive Logics’ method, received its name from early scenario planning scholars, such as Pierre Wack, who highly valued the role of intuition in scenario thinking; in fact, they considered it central for probing the unknown. This type of intuitiveness could be, according to Ramírez and Wilkinson (2016), also translated as mindfulness or gut feeling. ‘Intuitive Logics’ is thus defined as accessing knowledge derived from judgements and opposing such an approach to knowledge that assumes it can render the environment predictable (Kahneman and Klein, 2009, from Ramírez and Wilkinson, 2016). Ramírez and Wilkinson (2016) call this ‘disciplined imagination,’ a process that
is supported by analytical research, modeling, and peer-reviewed refinements. It is important to emphasize here, that the interplay between intuition and ‘evidence’ about the future, such as predictability or forecasts, is central for the scenario thinking process. In fact, Ramírez and Wilkinson (2016) emphasize that in contexts with no future ‘evidence’ and thus no opportunity for this juxtaposition, if is extremely difficult to use the intuitive logics of scenario thinking.

Patsy Healey (2009) also recognizes the intuitive dimension of strategic spatial planning in the form of design thinking. However, she claims that additional sensitivity is required that surpasses the limitations of both scientific analysis and design thinking. Healey (2009) states that the production of spatial strategies requires the ability to perceive the interrelationships between people and places over time, drawing from a comprehension that is based on history, an anthropological perspective, and geographic imagination. This kind of understanding is crucial for developing critical judgement skills, which, in turn, allows the assessment of how and to what extent strategic initiatives can achieve positive resonance and transformative capacity among actors. Without an understanding of the material- and cultural history of a place or a region, it becomes difficult to understand the potential and desirability of different development trajectories and to make informed decisions. She calls this ‘synthesis with imagination,’ which entails experiential probing as well as targeted analysis, imaginative learning, and reliance on hard evidence (Mäntysalo and Grišakov, 2016). Following John Dewey, Healey claims that such strategy work will generate around itself a ‘community of inquiry,’ fostering collective intelligence and working towards a shared vision for the future. This is what Healey calls ‘strategic framing’ (Healey, 2009). In this context, the strength of utilizing scenario planning lies in its ability to perceive self-interest and options as well as others’ interests, options, and experiences, all enabled through a process of reframing (Ramírez and Wilkinson, 2016). According to Healey (2009), achieving a balance between scientific evidence and artistic creativity through critical judgement in strategic framing can lead to gaining wisdom about and support for a desired future.

4.2 Framing with scenarios

Scenarios methodology is no longer considered an art; rather, it is regarded as a methodology for research that can both challenge and complement more established research approaches (Bishop et al. 2007; Ramírez et al., 2015). However, scenarios also play a communicative role in challenging and provoking public debate about an issue and initiating conversations beyond the status quo. Scenario thinking enables the dominant view in each respective field to be challenged: “Scenarios as a methodology can help to uncover assumptions, render them discussable and determine if the images used to frame knowledge can plausibly be replaced with alternative images to help people know and act differently” (Ramírez et al., 2015, p. 81).
As a research method, scenarios are considered exploratory rather than evaluative (Morgan, 1983). As a capability, scenario thinking can be described as vertical upframing (Ramírez and Wilkinson, 2016). According to Ramírez and Wilkinson (2016), upframing encourages us to examine the wider context of the immediate situation while moving along the time dimension. Downframing then allows scenario planners to immerse themselves in the possible future context. Such immersive experiences enable the planner to re-perceive the situation, reassess strategic options, and provide a new space for enabling the design and gaining experience of new and better options. Furthermore, scenario thinking contains no middle, end, or one-off interventions; instead, it is an iterative process (Ramírez and Wilkinson, 2016).

As mentioned in the introduction to this chapter, Ramírez and Wilkinson (2016) derive their concept of strategic reframing from the work of Schön and Rein (1994), as does Healey (2009). Although Ramírez and Wilkinson (2016) primarily apply their OSPA (see Chapter 2) methodology to a business context, their approach addresses very directly the second-order effects of scenario planning. Zegras and Rayle (2012) define such effects as reframing the view of the larger context, where actors reconsider their relationships and boundaries with other organizations. As mentioned above, Ramírez and Wilkinson (2019) define their approach, similarly, as the process of re-perceiving self-interest and the interests and options of others. Furthermore, Ramírez and Wilkinson strongly emphasize the role of individual learning within the scenario thinking process by calling any type of participant a learner rather than, for example, an actor or stakeholder. This is a very different type of approach, where the outcome is learning through reframing, focusing on the process of learning rather than exclusively on the ‘production’ of scenarios. The second-order effects of scenario
planning can also be connected to the discussion presented in the preceding chapter, focusing on the extent to which scenario planning contributes to the emancipation of the future. Emancipatory scenarios can be developed in contradistinction to the solidification of developments. As such, they can present alternatives and the potential for change through proactive actions, providing a platform for critiquing and challenging prevailing norms (Sandberg, 1976).

Ramírez and Wilkinson (2016) further emphasize that attention within scenario thinking should be directed towards plausibility, not probability, and that this plausibility is co-created with other learners (participants in the scenario process). Eidinow and Ramírez (2016) reflect on how plausibility has been defined. They emphasize that plausibility is essentially an assessment of truth; however, what is considered plausible is heavily dependent on the cultural context and can be considered a narrative process similar to strategic conversation. To further help clarify the purpose of a scenario project, Ramírez and Wilkinson (2016) reinterpret the Vickers (1965) triangle of judgements in order to set a focus for the scenario project goal and resulting design. Vickers’ triangle of judgements is a framework proposed by the British economist Brian Vickers in the late 20th century to analyze the different types of judgement that are involved in decision-making processes. This triangle consists of three types of judgement:

- **Factual judgement**: This type of judgement involves evaluating evidence and determining the accuracy of facts. It is based on objective data and is often associated with scientific or technical expertise.

- **Evaluative judgement**: This type of judgement involves evaluating the desirability of different options or outcomes. It is based on personal preferences and values and is often associated with ethical or political considerations.

- **Creative judgement**: This type of judgement involves generating new ideas and possibilities. It is based on imagination and intuition and is often associated with artistic or strategic thinking.

According to Vickers, all three types of judgement are necessary for effective decision-making, and the balance between them depends on the specific context and goals of the decision-making process. Ramírez and Wilkinson (2016) suggest that it is helpful to focus on reframing a particular judgement and interpret the triangle as three reframing options. Subsequently, I suggest possible scenario typology options (Börjeson et al., 2006) that relate to such framing needs:

- **Reality check**: What is going on? This option can be used, for example, to concentrate on the external driving forces that might influence the possible future directions of spatial development. The emphasis on a reality check can lead to the methodological choice of explorative external scenarios.

- **Instrumental**: What can we do? This option concentrates on the specific direction(s) the organization wishes to better understand. This emphasis can help, for example, in choosing a more strategic explorative scenario methodology.
Values: What does it mean to us? This option helps stakeholders re-evaluate their value judgements. Ramirez and Wilkinson later use it by the name ‘enabling collaborative strategy’. This is essentially what is described by Zegras and Rayle (2012) as a second-order effect emphasizing the reconsideration of relationships. This kind of reframing can be supported by both explorative and normative scenario types, such as backcasting. The emphasis in this case is rather on the meticulous design of the participatory scenario development process to ensure active participation by different stakeholders and sufficient time and tasks for reflection and exchange.

Ramirez and Wilkinson (2016) combine all three scenario judgements to illustrate through their projects the different core aims a project must fulfill and to specify the concrete purpose of reframing in the context of Vickers’ judgements.

### 4.3 Framing the scenario projects

This section uses the three scenario projects from Estonia to examine more closely such a focused way of reframing (Table 6.). For this, each of the scenario projects was evaluated from the perspective of Vickers’ triangle. In each of the projects, it was specified what exactly was reframed. As in the original example from Ramirez and Wilkinson (2016), some projects use multiple options, but even in such cases there is a primary aim for reframing, which is marked in grey shading.

<table>
<thead>
<tr>
<th>Table 6. Types of framing used in scenario projects</th>
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<tbody>
<tr>
<td>REALITY CHECK</td>
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<td>Make sense of turbulent context</td>
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<tr>
<td>REFRAMING CONTEXT</td>
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<tr>
<td>EHDR</td>
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<tr>
<td>Scale: national</td>
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<tr>
<td>NAISSAAR</td>
</tr>
<tr>
<td>Scale: settlement</td>
</tr>
<tr>
<td>SHRINKING PATTERNS</td>
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<td>Scale: municipal</td>
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The *Estonian Human Development Report* (EHDR) is a recurring biannual report that, until 2015, was not topic-specific, loosely covering recent developments and possible trends by following PESTE logic (politics, environment, social, technology, economy) without encompassing scenario development. From 2016 onwards, however, the report became topic-specific, with the subject for 2019/2020 being Spatial Development. For this issue, the Council of Estonian Cooperation Assembly, the publisher of the report, decided also to include scenarios in the ‘futures’ chapter. Scenario development was also included in the next EHDR, on the topic of mental health.

The focus of the EHDR scenarios was on reframing the context. As emphasized in the EHDR chapter introduction, the aim was “to outline the potential futures of the Estonian living environment based on global, regional and local trends and policy choices, and to use these factors to draft four future scenarios” (Grišakov, 2020, p. 253).

The main body of the report reviewed what had occurred and changed in Estonian spatial development over the past 30 years, while the futures chapter discussed and mapped the potential development paths over the next 30 years. The goal of the futures chapter was also to potentially influence policy choices by emphasizing the relationship between spatial development and other changes taking place in society.

It must also be emphasized that this scenario project included two groups of learners. The first group was the editorial board of the report, which represented academics from different fields, all working with a certain aspect of spatial development. This is where reframing of values becomes relevant, as they all had worked on their topical chapters of the report. In the scenario workshops, they were brought together to define shared values or re-evaluate existing value judgements. The second group of learners were the end-users of the report, who were not part of the scenario development process but whose perception was possibly re-framed by reading the end result.

The Naissaar project was initiated by the local island community NGO, which sought permission from Viimsi municipality to formulate their own development plan. Traditionally, such development plans have been prepared by municipality specialists or outsourced. The development plan, in itself, is not a spatial document; however, it is an investment plan and thus also used to instrumentally direct spatial development. The comprehensive Naissaar plan is from 1997 and has not been renewed. The NGO Linnalabor, which specializes in participatory planning, was hired to compile the development report for the Naissaar island NGO and decided to include scenario planning as part of it.

Due to both the participatory context and local scale, this scenario project was very much focused on the question of values. The community was not cohesive, and its members had conflicting interests. They perceived differently both the future of the island and the role of the community in its development. However, instrumental reframing was also an important element of this scenario project, as the scenarios produced were to be used instrumentally in the development plan in describing concrete activities and investments.
Finally, the Shrinking Patterns project was part of a larger pilot project concentrating on the specific issue of vacant apartment buildings. This project worked with the municipalities of Kohtla-Järve and Lüganuse, in East-Estonia. The larger aim of the project was to clarify the legislative, spatial, and process logics of managing vacant buildings. For the pilot project, the final aim for the participating municipalities was to select a pilot building, relocate its remaining inhabitants, and demolish the building.

Scenario thinking was included in the pilot project to identify ways to manage vacancy strategically and spatially. The key focus for re-reframing was to imagine different strategic options that could be used by the municipalities most affected by the vacancy problem to re-examine the situation and seek new ways of tackling such challenges. Nevertheless, such an aim, largely pre-defined by the ministry representatives who led the pilot project, provided a rather narrow view on shrinking-related strategies unreducible to demolition and other material concerns alone, such as the future of infrastructure investments. This has also been termed a ‘decremental approach’ (Raatikainen, 2004). Thus, during the project’s course, scenario work was also used to re-frame the ministry perspectives for possible directions beyond the narrow decremental focus. Value reframing was an additional component, as it was necessary for various stakeholders, the ministry representatives, municipality representatives, and researchers to re-perceive their interests and work towards collaborative strategies in order to tackle shrinking.

4.4 Evidence in the service of predictability

The theoretical framework highlighted that one of the core elements of the ‘Intuitive Logics’ approach was the interplay between evidence (for instance, probability) and intuition. Individual learning and collective testing should both play a role in the process of developing the plausibility of scenario storylines. Such collective processes also contribute to values-oriented reframing that supports the second-order effects of scenario planning. However, in this case, how should the scenario project design and the various steps it contains consider the interplay between certain purposes of reframing and the various types of knowledge that are used for reframing? For example, when should ‘evidence’ be juxtaposed with intuition, how exactly should attention be directed from probable to plausible, and how should plausibility be tested?

Let us begin by first reviewing how the role and choice of research, evidence and data is discussed in both futures studies and the spatial planning literature. Davoudi (2006) provides a useful definition of evidence in her overview of evidence-based planning. Moreover, the Oxford English Dictionary defines evidence as “the available body of facts or information indicating whether a belief or proposition is true or valid.” Davoudi emphasizes that because evidence is ultimately often incomplete or contradictory, it is open to interpretation according to one’s own value system or current frame. Furthermore, an evidence-based approach to policy is ideological in the sense that it, for example, values quantitative measures or statistical analysis (Davoudi, 2006). Both Davoudi (2006)
and Ramírez and Wilkinson (2016) are critical of the naïve assumptions of the positivist approach, which assumes that complex processes can be technicized. Van der Heijden (2005), in turn, emphasizes that the value of scenario planning lies in its ability to challenge ‘official futures,’ again underlining the moment of juxtaposition with what the future is expected to bring. Inspired by Van der Heijden, Ramírez and Wilkinson (2016), with their OSPA methodology, additionally stress that scenario thinking helps learners adopt a critical stance and reject attempts to impose positivist metrics of effectiveness on scenario work. Nevertheless, it is known that different scenario techniques indeed work extensively with different types of data and modeling (Bishop et al., 2007), which is acknowledged by Ramírez and Wilkinson (2016, p. 73): “We respect that quantification is essential in scenario planning in cultures in which numbers are used to consider options and inform decisions.” However, they follow this statement with the observation that, even in this context, quantification is indicative rather than predictive. They ultimately differentiate their methodology from scenario approaches that model scenarios based on probability to a most likely set and that claim to reach an ‘objective’ conclusion (Ramírez and Wilkinson, 2016). In the same spirit Selin (2006) emphasizes the dangers of over-scientification of scenario thinking:

> There is a certain professionalism in the field that tends to canonize scenario planning into a highly systematic, replicable process, thus lending some credibility by ‘being scientific’. This enables teaching of method, the creation of manuals, and the development of experts leading to an organized profession. (Selin, 2006, p. 9)

As previously mentioned, most intuitive scenario methods encompass research, and there are choices to be made regarding the type of data used and how it is collected. Van Notten and colleagues’ (2003) typology, referred to widely in both futures studies and the planning literature (Bishop et al., 2007; Goodspeed, 2020), considers these decisions part of process design, where it is decided what type of data is used (qualitative vs. quantitative) and how this data is collected (desk research or participatory process). For example, Goodspeed (2020) discusses the role of data in the categories of ‘background information infrastructure’ (models, data indicators) and ‘project scenario tools’ (quantitative, qualitative, computer model, and GIS). There is also much confusion and many conflicting explanations in the literature about what data could and should be collected or what type of tools should be used at what steps. Shoemaker (1995), for example, proposes that research needs should be assessed after the creation of stories. This sequence ensures that research can play a constructive role in advancing the development of scenario models. One of the planning literature classics, Schwartz (1991), contains a chapter on ‘Information hunting and gathering,’ which explains his personal approach to desk research. However, the precise way data collection and analysis are integrated into the scenario process steps remains rather vague. Dufva and Ahlqvist (2015) examine how knowledge about the future is created through interaction in the setting
of foresight workshops. They propose a typology of knowledge that differentiates between codified, articulated, embodied, and out-of-radar knowledge. Codified knowledge can be seen as generic and accessible also outside the workshop setting as documents or other materials. Articulated knowledge, in turn, is knowledge that is explicit to the workshop context. This can include various narratives for positioning knowledge, such as schemes and other visuals prepared in the workshop setting. Embodied knowledge is present in workshop settings via conversations and other types of interaction and reflects the participants’ skills and expertise. Finally, out-of-radar knowledge concerns future-oriented knowledge, which can be considered the ‘building material’ of scenarios. This is knowledge that challenges participants’ mental modes, creates new associations, and brings to the surface what is ignored or previously outside the scope of the investigation. It is particularly useful to consider such a typology of knowledge creation dynamics in designing the workshop component of the scenario project, including the exact composition, program, and facilitation style of the workshops. The workshop design should allow not only embodied but also articulated and out-of-radar knowledge to surface.

Furthermore, there is no clear agreement even on the correct number of scenario development steps. For example, Ramírez and Wilkinson (2016) illustrate that, depending on the approach, the steps can vary from four to 13. In turn, Abou Jaoude, Mumm, and Carlow (2022) provide an overview of process steps for urban planning and design by five different authors using six steps, but each author describes the content of those steps slightly differently. Goodspeed (2020) uses Avin’s approach (2007, 2001, also listed in Abou Jaoude et al), the early version of which contained eight steps and the latter version 12 steps, as some A-B option parts were numbered as individual steps (Figure 4.). Schwartz (1991) and Konno et al. (2014) describe an eight-step process (Figure 4.). Nevertheless, the simplest way to organize the step-by-step process in terms of understanding how different types of knowledge are used and integrated would be to use the schema provided by Ramírez and Wilkinson (2016) in their case descriptions. Overall, they divide most cases into exploration, building, affirmation, and engagement phases. In some cases, a preceding orientation phase is added as a fifth step, which is used to further determine the project aim and focal issue or define key stakeholders. The exploration phase links the steps that involve mapping factors and driving forces in the background, either by conducting desk research, revising existing data, or conducting interviews or issuing questionnaires. The building phase relates mostly to workshop settings, where uncertainties are collectively debated (probability negotiated) and scenario storylines are selected and built (plausibility tested). Affirmation is the post-production phase of the stories that ensures plausibility and the cohesiveness with previous steps. Finally, the engagement part concerns presenting and communicating the project and its results to the public.
Konno et al. (2014), for example, provide a helpful illustration (Figure 5) of the scenario project trajectory that includes two building sessions with stakeholders, an interview round, and a desk-research round as the exploration phases. They illustrate the process as a bridge model, integrating it with the eight-step process. They additionally emphasize the importance of multiple explorative phases, as, for them, the value of research conducted after the first workshop is larger, as the first workshop will already provide a better sense of what we do not know but need to know. Other authors, such as Abou Jaoude, Mumm, and Carlow (2022), describe data collection opportunities but do not discuss them in relation to specific steps. Goodspeed (2020) additionally introduces new and more spatial technological opportunities for data collection and visualization, such as Planning Support Systems (PSS).

Figure 5. The trajectory of a scenario project, adapted from Konno et al. (2014)
4.5 Examples

Let us continue by reviewing the three scenario projects through an examination of the different types of data and knowledge that were used in the various scenario steps.

In Table 7., below, each of the cases are divided into steps, and those steps are linked with the steps in the classic model following the work of Konno et al. (2014) and Avin (2007) on this topic. In order to structure the steps more instrumentally, they are, additionally, combined into more general project phases, derived from Ramírez and Wilkinson 2016, that allow exploration, building, and affirmation to be differentiated. For each of the steps, the type of data and knowledge used is specified, as are the steps where probability was negotiated or plausibility collectively developed.

Table 7. Overview of scenario project phases and their use of data and knowledge in relation to probability and plausibility

<table>
<thead>
<tr>
<th>Steps</th>
<th>EHDR</th>
<th>Naissaar</th>
<th>Shrinking patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orientation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scenario planner/collective</td>
<td>Reality check</td>
<td>Values</td>
<td>Strategic direction</td>
</tr>
<tr>
<td>Step 1</td>
<td>Focus issue and stakeholders. Deciding the re-framing purpose, timeline, and focal question</td>
<td></td>
<td></td>
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<tr>
<td><strong>Exploration</strong></td>
<td></td>
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<tr>
<td>Scenario planner</td>
<td>Desk research. Analyzing quantitative and qualitative material derived from EHDR chapters</td>
<td>Interviews with key stakeholders</td>
<td>Data analysis (GIS) and forecasting. Interviews with local stakeholders</td>
</tr>
<tr>
<td>Step 2</td>
<td>Mapping key forces/local drivers</td>
<td>Desk research: reports and other material providing an overview of the key development factors of the island</td>
<td>Desk research: development plans and comprehensive plans</td>
</tr>
<tr>
<td>Scenario planner</td>
<td>Desk research: Topical scenario reports, trend overviews and forecasts</td>
<td>Desk research: Strategies of other islands on an international scale, national development strategies and trends</td>
<td>Desk research: Shrinkage and vacancy management strategies in comparative counties and cities</td>
</tr>
<tr>
<td>Step 3</td>
<td>Driving forces/external drivers</td>
<td></td>
<td></td>
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<tr>
<td><strong>Building</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collective/individual</td>
<td>Workshop I: Collective mapping of drivers. Workshop input prepared based on previous steps</td>
<td>Questionnaire: Collective mapping of drivers and probable/desirable development paths</td>
<td>Workshop I: Critical uncertainties presented to ministry and municipality representatives</td>
</tr>
<tr>
<td>Step 4</td>
<td>Critical uncertainties: Juxtaposition of probability and intuition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collective</td>
<td>Workshop I: Collectively selecting key uncertainties</td>
<td>Pre-chosen by scenario planner and collectively validated in Workshop I</td>
<td>Workshop I: Collectively discussing the local level forecasts and GIS vacancy analysis</td>
</tr>
<tr>
<td>Step 5</td>
<td>Developing scenario logics: Juxtaposition of probability and intuition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collective</td>
<td>Workshop II: Collectively developing scenarios</td>
<td>Workshop I: Collectively developing scenarios</td>
<td>Workshop II: Collectively discussing the spatial development scenarios</td>
</tr>
<tr>
<td>Step 6</td>
<td>Scenario stories, Collectively developing plausibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Affirmation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scenario planner</td>
<td>Story system map development and evaluation to ensure cohesiveness</td>
<td>Story system map development and evaluation to ensure cohesiveness</td>
<td>Revision of spatial development scenarios to fit qualitative</td>
</tr>
<tr>
<td>Step 7</td>
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### Scenario development: reframing with evidence

The overall project format in which scenario planning occurs plays a crucial role in the overall logic of the project design and the expected function of evidence—a role that is also derived from the project’s culture. As is evident from the opportunity-based nature of the scenario projects analyzed in this dissertation, the steps are slightly modified to fit the wider process around the scenarios. For example, for the EHDR it was crucial that the scenarios fit into the framework of developing an academic, peer-reviewed report. Thus, it was necessary for the resulting scenario to be evidence-based and ‘academically’ plausible. By contrast, the Naissaar project can be characterized as a dialogue between collaborative and participatory planning with the local community and the rigidity imposed by the formal structure of the development plan. Therefore, it was crucial that the scenario work be integrated with action and investment priorities. In turn, the Shrinking project was defined from the beginning as quantitative and spatial-data oriented (‘vacancy evidence’) in the context of municipal spatial development. There was a clear expectation that different spatial development scenarios would be quantified and spatially modeled.

Thus, the contextual elements already clearly established the restrictions for the scenario thinking goals and the resulting method as well as the evidence framework. The material context, such as resources, also played a role. In addition, the project budget can restrict the number of events and workshops held with stakeholders, especially if travel is required. Similar constraints can also arise from a short project timeline.

The first broader question in relation to the analysis is whether the choice of data collection methods and their relationship with the scenario steps were related to a particular predefined framing purpose. Here, one connection can be seen between the reframing purpose, concentrating on values, and the development of collaborative strategies. An exploration of this topic would already require the use of interviews or questionnaires with the participants in the exploration phase to further understand their current value frames and conflicts (Avin, 2007). Furthermore, it would additionally mean designing the building and affirmation phase in a manner that would enable the participants to solve potential conflicts or agree on the key values. This can be achieved within a se-

<table>
<thead>
<tr>
<th>Step 8</th>
<th>Plausibility check</th>
<th>Knowledge from Workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective</td>
<td>Peer review by other chapter editors and external reviewer</td>
<td>Peer review by island NGO representatives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 9</th>
<th>Scenario planner and/or writer/illustrator</th>
<th>Story writing and scenario illustration</th>
<th>Story writing and scenario illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer review by island NGO representatives</td>
<td>Visualisation of spatial development scenarios and their descriptions</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 10</th>
<th>Scenario planner</th>
<th>Chapter writing and review of coherence of contents as trends-axis-stories plausibility</th>
<th>Workshop II: Revisiting scenarios to select elements for development strategy</th>
<th>Developing guidelines for municipalities for interpreting forecasts and development steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer review by island NGO representatives</td>
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</table>

<table>
<thead>
<tr>
<th>Step 11</th>
<th>Scenario planner/collective</th>
<th>Report, no public presentations or events</th>
<th>Report, public presentations, and events</th>
<th>Report, press coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer review by island NGO representatives</td>
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Scenarios of workshops used to build scenarios and discuss their implications; however, in that case, the workshops should be organized in a manner that would allow such framing and discussions to occur. Otherwise, workshops tend to primarily concentrate, for example, on the production of scenarios, and there are no specific tasks or sufficient time to allow participants to discuss and reflect. For example, in the Naissaar project, interviews and questionnaire were used to define the values and potential conflicts between the inhabitants. The workshop took place on the island and involved all the inhabitants (who were rather few in number, so they could all discuss together). The information derived from the exploration work was used in the workshop together with workshop assignments to pinpoint and discuss potential value conflicts. However, for the scenario project to truly achieve such second-order effects, and to be able to evaluate them, it would have been important to have run another similar workshop in the affirmation phase. However, this was prevented by constraints related, for example, to the project timeline and budget restrictions. Thus, the final scenarios were affirmed only with the Island NGO board members. Ideally, here the best option for future action is to run regular scenario evaluation events or workshops to ensure that the scenarios are updated and there is sufficient time to discuss unresolved conflicts or disputes that resurface over time. For example, in the case of Naissaar, tourism and specific types of tourists represented a point of contention in the community, as residents were against mass tourism, which would potentially harm the island’s natural values. COVID-19 nevertheless caused the role of tourism in the island to change; therefore, the scenarios and that particular conflict issue could be revised.

The other two frames proposed by Ramírez and Wilkinson (2016)—reality check and instrumental—heavily depend on research, which, depending on the project, can be a combination of desk research, data modeling and analysis, and the use of questionnaires/interviews. The core feature of the reality check option is its emphasis on the role of external drivers, with the basic intuitive PESTE framework requiring the mapping of a wide array of trends and developments affecting the focal issue from different fields. The option of instrumental reframing suggests a more specific topical focus, which helps direct research attention to a specific field. This does not mean that PESTE mapping is not used; instead, it is employed with a narrower focus in mind. The best way to characterize the reality-check option would perhaps be to understand it as wide research and the instrumental option as deep research. For example, in the case of the EHDR, research on local (Estonian) key forces and trends was, in principle, the main content of the entire EHDR. Therefore, additional research concentrated on external driving forces, with a combination of desk research and workshop input aimed to integrate embodied knowledge and identify out-of-radar knowledge. The Shrinking Patterns project contained less emphasis on the very wide mapping of external drivers; thus, desk research involving existing policy and analysis reports was used for that purpose. In addition, more emphasis was placed on deep research—for instance, the mapping of local key factors that affect vacancy in shrinking conditions, such as settlement type and location, the quality of the living environment, services, or building type. This was
achieved by combining GIS analysis, desk research on local development plans, and interviews.

The second focus concerns how predictability is related to intuition. This is a complex matter, as the role of intuition can be interpreted in different ways. I suggest that intuition is instrumental in those moments where ‘fringe’ or ‘weak signal’ topics are introduced in either the exploration phase or a collective workshop setting. Schwartz (1991) describes fringes as areas or topics that are neither ultimately legitimized nor rejected in mainstream discussion. Fringes are phenomena that Schwartz suggests one should particularly ‘look for’ in research. Weak signals are slightly different from fringes, as they are early signs of a potential change—such as transformations in generational values and preferences. Ramírez and Wilkinson (2016) term them ‘canaries of the mind.’ What they share with fringes is that they are topics that are already discussed and can be researched but are difficult to prove in a positivist sense. This is what Dufva and Ahlqvist (2015) refer to when discussing and analyzing out-of-radar or self-transcending knowledge that is somehow ‘out of joint,’ ridiculous, and liberating from existing ‘sticky’ worldviews. This is where intuition and knowledge come into play, to first find or propose such topics and then to highlight their relevance for the exploration phase, even in the possible absence of scientific evidence. One such weak signal that was relevant for all the example projects was the changing preferences of future generations, for example regarding consumption or lifestyle preferences. There are usually trend reports available, specifically in the U.S. context, that discuss and monitor generational changes; however, in terms of calculability or predictability, describing the changing preferences of the generations to come is almost purely intuitive.

Another moment in the scenario process where links between predictability and intuition can be seen is the exploration phase of trends, where trends are often ranked according to probability and sometimes also according to desirability or relevance. This was, for example, used in the Naissaar questionnaire, where respondents were asked to rank certain trends—a method that often highlights conflicting evaluations. A similar approach can also be used in a workshop setting where driving forces and factors are mapped and rendered to key uncertainties for the formulation of scenario axes.

Finally, there is the question of plausibility. Perhaps the key issue here is who decides on plausibility and when. From a theoretical perspective, Ramírez and Wilkinson (2016) argue that plausibility is created through the collective process of scenario building and double-checked later in the affirmation phase through peer-review.

The EHDR report was a project whose context required academic plausibility. This was an extremely challenging situation in which to use scenario thinking that attempts to work with frames of uncertainty (Davoudi, 2015) and adopts a post-constructivist or critical constructivist mindset rather than a positivist perspective (Ramírez and Wilkinson, 2016). Such a mindset emphasizes plausibility, relevance, and challenge as effectiveness criteria—while a positivist mindset would underscore the criteria of calculability, reproducibility, and consistency.
First, the scenario building workshops with the team of EHDR editors were extremely challenging, as many of the team members worked in the positivist knowledge tradition on a daily basis. Thus, it was necessary to carefully plan the design of the scenario-building workshops such that we could work together and I could ask them to use intuition or tap into out-of-radar knowledge. In this case, a particularly challenging step was the definition of critical uncertainties, as the relevance to the focal issue and especially its definition was extensively debated due to interdisciplinary perspectives. Finally, the editor and futures chapter editor were required to decide on the axis definition, as collectively a decision could not be reached.

Once the editorial board—in a workshop held with experts invited for the purpose—had finally prepared the scenario stories and they had passed the first affirmation phase, where they were structured for consistency and peer-reviewed by the editorial board, the chapter was sent for external review.

The external reviewer, who was not part of the earlier process, nevertheless commented that the scenario chapter lacked overall credibility and plausibility and should not be included as part of an academic report. This occurred despite plausibility having been collectively developed and affirmed through the scenario building process in workshops and despite the valid use of scenario methodology.

The most likely explanation for this situation was a clash of knowledge traditions, or doubts over whether it was useful or appropriate to integrate several knowledge traditions into the same report. This plausibility issue was ultimately resolved by rewriting the trend chapter and scenarios such that they were in greater dialogue with the positivist approach of the rest of the report. That, for example, entailed a more detailed methodological description of the scenario thinking method, justification of the relevance and predictability of every mentioned trend through reference to a source (even if that source was simply another other scenario publication), and, crucially, a review of how the scenario stories related to the trend descriptions and extensions in order to form a cohesive whole.

In the two other projects—Naissaar and Shrinking Patterns—plausibility was also collectively created in a workshop setting. With the Naissaar project it was developed through a triple check. First, a questionnaire allowed the respondents to describe possible futures: either desired or probable. Second, in the workshop, the scenario stories were developed in working groups and presented to other participants. Third, the scenario team developed another set of scenarios based on an exploration round preceding the workshop. All three scenario-set inputs were then compared and combined to ensure plausibility.

In the case of Shrinking Patterns, the topic of vacancy itself could be considered a fringe topic—something discussed but not legitimized in municipalities’ spatial development discussions. The reason for this is that vacancy only becomes visible once a building is completely empty, while as a process it can only be seen from data. In this project, electricity data and residency data were used to analyze and illuminate the vacancy levels of residential buildings. Therefore, the first step in the exploration phase was to address the fringe topic of vacancy,
not only to analyze it, but to understand its possible relationships with other factors, such as building type, quality of the green living environment, and services, for example. Then, in the scenario-building phase, this material was presented to municipal and ministry participants in collective workshops to first establish the plausibility of vacancy as a phenomenon existing in the municipality. After that step, it was possible to progress towards building spatial development scenarios that provided different strategic directions for managing shrinkage. The Shrinking Patterns project was the only example where participants did not create their own scenarios in the duration of the project. Instead, they discussed and revised the scenarios as developed by the project team. The next step could have been to hold collective plausibility workshops to discuss vacancy, shrinkage, and possible development paths together with the wider community of inhabitants. However, this possibility was never realized due to Covid restrictions.

4.6 Summary

This chapter focused on three interlinked topics that relate to the use of evidence and knowledge in scenario project design and the scenario development process. First, the concept of reframing plays a crucial role in scenario thinking for strategic spatial planning. It allows for the construction of interpretations of problematic situations and the provision of evaluative frameworks for decision-making. The emphasis on relying solely on evidence-based knowledge in both strategic spatial planning and scenario thinking can be problematic, as it only considers known and existing development paths and is unable to consider ‘weak signals’ that cannot yet be empirically proven. Furthermore, it is also incapable of integrating knowledge from a ‘community of inquiry,’ which is a prerequisite for making scenario development an educational and transformative exercise that could dislodge pre-existing views.

Second, the mindful use of intuition and ‘disciplined imagination’ through the ‘Intuitive Logics’ method can also be valuable in probing the unknown. Healey’s concept of critical judgement in strategic framing emphasizes the balance between scientific evidence and artistic creativity in achieving wisdom and gaining support for a desired future. Additionally, Vickers’ triangle of judgements highlights the importance of considering factual, evaluative, and creative judgement in decision-making processes. Such a focus on judgements is fundamental to consider when designing a scenario development process and defining project scope. Relating judgements to project aims, as well as to the aims of the various stakeholder groups, can help in choosing appropriate scenario typologies for the project. Furthermore, it can assist in planning the exact scenario development steps in relation to the types of research (wide or deep research with appropriate types of methods and data) that should be conducted, as well as the timing and focus of participatory workshops.

The latter is crucial, as one of the core elements in intuitive logics is the interplay between intuition and ‘evidence,’ represented as probability. Individual
learning and collective testing should both play a role in the process of developing the plausibility of scenario storylines. The critical moments where this juxtaposition occurs should be carefully considered when designing the scenario steps and the iterative process of the project. The juxtaposition of intuition and predictability also reveals itself as crucial in identifying or proposing the weak signals and fringes relevant for the exploration phase, even in the possible absence of scientific evidence.

Third, participatory workshops are key forums for creating plausibility through collective processes of scenario building. This also contributes to the value-oriented reframing that supports the second-order effects of scenario planning. However, this cannot be planned without careful prior consideration of the interplay between the needs of reframing and the types of research required. Furthermore, even if carefully planned, there are other contextual factors, such as budget and timeline, that further affect the outcome.

It is also important to emphasize that some practitioners of the ‘Intuitive Logics’ method especially highlight the need to avoid a positivist approach to scenario thinking that would reduce scenarios to detailed models and quantifiable development paths. A similar struggle in relation to evidence-based planning is also seen in the planning literature. For example, it can be noted that in some cases the integration of exploratory scenario thinking into an otherwise positivist process is problematic and challenging and can lead to unintended over-scientification of the resulting scenario work.
5. Scenario stories and storytelling

I am enough of an artist to draw freely upon my imagination. Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.

Albert Einstein

Previous chapters have underlined that one of the central elements of scenario thinking is scenario stories. Scenario thinking can enable us to tell each other stories about how the world might work (Garreau, 1994; Hoch, 2016). This means that scenario thinking is not a linear, mechanistic, number-driven process; rather, it is about the story and the assumptions, perceptions, and imaginations that underpin it (Garreau, 1994; Hoch, 2016). The emphasis on storytelling in scenario thinking can be combined with the tradition of stories in planning (Albrechts, 2005; Forester, 1999; Throgmorton, 1996; Sandercock, 2003). According to (Sandercock, 2003, p12), “planning is performed through story, in a myriad of ways.” However, the actual creation of stories in most scenario thinking methods is insufficiently explained, if explained at all (Bishop et al., 2007).

This chapter aims to further discuss the role of stories and ways of story-crafting in both scenario thinking and spatial planning discussion. It is clear that scenario thinking for spatial planning and development must include stories and visuals about specific places and worlds. Traditionally, scenario stories have been represented as text, but this is not always the best medium for representing spatial development and change. The visual presence and representativeness of scenario stories is even more important in our current era, which specifically emphasizes visual communication. This chapter discuss these topics through the illustration of three scenario projects that all created scenario stories with visual representations in mind.

5.1 Storytelling in planning spatial futures

Planning itself should be understood as an exercise in persuasive storytelling, or at least it should incorporate and be influenced by stories and storytelling. (Throgmorton, 2003). Throgmorton emphasizes the planner-author role in this storytelling—a role that involves planning stories by including characterizations, descriptions of settings, or the rhythm and imagery of language. Such sto-
ries shape the reader’s attention—hence the emphasis on persuasion. This perspective expands the notion of planning beyond a mere rhetorical exercise, positioning it as a form of ‘world making’ (Fischler, 1995). This does not imply that plans and visions inevitably dictate a specific material or spatial outcome but, rather, that the language, signs, and symbols employed in planning become a frame of reference for social actors, while also being shaped by the historical and contextual factors that influence their formulation (Richardson and Jensen, 2003).

The notion of planning as persuasive storytelling has been also used to describe the argumentative power of planning narratives that are attractive to the public, and much has been discussed about the role of such stories in shaping urban planning and development in one direction or another (Ameel, 2021; Raento, Leino and Laine, 2021). For visuals, the term ‘spatial imaginary’ is used to frame planning processes where persuasive visualized ideas and symbols are employed to convey a specific message about spatial development (Mäntysalo et al., 2020; Olesen, 2017). Here, through selectiveness and simplification, they can also be used as political tools to steer debates (Olesen, 2017).

Sandercock (2003) also sees stories as an all-pervasive and largely unrecognized force in planning and emphasizes that a better understanding of stories can make for more effective planning practitioners. She continues by drawing on Throgmorton’s (1996) notion that humans are storytellers who understand the fidelity of stories and test them to understand their coherence and reliability (Sandercock, 2003).

Healey (2006), in turn, perceives stories as imaginative work that situates what is referred to and provides coherence through its interpretative function. Healey (2007) places significant emphasis on the role of stories in spatial development and strategy making. Instead of focusing on a single model that is then refined and embellished, Healey argues that treating the knowledge that emerges as an array of ‘myths’ and ‘stories’ would enrich these processes. As a result, strategy-making becomes the formation of a new ‘story,’ reflecting its relations to all these other stories and its richness and resonance.

The world of scenario thinking certainly does also recognize the role of storytelling. For instance, according to Eidinow and Ramírez (2016, p. 44), “stories are not only factual descriptions, they manifest and convey implicit knowledge and are thus inescapably also experienced in aesthetic terms, expressing and conveying considerations of what ‘feels right.’”

Similar to spatial planning, stories in scenario planning are not only ‘the product’ of scenarios, but are also used in the scenario process as knowledge about the context at hand and one’s role within it.

The aim of the scenario stories is to invoke a fresh perspective about what is to come, meaning they should not be so extraordinary that they are dismissed; moreover, people should be able to relate to them (Selin, 2006). As Konno et al. (2014, p. 4) emphasize, “we need narrative scenarios not only for our business decisions. We also need them as means of giving meaning to our individual lives.”
They continue by emphasizing that the nexus that joins personal meaning with institutional purpose is a one that calls for a narrative structure on both individual and social levels (Konno et al., 2014).

The practice of scenario thinking is a quest to gain knowledge of the elements that underpin our imaginations. Indeed, the narrative foresight proposed by Milojević and Inayatullah (2015, p. 161) specifically emphasizes the exploration of worldviews about the future: “if we are to engage in a process aimed at the deeper understanding of alternative futures then it is also crucial to engage with the worldviews, stories, myths and metaphors that underlie them.”

In the realm of spatial planning, this quest has been expressed in a similar manner by Sandercock (2003), who emphasizes that to plan a city one must not only know the stories in and about the city but should also be attentive to the way power shapes which stories are told. Hajer (2017) also emphasizes that images of the future are extremely influential but insufficiently recognized. Imagining is foremost a social practice—communities are based on sharing a future, and shared imaginaries help us to deal with insecurity. Hajer’s stress on using imaging to overcome insecurity dovetails with the whole movement and research field of futures studies, which views it as a universally accessible skill building on the innate human capacity to imagine the future and offering a field-tested solution to the ‘poverty of the imagination.’

Vervoort et al. (2015), in turn, see worldmaking, a concept also used in the planning literature, as a framework for pluralistic, imaginative scenario development that must capture and make productive the fundamental plurality of understandings of futures. Imagination is a crucial element in that it allows participants to bridge the gap between present realities and future possibilities. Engaging with stories is always an imaginative act, as stories require some work on the part of the recipient. A good story can be described as somewhat uncertain, somehow open to different interpretations, and sufficiently undetermined. Vervoort et al. (2015) emphasize Goodman’s (1978) claim that, in worldmaking, comprehension and creation must go hand in hand. They conclude that it is not necessarily the resulting narrative (scenario story) but the process of story development that is most stimulating for the imagination. Moreover, even then, stories should not be finished and contained; rather, they should be shared and left open for experimentation.

Story elements and opportunities for further representation have been discussed by several other authors. Selin (2006), for instance, focuses on the trust and trustworthiness of stories of the future, stressing that while scenario stories should not aspire towards truth and truthfulness, they ultimately still convey authority and trustworthiness. Selin’s argument resonates with the persuasiveness of storytelling in planning. She claims that the legitimacy of the scenario process, participants, and products is bound to the context and their ability to accommodate multiple meanings in a particular setting. However, as trust is emergent and fleeting, trustworthiness might evaporate in another context.

In addition, Brasset and O’Reilly (2015) discuss the role of design and style in scenarios, and Kuusi et al. (2016) explore the role of metaphors in analyzing

29 https://en.unesco.org/futuresliteracy/about
scenario texts. Furthermore, the literature also discusses the ‘tone’ of scenarios, as it influences their plausibility. Konno et al. (2014) emphasize that everyone would like a happy ending, but Ogilvy (2014) claims that, unfortunately, these types of scenario stories are intellectually the most challenging to write (e.g., compared to pessimistic scenarios). Eidinow and Ramírez (2016) discuss the aesthetics of storytelling as a crucial aspect that determines the plausibility of a narrative. They claim that, in cognitive processes such as decision-making, plausibility plays a more significant role than probability. Therefore, crafting the appropriate aesthetic for a story—one that resonates with or challenges the dominant aesthetic of a community—is a crucial factor in the decision-making process. A compelling story can bring together disparate elements in order to inspire and direct action. Throgmorton (2003) also focuses on this question, but rather from the perspective of how planners can make space for different locally grounded narratives in a way that enriches and transforms without imposing uniformity. From a planner’s perspective, a plausible story should be able to unite different perspectives in a transformative way, and for Throgmorton (2003) the key factor is conflict and emotional resonance, which provide storytelling with its power.

5.2 Scenario story crafting

In terms of guiding the practice of scenario story crafting, there is often little explanation or assistance provided for that phase in the research literature. In many cases, most of the emphasis is on the exploratory stage of mapping drivers and forces, and the scenario building phase is often described minimally and illustrated by completed scenario story texts from other cases. This can be seen, for example, in the XSP guide (Stapleton, 2020), which provides a good instrumental description of how to organize the narrative crafting session and feedback but offers very little insight into the means of fleshing out or representing actual stories. Fortunately, the guide offers some case studies as an illustration. Schwartz (1991), who fortunately includes an extensive chapter on story writing, compares it to scriptwriting and suggests composing a plot. This plot starts from understanding how the driving forces that one has mapped in the exploration phase might plausibly behave. The scenario planner analyzes the converging forces and endeavors to comprehend the potential intersections and their underlying reasons. Schwartz also proposes some basic plots, such as winners and losers, challenge and response, and evolution as constructs to play with as a beginner. It is important to note that Schwartz does not describe scenario story crafting as a collective exercise. In his view, crafting is performed alone or with the project team but not as a collective learning process.

Ramírez and Wilkinson (2016), by contrast, propose developing scenario sets collaboratively with learners. First, they emphasize that the level of detail in the scenario story depends on the reframing purpose. For example, this means that for ongoing work situations where it is unnecessary for scenarios to be independently understood, simple scenario sketches would also work. Second, sim-
ilar to Schwartz, the predetermined elements and key drivers must be re-collected and, if needed, re-clarified. These form the building blocks of the stories. Ramírez and Wilkinson suggest building scenarios as system diagrams or road maps, where elements, actors, decisions, and connections are represented as a whole. Such system maps are additionally used to give form to intuitive and tacit knowledge—they are employed to manifest and reflect on the learners’ insights and understanding about the system. Furthermore, Ramírez and Wilkinson emphasize plausibility, which in stories is checked in multiple phases of producing, critiquing, and refining both the system diagram and the storyline. A key requisite of plausibility is a lack of internal inconsistencies, but plausibility is also enhanced by other elements, such as memorability, relevance, and challenge.

The final scenarios should be credible and comprehensible to not only the learners but also others with whom they work—they should be able to communicate them to their peers. This is a crucial factor—the stories should be disseminated by storytellers and thus they should not be so complex that they cannot be retold. According to Ramírez and Wilkinson (2016), scenario planners should strive to create memorable futures—images that will be attended to and used. A memorable story is achieved through the story elements, its name, and the illustrations. Wilson (1998) describes similar components of plausibility, differentiation of scenarios, credibility, decision making utility, and challenge. Fahey and Randall (1998, p. 9), in turn, suggest three tests of plausibility: “Plausible evidence should indicate that the projected narrative could take place (it is possible), demonstrate how it could take place (it is credible) and illustrate its implications for the organization (it is relevant).”

Furthermore, reading a story seriously also entails forming judgements, not only in terms of style and language, but also from the perspective of believability (plausibility) and realism (credibility) (Good et al., 2017). In addition, the differentiation of plots or scenario stories is emphasized by several authors, and this discussion also links to the topic of story tone, as discussed by Ogilvy (2014, p. 52): “Negative pessimistic scenarios are psychologically painful to entertain, but intellectually fairly easy to write. Positive, hopeful scenarios are easy psychologically, but they can be extremely difficult intellectually.”

While positive scenarios are harder to develop, they do ensure that all the scenarios remain plausible and thus enable debate over multiple possible futures. By contrast, negative scenarios do not always provide a challenge for the receiver, not to mention the aspect of desirability. If all such options are included, then the initial four scenarios will be perceived as fewer alternatives, as negative scenarios are (for psychological reasons) often cast aside. In addition, the planning literature states that planning should “reclaim the dream of better futures” (Laurian, 2021, p.621) or that “the dominant cultural orientation towards the future in most late capitalist societies seems to be marked by pessimism” (Inch, 2021, p. 22). It appears that a general challenge for scenario stories is to fulfill credibility and plausibility requirements in an overall cultural setting that is essentially pessimistic but looking for hope.
Finally, one more component to add to the scenario stories discussion is their visual representation and organization. There is strikingly little written about this. However, Selin (2015) and Kelliher and Byrne (2015) consider merging art and design with foresight to create mediated scenarios. In addition, some materials describing existing cases have been useful, such as the work of Ramírez and Wilkinson (2016), who describe and show the illustrations of scenarios as part of wider outreach activities, using, for example, illustrative quantification. In terms of the logic of the scenarios and its illustration, it is important to additionally emphasize that a scenario set can itself be interpreted as a map. Intuitive scenarios are most commonly presented as a 2x2 scenario matrix. The so-called 2x2 scenario matrix method is well established in scenario thinking (Ramírez and Wilkinson, 2014), as it is memorable and allows a good comparison between different scenario storylines. Consequently, it is not only suitable as a clear illustration of future outcomes to various stakeholders, but it can also offer a clear structure for those participants for whom this is a first scenario analysis attempt. While the 2x2 matrix might, at first glance, seem a simple, elementary framework, its axis dimensions can be interpreted in different ways. In the classical deductive approach, the poles of each axis dimension are treated as diametric extremes, and the resulting 2x2 matrix represents a set of incommensurate ‘frames’ (Ramírez and Wilkinson, 2014). However, the metrics of the axes can also be ordinal, representing ‘more-less metrics’ rather than polarized extremes. Here, the resulting 2x2 matrix offers a ‘grid’ of latitude and longitude depicting a timescape. In this mode, the scenarios mapped by the matrix can coexist and overlap without being mutually exclusive (Ramírez and Wilkinson, 2014). Both interpretations of the 2x2 matrix are valid, but they should be acknowledged in the process.

5.3 Story mediation

In order to discuss the scenario story examples as textual and visual material, I loosely adapt the analysis structure proposed by Rose (2023). Rose specifically focuses on the analysis of visual imagery rather than text. However, she provides a useful order for discussing the representation of scenarios as production, image, and audience.
- **Production** refers to the circumstances and context in which the representation is made. Here, the context can be interpreted as the scenario project, with its framing aims, the chosen techniques, and process design.
- The second element of **image** consists of the formal components of the representation. Here one can discuss the components of the final scenario story and its visual representations, such as drawings, maps, or quantitative illustrations.
- Finally, there is the element of **audience**, which can be understood as a process through which the meaning of an image is negotiated or even rejected. This we can link to the reception of the scenario stories, where new meanings are assigned, credibility tested, or certain scenarios disregarded as overly ‘optimistic’ or ‘pessimistic.’
As described in the previous paragraphs, scenario planners have attempted to describe scenario story production. This encompasses stages of scenario building, either with a restricted project team or more commonly with a larger audience, where story plausibility is developed together. The second production stage is the affirmation phase, where stories are peer-reviewed, checked, and edited in terms of their plausibility, credibility, differentiation, decision making utility, and challenge.

Table 8. Characteristics of scenario projects, and the stories and visuals developed in them

<table>
<thead>
<tr>
<th></th>
<th>EHDR</th>
<th>Naissaar</th>
<th>Shrinking Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario typology</strong></td>
<td>Option alternatives high-low. Explorative - strategic</td>
<td>Option alternatives high-low. Explorative - strategic</td>
<td>Combination of predictive and explorative. Option alternatives based on vacancy management strategy.</td>
</tr>
<tr>
<td><strong>Scale</strong></td>
<td>National, but needs to encompass both national and local</td>
<td>Settlement/local</td>
<td>Municipal, settlement</td>
</tr>
<tr>
<td><strong>Scenarios as part of...</strong></td>
<td>Report</td>
<td>Development plan</td>
<td>Pilot process</td>
</tr>
<tr>
<td><strong>Story authors</strong></td>
<td>Writer</td>
<td>Scenario planner</td>
<td>Scenario planner</td>
</tr>
<tr>
<td><strong>Story quantification</strong></td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td><strong>Type of visuals</strong></td>
<td>Drawing and illustration</td>
<td>Drawing</td>
<td>Maps, schemes</td>
</tr>
<tr>
<td><strong>Perspective</strong></td>
<td>Map as drawings and scenes from everyday situations</td>
<td>Birdseye view of key area</td>
<td>Strategic schemes over a map and mock-up maps</td>
</tr>
</tbody>
</table>

The key characteristics of the story and visuals development in the different scenario projects are provided in Table 8. According to this classification, the EHDR and Naissaar projects were similar in terms of their production cycle. They were both explorative-strategic scenarios developed on the 2x2 matrix. The first drafts of the scenario stories were collectively developed in workshops with the participants, after which they entered the affirmation phase. In the story workshop, the participants were divided into four groups, each of which was assigned two extremes to work on. This is a deductive method, but there also exist inductive methods, where many stories are developed simultaneously, linked to key uncertainties, and developed into a reduced set in later phases.

The participant’s task in the case of both the EHDR and Naissaar projects was to collectively produce and present a story about this future world. Some aid was given in the form of questions for the participants to answer:

- What kind of direction have the specific uncertainties given to this world?
- How has the (wider) world around us changed?
- What kind of life are you living in this future world?
- What gives you comfort, and what constitutes discomfort?
- How do you interact with others or what do you expect from others?

These questions are slightly modified depending on the topical context of the scenario project, but in general they allow the participants to discuss personal perspectives, create personas or characters who live in this world, and describe particular spatial changes and transformations in our way of life and relations...
with others. In the case of EHDR, a writer was additionally asked to give an inspirational talk about story writing in the workshop. In general, in order for them to be creative, it is important that participants feel comfortable or relaxed in this setting. The kind of inspiration that helps the participants attune themselves to storytelling can be relevant. While the workshop produces the initial stories, they are often disorganized and seldom consistent. Moreover, the perspectives from which they are told can be too diverse, or, alternatively, some stories may be overly similar. The EHDR and Naissaar examples did not use system maps with their participants, contrary to the suggestions of Ramírez and Wilkinson (2016). However, it was necessary for the scenario planner to possess a system map for each scenario story developed to ensure consistency, which, in turn, supports credibility and plausibility. In the case of Naissaar and the EHDR, the system map was a table where all the categories of the storyline were listed. For example, for the EHDR this was derived from the key factors and uncertainties that, in turn, were to be linked to the four chapters of the EHDR report—living environment, natural environment, public space, and digital space. The system map allows the planner to check whether each storyline contains all the crucial aspects that were covered and described, whether they are sufficiently different from each other, and whether they are plausible. Overall, the system map can be seen as the story skeleton and the story itself as the creative flesh.

For the EHDR, it was proposed that the final stories be written by a professional writer. This was decided for several reasons. First, even if the scenario planner possesses writing abilities and some basic skills, story writing be achieved stylistically in very different ways. Essentially, the key issue is one of persuasion, as a professionally written text might be more capable of tapping into the myths, metaphors, and the imagination of the readers. Additionally, it can also be seen as crucial from the perspective of scenario narrative mediation, as discussed by Selin (2015) through the examples of art. In the Naissaar project, the scenario story was written by the scenario planner, but illustrations were produced by an artist.

As discussed in the previous chapter, in the Shrinking Patterns project, the production logic was slightly different from EHDR and Naissaar. In the exploration phase of mapping key forces, attention was paid to story collection. Team members from the NGO Linnalabor collected the stories of the local inhabitants, their relations with their homes and home territories, and the reasons for leaving or wishing to remain in these settlements and particular areas. Even though the task of our project team was very much focused on quantitative data analysis and interpretation, we found it important to understand and integrate these local stories, not to reduce someone’s home to the ‘dry’ vacancy projections of buildings and apartments. This is where the story element comes into play as the mediator of otherwise an extremely numerical analysis process. Additionally, the stories of local stakeholders (municipality representatives) were collected through interviews, so they could describe in their own words the story of particular settlements and districts. These are often plots that resemble what
Schwartz (1991, p.147) described as ‘winners and losers’ or ‘challenge and response.’ This was important as, in this project, scenario building was not performed collectively, where plausibility is otherwise built, but prepared by the project team and then presented and validated with local stakeholders in workshops. This is where the relevance of planning as persuasive storytelling as described by Throgmorton (1996) becomes apparent. One must be familiar with and invest time in collect existing myths and narratives in order to build future stories and present them in a persuasive manner. Here, by persuasive, I mean that the story should contain emotional resonance and challenge derived from the local context. In particular, otherwise extremely technical and numerical projections and GIS analysis-based maps require a story fond to create meaning and resonance.

5.3.1 Story mediation and text

As mentioned earlier, in the EHDR process, the scenario stories (Figure 6.) were to be mediated by a writer. The scenario planner chose a writer who had written many short texts about cities and spaces, illustrating the importance of selecting such media professionals based on their previous work and topical understanding. The writer participated in the scenario building workshops and was also provided with the system maps as input. However, his scenario stories were never published. The reason for this could be due to what Konno et al. (2014) describe as the relatability and, to some extent, the credibility of the narratives. These stories were told from the perspective of the same character wandering around in different scenario worlds. They were artistically beautiful stories but left the reader wondering how such a future had come to be. Moreover, they included certain technological imaginaries or other symbolic constructs that rendered them difficult to follow. This resonates perhaps with Vervoort et al.’s (2015) discussion on scenarios as worldmaking, where a good story is considered a narrative that forces the reader to work and use their imagination. Nevertheless, in the context of scenario stories, how much work can be considered too much work, thereby ultimately affecting the aim of producing scenario stories that are memorable, consistent, and relevant (Ramírez and Wilkinson, 2016)? This situation could have been prevented if the stories had been further edited together, with the writer creating not only a challenging but also a consistent scenario story. Unfortunately, in this case, there was no readiness to change the stories—they were seen as artistic mediation where the artist creates the final story rather than a work to be produced and negotiated collectively. The purpose of providing this example is not to propose that stories should not be mediated by artists or writers, but rather that it should be a conscious process where artists are ready to contribute to the scenario story framework. Alternatively, perhaps in some future project, one story could be purposefully mediated.

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30 In the culinary arts, fond is a contraction of fonds de cuisine, which is loosely described as “the foundation and working capital of the kitchen.” It refers to a flavorful liquid that is used as the foundation (fondation in French) for other preparations, such as stocks, broths, gravies and sauces.

31 Verb ‘mediate’ used here as ‘be a means of conveying’.
by various perspectives, which would create options and moments of comparisons between different ways of depicting the future worlds.

There are various large and smaller centres in Estonia, the more capable of which are trying to find their own face – some attract attention by offering high-tech solutions, others attract more and more older people who are engaged in digitised agricultural production. At the same time, there are also quite a few backward areas where the main employer has gone bankrupt and help is nowhere to be found. Only wind turbines and solar panels owned by large corporations stand out in these areas, while the specialists that operate these are not from the local population. New immigrants are spread across the country, especially in smaller places that offer very low-paid jobs that locals themselves do not want or are unable to do, while ageing settlements especially need help from social workers. The situation with addiction disorders and HIV is very poor and these illnesses are considered to be the fault of those affected. Many wealthier people live scattered across the country, as the climate crisis has ruined their appetite for living in the cities: it is popular to say that a true Estonian still lives in a house with their own garden and field. The communal approach is practised by ‘hippies’, but a ‘decent’ person still strives to be better than their neighbour. Due to the scattered population, the quality of public space is fairly poor, and investments are more likely directed to roads. These are of varying quality, and it has been learned from the failure of ambitious infrastructure projects in the past that there is no point in trying too hard. There are various providers of self-driving cars and transport drones, so a good service is available for the more affluent, while the poorer people have to make do with whatever they can – and quite often they cannot. On the happiness index, Estonia is a mediocre laggard.

In reality, each of the EHDR scenario stories ultimately contained three mediations, only one of which was published in the final version. These were the first mediation attempts by an initial writer, a mediation from the scenario planner, who also wrote the story, and the final story mediation, which was produced by a second writer/poet. The final stories that were published were not told from a character perspective; instead, they were descriptions of the overall situation—in the form of a sort of news reportage. They used illustrative language that was not overly laden with symbols or complex terminology; in other words, it was relatable. Moreover, they carefully considered the skeleton elements of the changes that had led to such a world, the things that people living in it cherished, and their worries and concerns. In addition, they described particular spatial conditions and situations that provided a mental link to the chapter contents of the EHDR. In other words, the stories could be evaluated as plausible and credible, not only in terms of individual texts but also as representations of the EHDR report contents.
5.3.2 Story mediation as image

In all the three scenario projects, spatial change was shown through different means and perspectives. The most formal were illustrations of shrinking patterns based on GIS maps where strategic schemes representing different vacancy management scenarios were drawn on top. The aim of the illustrations was twofold—to demonstrate the extent of vacancy projections, for instance to illustrate “future” vacancy spatially, and invite stakeholders to strategically direct vacancy to ensure cohesive urban fabric and quality space.

Such maps are certainly illustrations, but they are not always readily understandable to a wider audience unaccustomed to reading and looking at such visual representations on a daily basis. They are certainly more familiar to planners. These strategic schemes were drawn on a municipal scale and for each larger settlement in the municipality, considering the population and vacancy projections, analysis of spatial conditions, and vacancy patterns in each settlement.

The second illustration type concerned vacancy and population change projections. The projections themselves were numerical, but there was a need to mediate numerical information into perceived space, such as typical buildings in the area. This was intended to help ‘translate’ figures into conceivable and understandable changes that might occur in the settlement. For example, it allowed the reader to envisage exactly what 500 empty apartments would mean for a particular settlement. As the third layer of the illustration, the project published a guidebook for analyzing shrinking patterns designed by a separate company. Here, perhaps the most interesting aspect of the guide book was the way it generalized previously prepared municipal materials into imaginary schemes and maps that, while drawing inspiration from the original representation, consciously avoided any links to specific locations. In short, the illustrations strived to be anonymous while still perceived as realistic and helpful.

The second, slightly more artistic, approach that attempted to go beyond the use of maps was employed in the Naissaar project (Figure 7.). There, the scenario story was a short descriptive text, and the illustration was intended to demonstrate, in a more abstract manner, the potential spatial results of the scenario. The use of a 2D map of the whole of Naissaar was also debated, but that option was abandoned for the same reasons mentioned above—these were community scenarios for a development plan, and there was concern that a map-based illustration would remain incomprehensible, distant, and, perhaps in reference to Throgmorton (2003), would fail to provide ‘emotional resonance.’ Therefore, instead, we chose one part of the island that did not represent a particular village but could rather be described as the gateway to the island, where different community members and interest groups must enter and leave the territory and also mix and mingle. This area was shown from a bird’s-eye view, characterizing spatial change in different scenarios as symbolic of changes that might be occurring in other parts of the island. In such a way, it was necessary for the illustration to contain the same elements as the story—those of being
open to interpretability and imagination (Vervoort et al, 2015). Harmon (2004) describes the role of maps as follows:

Maps intrigue us, perhaps none more than those that ignore mapping conventions. These are maps that find their essence in some other goal than to take us from A to B. They are a vehicle for imagination, fueled up and ready to go. We look at those maps and our minds know what to do: take the information and extrapolate from it a place where they can leap, play, gambol – without that distant province of our being, the body dragging them down. (Harmon, 2004, p. 10)
Therefore, one should attempt to approach the scenario story illustration as a map in a similar way to a textual story. It is not a representation of a reality or a detailed journey but a vehicle for imagination. The map should thus not relate excessively to the physicality of the body and the actual place, as it would otherwise fail to fulfill its purpose of lifting us up from reality.

![Figure 8. EHDR scenario illustration depicting alternative scenario maps. Illustration by Karel Korp.](image)

Finally, the EHDR project produced two map illustrations for each scenario—a map of Estonia and a glimpse of an everyday future reality. Here, the illustration development logic began from the need of the report, as well as its scenarios, to tackle and discuss future changes on multiple spatial scales. It was necessary to depict the change occurring on a national scale by illustrating regional development and the urbanization process as well as the changes occurring on a local scale: for example, different living environments around Estonia and the development of public space. It was also necessary to illustrate this scale to include, to borrow from Lefebvre (1991), the daily spatial practices that are incomprehensible from, for example, a formal map. Again, as with story mediation, the illustrator here was also given the skeleton of the story system map, and elements of that map were divided for use either on the map drawing or in the scene of everyday life. The illustrator first produced hand drawings, and through team discussions these were edited and negotiated such that they contained all
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the crucial elements. On the map scale, the core centers, the transportation connections, and the food and energy production points were represented. In addition, some landmarks were added to draw attention to particular places on the map to help the observer orientate to the scene. Daily practices referred to different living environments and their core characteristics, for example aspects of accessibly in public space or segregation and the type of urbanization.

5.3.3 Audience

The audience perspective concerns how scenario stories and their mediations are assigned meanings through negotiations. It is crucial to emphasize here that this concerns, in terms of how scenario stories are theoretically framed, providing plausible future alternatives for decision making. It then depends on the particular framing need—whether it is more about developing a collaborative strategy, taking a strategic direction for action, or understanding the relevant events and processes and how to mitigate the potential risks stemming from this turbulent context. In the three scenario projects discussed in this chapter, the framing focus was slightly different due to the project context. However, for all the projects, the audience perspective was important as all shared the same collaborative (value negotiation) aim. From the perspective of spatial planning, this can be described as spatial development directed by a myriad of stakeholders with their own actions or inactions, thus pushing development in a particular direction. The scenarios then should be able to illustrate how the spatial results differ depending on what values are adopted as the basis for actions that guide spatial development.

In this context it is crucial to review two factors, discussed in the theoretical overview, that play a role in reception—the scenario 2x2 frame and the ‘tone’ of the scenario stories. First, Ramírez and Wilkinson (2014) explain how the 2x2 frame can be used as a map. In the EHDR and Naissaar projects, the scenarios were developed as polarized extremes. However, this does not mean that the frame for the scenarios is not negotiated in parallel as a map. For example, it can be used to discuss which of the scenarios is most similar to the present state of affairs. This is most often the baseline scenario of ‘business as usual,’ which demonstrates how current trends or the status quo extends into the future. Nevertheless, it is not always necessary to take a particular scenario as the negotiation and orientation point; rather, a point on this map of frames can suffice. It is extremely important to ensure that the scenario frame itself is a separate visual and textual object that is already the starting point of negotiation and orientation into these future worlds. Second, illustrations can be added to this frame. If that approach had been used (for example, in the case of the EHDR with illustrations of daily practices), the arena of negotiation again would have changed, as there would not necessarily have been four future stories depicted; rather, they could have been read as four present ways of living. Hence, the axis map can provide various reinterpretation possibilities. Depending on what illustrations or keywords are added, it can be used as a tool for storytelling in a myriad of ways, both from a personal or professional/expert perspective. The
EHDR scenarios were also audience tested in other ways, such as one school-teacher ordering a large printout map to hang in a classroom to discuss regional development with students. In another example, the “Opinion festival” 2020, each participant of a panel discussion adopted a role corresponding to the personas of the scenarios.

**Figure 9.** Generic “shrinking” scenarios from a guidebook developed on the basis of one of the Kohtla-Järve municipal districts. Illustration by Disainiosakond

Regarding the ‘tone’ of the scenarios, Ogilvy (2014) rightly observes that while crafting positive scenarios is extremely important to provide actual option alternatives and inspire action, it is extremely difficult to avoid pessimistic scenarios in a scenario set. As a rule of thumb, every seemingly undesirable scenario should still be composed in a way that reflects hope, ingenuity, and ways of seeing at least some positive developments or opportunities in an otherwise undesirable setting. It is problematic if stories are unrelentingly pessimistic, as moral or risk assessments are often ignored. Nonetheless, the Shrinking Patterns project (Figure 9.) was, in essence, the task of creating a dialogue with the pessimism that is felt in shrinking areas.

The topic of shrinking is often avoided in political discussions. This does not mean that it is not acknowledged, but it is seldom proactively approached as a challenge to overcome.32 The project quantified and ‘translated’ population change into spatial vacancy to push decision-makers, in particular, to

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32 It is useful to note that a ‘challenge to overcome’ is in itself already a story plot, as mentioned by Schwartz.
acknowledge shrinkage, but from then onwards the scenarios discussed pro-active choices of steering vacancy, thus transforming it from an uncontrollable force into a situation where the actors involved were assigned some degree of agency and some hope. Alternatively, for example, they directed attention to finding local vitality zones to nurture and strengthen in the strategy—again, a necessary story redirection from managing demolition and decay to working with vitality and positive resonance.

In both Naissaar and the EHDR, pessimistic scenarios were also included. In the EHDR, the pessimist scenario was the ‘business as usual’ approach, which combined the key messages and development trends from the report. Thus, it was knowingly retained as a symbol or illustration referring to the work of the entire report. Naissaar also contained scenarios that described failure or could be perceived as undesirable. As with the EHDR, they were retained because of their probability and plausibility, revealed in the exploration and building phases of the scenarios. Such a choice, however, must be taken consciously. As Vervoort et al (2015) emphasize, the bias towards known and lived experience can also prevent us from truly developing novel insights into the future. In Naissaar, the community selected their preferred scenario, and the other scenarios were used instrumentally. To avoid these potential undesirable worlds, action must also be taken, including, for example, developing measures to manage tourism sustainably or work collectively to avoid the bordered island scenario where actors engage in conflictual relationships.

5.4 Summary

This chapter aimed to further discuss the role of stories and means of story-crafting in both scenario thinking and strategic spatial planning, especially highlighting the importance of the development and visualization of scenario stories.

It is clear that scenario stories for strategic spatial planning must include stories and visuals about specific places and worlds. The emphasis on storytelling in scenario thinking can be integrated into the tradition of stories in planning. However, the actual creation and representation of stories in most scenario thinking methods is insufficiently explained, if explained at all.

This chapter analyzed the nature of scenario stories and their textual elements through the logic of using production, formal components, and meaning negotiation. Story mediation must not only be credible and consistent but also provide emotional resonance. For this, knowledge collected in the exploration phases can be interpreted and organized as story plots already existing in the community. One must be familiar with and invest time in collecting existing myths and narratives in order to build future stories and present them in a persuasive manner, considering the emotional resonance and challenge derived

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33 The aim of explorative-strategic scenarios as explained in Chapter 2 is to focus on the agency of actors to change future(s).
from the local context. When otherwise extremely technical and numerical projections and maps are presented, they should contain a story fond to produce meaning and significance.

Stories do not merely provide factual descriptions; rather, they also communicate implicit knowledge and are therefore inevitably experienced in aesthetic terms, expressing considerations of what ‘feels right.’ Imagination plays a crucial role in scenario thinking, as storytelling allows participants to bridge the gap between present realities and future possibilities. Engaging with stories always requires an act of imagination, as the story demands work from the audience. The legitimacy of scenario stories is tied to their context and their ability to accommodate multiple meanings in a particular setting. Thus, crafting the ‘right’ aesthetic for a story, one that appeals to or challenges an overarching aesthetic of a community, is a significant factor in decision-making.

The plausibility of stories is important and should be checked in multiple phases of producing, critiquing, and refining both the system map and the resulting storyline. The story is plausible if it lacks internal inconsistencies, but plausibility is also emphasized by other elements, such as memorability, relevance, and challenge. A more general challenge for scenario stories is to fulfil the credibility and plausibility requirements in an overall cultural setting that is essentially pessimistic but looking for hope. However, the level of detail in the scenario story depends on the reframing purpose.

Traditionally, scenario stories have been represented as text, but this is not always the best medium for representing spatial development and change. The visual presence and representativeness of scenario stories is becoming even more crucial in our current era, which specifically emphasizes visual communication. The importance of the visual representation and organization of scenario stories should be highlighted, as they can play a crucial role in the overall logic of the project design and latter reception.

Even the scenario axis map, depending on the illustrations or keywords that are added to it, can be used as a tool for storytelling in a myriad of ways, both from a personal and professional/expert perspective. Illustrations of scenario stories are just as important as the story itself, as they should also be open to interpretation and imagination. Therefore, the illustration should not be a representation of reality and a detailed journey, but rather a vehicle for imagination. This means that the illustration should not be too closely tied to the physicality of the place, as would thus fail in its purpose of lifting us ‘above’ reality and providing a vehicle for successful mediation.
Strategic spatial planning is concerned with the future transformation of place and should incorporate a combination of social, environmental, economic, and political values about society (Hillier, 2011). However, strategic spatial plans have always been prepared and implemented in the shadow of uncertainty (Balducci et al., 2011). In the planning literature, our present times are described as times of crisis and uncertainty.

The future is always uncertain. Yet it feels as though uncertainty is also a defining feature of the present. Whether it is climate change, population growth, technological revolution, geopolitical crises or pandemic, the future is colliding with the contemporary world which now seems beset by challenges which threaten to dwarf the imagination. (Bates et al., 2020, p. 469)

Albrechts (2010) states that the environmental crisis, the energy crisis, and the subsequent economic crisis are increasing demands for change in our society, to which planning and planners must respond. Hillier (2013) discusses uncertainty by emphasizing that it requires us to rethink the praxis of strategic spatial planning. Hajer and Wagenaar (2003) note, critically, that producing only a single vision, relying on only a single forecast, selecting a single scenario, and creating a single plan fails to consider the ‘radical uncertainty’ of the future and does not take into account the diversity of the publics that shape this future. Therefore, planning practice must find ways to deal with imperfect foresight to plan for uncertain futures in diverse communities (Zapata and Kaza, 2015).

There are different approaches for dealing with such uncertainty in planning. Hillier (2011) proposes that we should “regard spatial planning as an experimental practice working with doubt and uncertainty, engaged with adaption and creation rather than scientistic proof-discover” (Hillier, 2011, p. 505).

For Hillier (2011), spatial planning is strategic navigation investigating the elements unseen in the present, speculating about possible futures, and exploring
what we might think or do in a given place or time and how it will influence spatial form.

This research has focused on a futures thinking approach—namely scenario thinking—that could be used to deal with both imperfect foresight and the diversity of the public, all shaping the future. Scenario thinking and strategic spatial planning can be seen in many ways as related. This is due to their evolution from the field of strategic planning, with their theoretical discussions and concerns derived from the same authors and with their utilization, for example, not only of the concept of framing but also of worldmaking. In addition, they both deal with futures and working with futures through the elements of stories, increasingly in a collaborative and participatory manner. Then again, scenario thinking is often criticized for its chaotic methodology and lack of theoretical support (Spaniol and Rowland, 2018). Therefore, one might wonder how scenario thinking can contribute to the capabilities and knowledge necessary in strategic spatial planning to address the future and approach uncertainties.

To define and discuss the required knowledge and capabilities for strategic spatial planning, Aristotle’s three intellectual virtues, identified in *Nicomachean Ethics: episteme, techne, and phronesis* are used. These virtues are, in turn, referenced in Davoudi’s (2015) approach to planning as a process of knowing and learning—knowing what, how, to what end and then doing—as well as Flyvbjerg’s (1992) earlier interpretations of Aristotle’s virtues. The current chapter builds upon existing work on scenario story crafting as a capability required in strategic spatial planning developed by Mäntysalo and Gribakov (2016) and further elaborated by Mäntysalo et al., (2022).

### 6.1 Planning and knowledge

Discussion in the research literature on knowledge and its relationship to planning can be categorized into three interrelated themes. The first is scientific, or evidence-based, knowledge and its role in both planning history and contemporary planning. This topic was to some extent discussed in Chapter 4 in relation to the problematic hegemony of evidence-based planning. The second is knowledge as a social process, its production and utilization in planning, such as application and integration of different types of knowledge (expert, laypeople, local) and knowledge governance. Thirdly, knowledge as a practice of knowing for strategic planning or planning research discusses the knowledge or capabilities required for planning. Furthermore, it is also important to mention that, within knowledge as a practice of knowing, the roles of first and second types of knowledge are reflected upon.

Viewed from the perspective of reflections on the history of planning (Albrechts et al. 2016; Healey, 2007, Mäntysalo, 2005), it is evident that the need to address uncertainty derives from the evident limits of rational-comprehensive planning, which expects better plans to stem from a more comprehensive analysis of the planning problem. Such an idea of rationality is limited by uncertainty (first critiqued by Herbert Simon, 1955) and by the need to widen the knowledge base of planning by including various interest groups (first critiqued
by Charles Lindblom, 1965). Melvin Webber (1968) introduced the idea of planning as an interactive process that also emphasizes ordinary knowledge.

Concepts and priorities emerge, not just from the codified knowledge of science, but from experience, ideology, professional concepts and political fixes. Rather than being linear and logical, making the relation between knowledge and action in strategy formation is a complex, interactive, ongoing activity, in which diverse forms of knowledge are ‘called up’, generated and given meaning. (Healey, 2006, p. 26)

For Healey (2006), the knowledge that ‘re-frames,’ that leads to new ideas about an area, is not formalized expert or scientific knowledge, but knowledge generated by debate, encounter, and challenge. Only such ‘extraverted’ knowledge leads to challenging and testing established conceptions. For Healey, ‘experts’ should thus not be the primary source of knowledge required for spatial strategy making.

Davoudi’s (2015) concept of planning as a practice of knowing stems from the apparent mismatch between ideal (evidence informed) planning and actual disordered and uncertain realities. She and Healey (2006) both refer to Blackler (1995, p.1021), who states that what counts as knowledge is “mediated, situated, provisional, pragmatic and contested.” Blackler was one of first to emphasize knowing as a process, a continuing activity. Davoudi, too, suggests that thinking about planning is a process of knowing as learning, emphasizing the iterative process between knowledge and action, not the former as precondition.

Aristotle’s virtues, described in his *Nichomachean Ethics*, are not only discussed by Davoudi in the context of knowledge and values in planning but by Flyvbjerg (2004) as well. Aristotle presents the three intellectual virtues of *episteme, techne* and *phronesis*, of which he sees the latter as the most important, as it envelops both the other two virtues. Flyvbjerg (2004), too, emphasizes that Aristotle did not limit his concept of ‘truth’ to *episteme* but saw the other virtues as two additional relevant dimensions.

*Episteme* concerns universals and the production of knowledge that is invariable in time and space and achieved with the aid of analytical rationality. Davoudi (2015) names it ‘knowing what’, and it can also be termed knowledge of the rules (Flyvbjerg, 2004). *Episteme* corresponds with the modern scientific ideal as expressed in natural science. It can be considered a limited epistemic view of knowledge that underlies the evidentialist approach to planning (Davoudi, 2015). The futurist Nicholas Taleb (2010) has also criticized the over-valuing epistemic knowledge:

The problem with experts is that they do not know what they do not know. Lack of knowledge and delusion about the quality of your knowledge come together—the same process that makes you know less also makes you satisfied with your knowledge. (Taleb, 2010, p.147)

Beckert (2013) introduces the concept of *fictional expectations*, which refers to present imaginaries of future situations that provide orientation in decision-
making despite the incalculability of the outcomes. Consequently, epistemic knowledge as relying on forecasts is critiqued and opposed in scenario thinking (Ramírez and Wilkinson, 2016; Groves, 2017; Miller, 2007). Reliance on forecasts is positioned in the positivist-probability knowledge tradition, which aims to reduce uncertainty (not to work with it) and relies on calculability (Vervoort et al. 2015; Ramírez and Wilkinson, 2016). Furthermore, it is argued that the growing importance of non-predictive narratives is due to the greater spontaneity required in decision-making, which is increasingly embracing a shift towards new techniques and concepts, including learning-by-doing, piloting, and experimentation. Such a need for spontaneity demands a heightened skill in envisioning possibilities, rather than yielding to the temptation of strategizing the future based on calculations involving the inherently unpredictable (Miller, 2007).

Human and social scientists even debate whether the sciences should be more radically reshaped from primarily past-oriented sciences to fully future-oriented disciplines (Poli, 2014). In futures studies, this is referred to as the discipline of anticipation, which includes, for example, futures literacy as a skill to support explicit processes of anticipatory knowledge creation (Poli, 2014).

The objective of techne is the application of technical knowledge and skills according to pragmatic instrumental rationality, what Foucault calls “a practical rationality governed by a conscious goal” (Foucault, 1984, p. 255). Aristotle stressed that in practical decision-making and planning techne is more relevant than episteme. According to Flyvbjerg (2004), planning research practiced as techne would be a type of consulting aimed at arriving at better planning by means of instrumental rationality, where ‘better’ is defined in terms of the values and goals of those who employ the consultants, sometimes in negotiation with the latter. Davoudi (2015) names it ‘knowing how’ or skill. For example, it can mean various planning skills, such as how planners interact with tools and technologies. It is important to emphasize that techne not only concerns skill itself; rather, it also involves its application. Flyvbjerg (2004) additionally elaborates that techne can also be called knowledge of real cases. From the perspective of scenario planning, Techne can be linked to the mastery of scenario tools and techniques that enable us to work with uncertainty and the limitations of epistemic knowledge—from being able to design and carry out a scenario process to understanding the type of scenario project design that is required for a particular type of reframing purpose and then developing scenario stories according to the mediation purposes derived from the selected frame.

Whereas episteme concerns theoretically knowing what and techne denotes technically knowing how, phronesis emphasizes practical knowledge and practical ethics. It concerns a deliberation of how things should be done for the purpose of doing well, making ethical choices. According to Flyvbjerg (2004), the person possessing practical wisdom (phronimos) has knowledge of how to manage in each particular circumstance, which can never be equated with or reduced to knowledge of general truths about managing. Thus, Phronesis is the sense or reflective skill of performing in an ethically practical way rather than a kind of science. If planning research is practiced as phronesis, it involves reflecting on and questioning values and interests within planning, including planning the
future(s). Davoudi (2015) discusses this practical judgement in two separate parts. For her, it begins from Friedmann’s (1987) concern that a significant aspect of planning should be its specific attempt to connect forms of knowledge with forms of action. Thus, Davoudi (2015) emphasizes that knowledge of what and knowledge of how alone are insufficient grounds to take action.

However thoughtful (knowing what) and skillful (knowing how) planners may be, they may still not know what to do when it comes to moral choices about what course of action to take. . . . This is why knowing to what end, or the ‘knowledge of ends’, as Kant calls it, is as important in planning as other types of knowledge. (Davoudi, 2015, p. 6)

Practical judgement, for Davoudi (2015), is doing. It means the ability to understand a particular complex environment and know what to do, even without an articulated knowledge of the issue at hand, by acting on it. This also echoes what is discussed by Hoch (2007) and Baum (2015) in relation to emotions and planning, though they emphasize that judgements also rely on emotional dispositions and sensitivity that is rarely acknowledged in planning discussions.

Flyvbjerg (1992) specifically addresses the ‘lost’ virtue of phronesis by emphasizing that phronesis and value rationality have become marginal practices. In the face of climate-crisis, he calls for the skillful posing of, answering, and acting on simple value-rational questions such as (a) where are we going? (b) Who gains, who loses? (c) Is it desirable? (d) What should be done? These questions are the same as those used in scenario story building, as discussed in Chapters 4 and 5, including the question of power relations as tempered through the construction of the future. In dialogue with Flyvbjerg, Barry et al. (2018) are concerned about the ‘unsettling times’ in which we live. They consider it critical that we encounter our rapidly changing world; the central question is how our own worldviews influence or prevent us from appropriately apprehending and acting. This is also a central concern in scenario thinking, where our attitude towards the future, and ways of evaluating the world, can be seen as affecting phronesis (Shearer, 2005). From a knowledge perspective, we are often biased towards past experiences and unable to work with our discomfort and knowledge gaps (Vervoort et al, 2015). For Ramírez and Wilkinson (2016), acquiring such unknown knowledge unearthing tacit knowledge— the things one thinks one knows, but upon closer examination finds one does not. Dufva and Ahlqvist (2015) call it out-of-radar knowledge, which is embodied by reflecting upon one’s own experiences and mental models. It is implicit knowledge about the ‘the place’ where thought and action come into being that is not-yet embodied (Scharmer, 2001). Scenario thinking seeks to make such preconceptions explicit and visible as well as discussable by others.

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34 Ramírez and Wilkinson (2016, p.112) consider tacit knowledge "knowledge derived from a form of mindfulness of which one is unaware but which can be elicited and made explicit". According to Michael Polanyi (1983, *The Tacit Dimension* p.10) "in an act of tacit knowing we attend from something for attending to something else", which is why we always "know more than we can tell."
In futures studies, what is debated is knowledge of the future. This differs from the spatial planning literature, where the emphasis is often on working with uncertainty rather than discussing what knowledge of the future planners should possess. Ramírez and Wilkinson (2016), referring to the writings of Sardar (2010), describe how the field of futures studies also faces the challenge of developing creative, novel, and inclusive solutions that extend beyond ‘strategic foresight,’ which is often used in a ‘narrow’ manner for ‘winning over others,’ by being the ‘best at looking round the corner.’ Ramírez and Wilkinson emphasize that ‘good’ scenario planning should not concern competition; rather, it should be focused on exploration and appreciation of different perspectives. It is equally about creating a type of knowledge environment and a learning infrastructure that allows self-transcending or out-of-radar knowledge to surface (Scharmer, 2001). Such surfacing does not occur as a single eureka moment but rather through a set of incremental thoughts or statements that are built in the flow of discussion or brainstorming (Dufva and Ahlqvist, 2015).

The central characteristics of knowledge of the future are wickedness, skepticism, and futureless (Sardar, 2010, from Ramírez and Wilkinson, 2016). Knowledge of the future always deals with the wickedness of problems. However, futures studies are also wicked in the sense that they are open-ended, borrowing ideas and tools from any discipline, not multi- or trans-disciplinary but unashamedly un-disciplinary. Futures studies must be skeptical of simple one-dimensional solutions to wicked problems to ensure that the future is transformative and not colonized by a single culture. Finally, futures studies are also futureless, as we can have no true knowledge of the future. The future can only be seen as an aspect of the present and something imagined and experienced now. The ethnologist Orvar Löfgern (Frykman and Löfgren, 1987) has described how time plays a crucial role in the social arrangements of all cultures—it is used to set boundaries and passages and create stability and structure. At the same time, time itself is a continuum, and every culture divides it into sections, thus creating its own time and periodization. This, however, means that people understand and make sense of time in different ways. This also applies to the role of time in how futures are seen in the present. This is important, as scenario thinking can be considered to order reality and discipline the future, which both rely on our conception of time.

6.2 Revisiting scenario thinking as a capability in planning

As also discussed in Chapter 4, Healey (2009) suggests with her concept of ‘strategic framing’ that the generation of spatial strategies demands skills to perceive how people and places interrelate in time, drawing on an understanding built on history, an anthropological view, and geographic imagination. In order to understand the potential and desirability of different development paths, a deep comprehension of the material and cultural history of a place or region is essential. Healey suggests that possessing this kind of understanding helps us develop critical judgement skills in evaluating how and to what extent positive resonance and transformative capacity can be achieved among stakeholders in strategic
initiatives. This process involves a combination of experiential probing, targeted analysis, imaginative learning, and reliance on hard evidence. This is what Healey calls ‘strategic framing’ (Healey, 2009). Using Healey’s account of the capacities required in strategic framing and augmenting it with Aristotle’s three virtues, we can arrive at three distinct capacities (Table 9.) that are essential in the kind of strategic spatial planning that encompasses scenario thinking (Mäntysalo and Grišakov, 2016):

- **episteme**—the capability to provide scientific evidence on existing local-historical developments and trends. This is subsequently important for supporting the juxtaposition of intuition and evidence crucial in the scenario development process,
- **techne**—the capability to re-frame with scenarios to create scenario stories stretching from what exists towards the possible future but integrating it narratively into the local-historical context,
- **phronesis**—the capability to critically judge which future scenario(s) we value as desirable and to decide on the actions to be taken in striving for it.

Concerning strategic spatial planning, phronesis can be regarded as superior to episteme and techne in the sense of framing with scenarios and then judging critically which scenarios are deemed desirable and how political consensus and momentum could be gained to support them. Here, it is worth emphasizing that scenario thinking as techne should be considered in a wider manner than the ‘production’ of stories, as scenario thinking supports planning as a practice of knowing in a much broader sense than the ability to create alternative future development paths. There is a challenge here, because scenario thinking as techne can be designed in different ways, which can exert a definite impact on the ways the scenario stories are meaningful for strategic framing. I will return to this topic later.

Hence, in the context of strategic spatial planning, scenario planning prioritizes techne over episteme. This is because reframing through scenario planning integrates existing local properties and resources, development trends, and collectively imagined future development directions into a cohesive narrative, which can better inform decision-making. On the other hand, episteme can serve as a knowledge resource for the techne of scenario thinking, which, in turn, can be seen as a resource for providing alternative future development paths for the phronesis of evaluating the scenarios and preparing for action with those scenarios. Here, it is important to emphasize that critical judgement of scenarios should not concentrate on selecting one desirable scenario; rather, scenario thinking is an iterative process that can and should support planners in going beyond choosing and delivering ‘a single plan’ (Balducci et al., 2011), thus enabling them to work knowingly with alternative development paths, both desired and undesired. This approach enables us to avoid the ‘trap’ of positivist thinking, that the best future follows automatically, if scenario thinking is rigorously applied. For Albrechts (2005), the true test of applying scenario thinking is not whether ‘the conceived’ futures are achieved but, rather, whether anyone has changed their behavior because they saw the future (or rather their
own limits of knowledge) differently. Thus, extra attention must be paid to how the knowledge environment in which scenario planning occurs is designed and facilitated in order for such self-transcending knowledge to surface.

Utilizing scenario planning in strategic spatial planning requires all of Aristotle’s intellectual virtues. According to Flyvbjerg, the phronetic approach is the most appropriate for planning research, which involves detailed case analysis and normative reflection on power in planning. However, it should be noted that in order to fully understand and learn strategic spatial planning, whether as a researcher or practitioner, it is necessary to comprehend the interplay of all three of Aristotle’s intellectual virtues. This includes understanding how phronesis frames techne and how techne, in turn, frames episteme. The practice of knowing, as described by Davoudi (2015), does not concern seeking evidence; rather, it focuses on understanding the complex interrelationship between knowing what (theoretical knowledge, episteme), knowing how (skills, techne) and also about knowing to what end (moral choices) and then doing (action). Phronesis, according to Davoudi (2015), is wisdom that enables a person through both intuition and epistemic knowledge not only to take action but also to envisage its consequences.

**Table 9. Approaches to knowledge and their connections to spatial planning and scenario thinking**

<table>
<thead>
<tr>
<th>Davoudi</th>
<th>Knowing what?</th>
<th>Knowing how?</th>
<th>Knowing to what end?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aristotle</td>
<td>episteme</td>
<td>techne</td>
<td>phronesis</td>
</tr>
<tr>
<td>Strategic spatial</td>
<td>Capability to provide scientific evidence</td>
<td>Capability to re-frame with scenarios and build alternative future development paths</td>
<td>Evaluation of the scenarios and decision-making on actions to be taken in striving for them or avoiding them.</td>
</tr>
<tr>
<td>Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scenario thinking</td>
<td>Capability to provide and gather a comprehensive palette of key drivers and trends to be juxtaposed with intuition during scenario development. Separating what is known from what is not known, including out-of-radar knowledge.</td>
<td>Capability to design scenario processes with re-framing purposes and scenario learners in mind. Capability to create scenario stories (incl. probability, plausibility, and credibility check).</td>
<td>Capability to evaluate whether and how the developed scenarios can guide decision and action. Understanding to what extent scenarios are context dependent, limited, and bound to current realities and power relations.</td>
</tr>
</tbody>
</table>

Furthermore, planning as a practice of knowing requires re-conceptualization of that which is assumed to be a natural category, and this is where scenario thinking as a tool for strategic spatial planning can demonstrate its relevance. Within planning as a practice of knowing, Davoudi (2015) discusses the traditional conceptions of knowledge.

The components of Davoudi’s (2015) practice of knowing can and should, in a more detailed manner, be related to scenario thinking (Table 10) if we wish to
understand how scenario thinking can support planning. As seen from the table below, the practice of knowing through scenario thinking is in dialogue with the practice of knowing in planning.

Table 10. Elements of planning as a practice of knowing in relation to knowledge derived from scenario thinking

<table>
<thead>
<tr>
<th>Elements of practice of knowing</th>
<th>Practice of knowing (Davoudi, 2015)</th>
<th>Knowledge derived from scenario thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Everyone is knowledgeable</strong></td>
<td>All knowledge(s) carry values. Boundaries of knowledge are fluid and overlapping and cognitions are situated and collective.</td>
<td>Scenario thinking includes both known and unknown drivers and trends as well as perceptions of the future.</td>
</tr>
<tr>
<td><strong>Situated and provisional</strong></td>
<td>Knowing is situated in time and space and specific to a particular context that is constantly developing</td>
<td>Context is crucial. Knowing is situated in a particular place and time. Out-of-radar knowledge is revealed and built through flow in a particular knowledge environment.</td>
</tr>
<tr>
<td><strong>Distributed and collective</strong></td>
<td>Knowing is a socially constructed understanding that emerges from practical collaboration and depends on communal narratives.</td>
<td>Knowing is derived from collectively developing plausibility by using and constructing narratives about the future.</td>
</tr>
<tr>
<td><strong>Pragmatic and purposive</strong></td>
<td>Knowing is reflection in action. Transforming cognitive capital to collective action.</td>
<td>Knowing is purposeful reframing. Transforming cognitive capital into out-of-radar knowledge and stories about the future.</td>
</tr>
<tr>
<td><strong>Mediated and contested</strong></td>
<td>Knowing and power are mutually dependent. Power shapes knowledge, incl. what is self-evident, universal, and necessary</td>
<td>Views of reality are treated as constructs. Knowledge of the future encompasses skepticism towards dominant ideas and notions of truth, including awareness of how knowledge of the future has colonizing or emancipating power</td>
</tr>
</tbody>
</table>

In fact, scenario thinking as techne can seamlessly interact with planning as a practice of knowing, not only as a capability used for strategic framing, but also for supporting reflective practice (Fischler, 2012). Schön (1983) understood that professional practice must deal with uncertainty, complexity, and value conflict and be reflected in action, that is to examine critically what one does. Fischler (2012, p. 326) concludes, in his essay about Schön and reflective practice, that what makes the idea of reflective practitioner powerful is also what makes it difficult to accept and apply, as it “holds the promise of improved collective action of the future by imposing a burden of individual responsibility in the here and now.” Scenario thinking can be seen as the capability of a planner to look outwards, towards the future, both collectively and with action in mind (Figure 10.). However, it can also be seen as a reflective practice for ‘unsettling’ (Barry
et al., 2018), for understanding knowledge gaps and sources of discomfort (Vervoort et al., 2015), or for freeing ourselves of existing ‘sticky’ worldviews (Dufva and Ahlqvist, 2015).

**Figure 10.** Scenario thinking as informing strategic planning and as reflective practice.

This is crucial, as Davoudi’s (2015) ‘planning as a practice of knowing’ does not really tackle the question of knowledge (and the limits of knowledge) of the future and how this should be addressed by and integrated into the practice of knowing. I claim that much of what is discussed in futures studies as knowledge of the futures, as well as particular knowledge (self-transcending knowledge) derived from scenario thinking, can be discussed as part of phronesis. This includes knowing the extent to which knowledge of the future is limited and colonized or how knowledge gaps and discomforts can affect judgement. However, this is possible only if there exists a parallel reflective practice that works with the knowledge gaps within planning, such as the prejudices and discomfort that phronesis encompasses but does not ameliorate. When Albrechts (2005) emphasizes that it is predominantly our understanding of futures that must be revised, this means working with our phronesis through scenario thinking.

Reflection through scenario thinking can be applied to all the key steps of the scenario process. In the exploration phase, one must decide the timeline and focal issue, including the question of how judgement is applied to decide these central criteria. To answer this question, we must revise our conception of time and reflect upon why we select a particular year and not some other stretch of time. Moreover, we should consider whether our timeline is, instead, derived from rules and norms (e.g., mediated and contested knowledge) we are simply silently accepting.

The exploration phase includes the mapping of key drivers and factors. This involves consideration of the limits of our knowledge in terms of being able to
comprehend and integrate drivers from different categories that might influence the future development of space. In addition, we should ask how we are able to look to the horizon for fringe areas or weak signals that could potentially exert a profound impact on the future, and we should ponder whether judgement has been applied when deciding what should be omitted from our perspective. For instance, are we suggesting that some category contained no knowledge if we ignored it or passed it over? Finally, we should consider how we judge which drivers are the key uncertainties. There is always a certain comfort provided by collectively performing plausibility checks in scenario building workshops, which releases the individual from the duty of reflecting on their own judgement without peer support or pressure. Nevertheless, it is also crucial to pay attention to one’s intuition (as indicated by the name ‘Intuitive Logics’ method) individually.

For example, the exploration phase often includes a review where one must suggest trends and then categorize them in terms of probability and desirability. In such a situation, I often find myself confronted with my own value-based judgements, which immediately begin to influence my evaluation of such trends’ desirability and probability. For example, I have found myself assessing trends that are more representative of my values (and hopes) as more probable. In this respect, Vervoort et al. (2015) have even suggested that scenario thinking should move away from the evaluation of probability and plausibility and, rather, concentrate specifically on such aspects as discomfort (what is ignored, hoped for, and feared) and knowledge gaps. This is relevant, as it renders the evaluation reflective and helps reveal the reasons behind rankings of probability or desirability.

6.3 Summary

This chapter discussed the potential of scenario thinking as a futures thinking approach that can be utilized to address both imperfect foresight and the diversity of perspectives in shaping the future. More specifically, it focused on the ways scenario thinking can specifically relate to and enhance the capabilities and knowledge required in strategic spatial planning to tackle the future and its uncertainties.

Scenario thinking and strategic spatial planning can be seen as closely related, as they both originate from the field of strategic planning, share similar theoretical discussions and concerns, and utilize similar concepts, such as framing and worldmaking. Both also involve working with futures through the use of stories, often in a collaborative and participatory manner. However, scenario planning has been criticized for its lack of methodological clarity and lack of theoretical support.

Nevertheless, scenario thinking is a valuable tool for strategic spatial planning, as it allows for the reframing of existing evidence and development trends and creates alternative future development paths for evaluation and subsequent action.
Scenario thinking as an iterative process can support planners in going beyond choosing and delivering 'a single plan,' thus enabling intentional work on alternative development paths, both desired and undesired.

To understand and learn strategic spatial planning, whether as researchers or practitioners, we must grasp the interplay between Aristotle’s intellectual virtues: how phronesis frames techne and how, in turn, techne frames episteme. These three interlinked capabilities are also essential in strategic spatial planning that encompasses scenario thinking (Mäntysalo and Grīšakov, 2016). First, the capability to provide scientific evidence on local-historical developments and trends is crucial in the scenario development process to support the juxtaposition of intuition and evidence. Second, the capability to re-frame with scenarios to create scenario stories is essential, stretching towards possible futures but integrating them narratively into the local context. The final crucial capability is the ability to critically evaluate and choose desirable future scenario(s) and decide on actions to achieve them. Scenario thinking helps illuminate tacit knowledge, i.e., knowledge that is difficult to articulate and communicate, as it is often embedded in an individual’s actions, skills, or experiences. Therefore, scenario thinking as techne should be considered in a wider sense than the ‘production’ of stories, as it supports planning as a practice of knowing in a much broader sense than only the ability to create alternative future development paths.

It is important to acknowledge that there is a difference in the academic approaches to the future in futures studies and the spatial planning literature. In futures studies, the emphasis is on knowledge of the future, while in the spatial planning literature the emphasis is on working with uncertainty, with less focus on what knowledge of future planners should possess. The current ‘planning as a practice of knowing’ (Davoudi, 2015) has failed to properly explore the question of knowledge of the future (and its limits) and how this should be addressed by and integrated into the practice of knowing.

The relationships between the different aspects planning as a practice of knowing and scenario thinking can be seen as a valuable framework for supporting strategic spatial planning. The process of planning as a practice of knowing can be re-conceptualized through scenario thinking. It can support a reflective practice by addressing uncertainty, complexity, and value conflict. Integrating knowledge of the future and its limitations into scenario thinking can help support a reflective practice and lead to more informed decision-making.

Scenario thinking as a capability can be used for looking outwards, towards the future, collectively and with action in mind. However, it can also be seen as a reflective practice for unsettling, for understanding knowledge gaps and sources of hope and fear.
7. Discussion and conclusions

In summer 2019, I attended a panel discussion about Estonia in the year 2053. The panel included, among others, the head of the governmental unit preparing the strategy for Estonia 2035 and the President of Estonia. When the panel began, some of the panelists immediately declared that, since future in 2053 was too uncertain and unpredictable, there was really no point in even beginning to debate it. Consequently, the conversation quickly moved on to discuss other 'better known' topics, such as data ownership problems in the light of the Cambridge Analytica scandal or specific actions regarding climate change. There were, however, other approaches presented, such as that proposed by one panelist who had prepared a story describing how she would explain life in 2019 to her grandchildren in 2053.

This memory of the futures panel aptly illustrates the context and content of this research. Strategic planning, and specifically strategic spatial planning, is required to deal with the complexity of futures on a daily basis. Furthermore, being futures literate is no longer considered a special expert skill but increasingly a basic capability useful for anyone who would like to possess a better understanding of the role of future in what they experience in present and to subsequently change their present behavior. Therefore, there is certainly a need to reflect on and discuss the future—but what remains vague is how to approach this task methodologically.

As seen from the example above, personal, perhaps even intuitive, strategies for approaching the futures even within one small panel can be considerably different. For example, it highlights attempts to avoid or dismiss uncertain topics, perhaps in order to disguise ignorance about the things we know we do not know and are therefore essentially uncomfortable about expressing. Therefore, we quickly attempt to seek solid ground in evidence, the things we do know, to gain at least some kind of orientation and assurance that we are on the right path. However, finally, we can also choose to let go of complicated forecasts and simply tell stories expressing our inner hopes and fears, to resonate with a certain future world desired or undesired and make it more tangible both for ourselves as well as the audience. Which of these approaches is then correct? Or are they all equally relevant parts of futures thinking? These general questions have been the core interest and content of this academic journey.
This research has been a methodological inquiry into using futures studies techniques in the context of strategic spatial planning, more specifically the approach of ‘scenario thinking.’ Scenario thinking is not a straightforward technique, as it consists of up to 23 methodological variations (Bishop et al., 2007). In this research, I have explored the potential contribution of scenario thinking to the knowledge and capabilities required in strategic spatial planning. In order to identify opportunities for such a contribution, the dialogue between the disciplines of strategic spatial planning and scenario planning was explored, focusing specifically on the debates on knowledge needs. Particular attention has been directed to understanding how knowledge is used, both generated and later validated, in scenario thinking and strategic spatial planning alike.

Table 11. Research questions of the dissertation

| Research question and sub-questions of this dissertation | (RQ1) In what way is strategic spatial planning in dialogue with scenario planning regarding their discussion of the capabilities and knowledge required for developing different futures? | (RQ2) How can existing scenario work be analyzed and evaluated in order to incorporate its findings into the design of forthcoming scenario projects? | (RQ3) How is the role of evidence perceived and used for different types of framing with scenarios in the context of strategic spatial development? | (RQ4) How can scenario stories be crafted and represented in the context of scenario projects dealing with spatial futures? | (RQ5) How can scenario thinking support strategic special planning as a practice of knowing? |

This concluding chapter consists of five interlinked parts. First, the challenges of this research are summarized. Second, the key findings are presented as a synthesis of the previous chapters. Answers to each of the research questions (Table 11.) presented in the Introduction of this dissertation are then presented. The third part consists of a dialogue between scenario planning and strategic spatial planning. Finally, the last part focuses on the contributions of this research, the key takeaways for planning practice, and the agenda for future research.

7.1 Research challenges

7.1.1 Challenge of finding the focus

While the general topic of the future, specifically the role of uncertainty or future visions, has been widely discussed in strategic spatial planning, the topic of adapting futures thinking methods to strategic spatial planning needs has attracted far less attention. Work in this area has been rather sporadic, often resulting from the efforts of particular scholars (Avin and Goodspeed, 2020; My-
ers and Kitsuse, 2000; Xiang and Clarke, 2003) with a strong interest in adapting and testing futures studies methods in the context of spatial planning. There are only a small number of detailed handbooks developed for the adaption of scenario thinking in spatial planning (Goodspeed, 2020). There are also geographical differences, as much of the published work concentrates on the U.S planning context, a phenomenon probably also resulting from the historical-geographical development of the scenario planning method itself.

Furthermore, the theoretical debate in the strategic spatial planning literature regarding knowledge needs for the future(s) has remained rather declarative, arguing mostly for the general need to consider futures through multiple scenarios (Albrechts, 2005) or to navigate through possible futures (Hillier, 2011) but rarely going beyond this debate. As evident from more recent overview articles (Lehtovuori and Neuvonen, Forthcoming), there are also rather few published case studies and very little exploration of various scenario typologies (such explorative or backcasting).

While it is good news for the researcher that the chosen topic is mostly uncharted territory, this situation might not be so helpful for setting a focus. As explained in the preface of this research, my specific background and experience have molded my particular orientation toward and interest in certain themes, such as explorative scenario typologies, storytelling, and, most importantly, the perspective of learning with and through scenarios. The latter has not been the dominant focus in the scenario literature, since, historically, the method has been explored and improved to benefit experts and decision-makers without the use of collaborative processes. This crucial shift is still in progress (Ramírez and Wilkinson, 2016; Ramos, 2006; Miller, 2007). Therefore, a specific focus on knowledge and capabilities was chosen to facilitate reflection on and learning from the experiences of collaborative scenario crafting.

Furthermore, although scenario stories represent the core synthesis and final product of the work performed throughout scenario development, the research literature has only cursorily explored story crafting when compared to other more popular topics, such as the selection of key trends and drivers. From the literature perspective, stories often remain an aside rather than the ‘main dish’ (or ‘dessert’) of the whole scenario development process. As evident from the Helsinki-Tallinn examples explored in Chapter 3, scenario stories play a prominent role in the published documents that remain after the project has concluded, which seems to be in rather clear conflict with their underrepresentation in the research literature. Furthermore, in the specific context of spatial planning, where visual representation of spatial change plays a crucial role, the various formats of story mediation should be the center of attention and discussion.

7.1.2 Challenge of finding the right research approach

This research has developed theory within the ethos of action research that aims to develop practice as well as encourage learning (Smith, 2015). Action inquiry should be reflective, with learning derived both from questioning programmed knowledge and then from doing. While both strategic spatial planning and scenario planning more actively use action inquiry and research (Ramos, 2006),
the current research literature on scenario planning in the context of strategic spatial or urban planning has rarely adopted such a research approach. The preferred research methods are more likely case studies, interviews, and questionnaires taking an aerial view of the similarities and differences between the projects but rarely reflecting on the methodological nuances of the process itself. Therefore, this research has aimed to combine both perspectives: first, the aerial view utilized in Chapter 3 of scrutinizing completed projects with an outsider perspective and then using the results of the analysis to continue work ‘on the ground’ with new scenario projects using action research methods, as presented in Chapters 4 and 5.

The action research design of this study has loosely followed the model by Smith (2015). As mentioned above, this included the two-stage process of 1) uncovering and defining a problem in existing theory and 2) inventing and testing new ideas to build new theory. The first stage consisted of uncovering a problem setup using theories of futures thinking and strategic spatial planning as well as scenario practice from the empirical case of Tallinn-Helsinki. The stage-one literature review and case analysis revealed the need to further analyze and explore:

- explorative-strategic scenarios as an underutilized typology in strategic spatial planning,
- diverse perspectives in the scenario development process, including developing scenarios in a collaborative manner, e.g., involving a community of inquiry,
- the different types of knowledge applied as well as juxtaposed throughout the scenario development process, e.g., their influence on particular scenario development steps (here, it is crucial to emphasize that this is a process that would otherwise remain invisible from an analysis of completed scenario work),
- the process of developing scenario stories, including visuals, that mediate particular spaces and localities relevant for strategic spatial planning.

These focus topics were then tested when developing and facilitating three scenario projects: the Estonian Human Development Report, Naissaar community scenarios and Shrinking Pattern scenarios, which were analyzed in detail in Chapters 4 and 5. In each of the projects, clear objectives were set to maintain and monitor the focus needs, described above, throughout the project duration. An additional valuable method derived from the action research methodology was the construct of three voices, which are useful for exploring the role of duality and ethics. These voices also entail temporal varieties—for example, past and future voices. The construction of voices was also crucial for synthesizing the conclusions of this work, as the first- and second-person inquiries emphasize and reflect personal challenges as well as the scenario development process from both the practitioner’s and learner’s perspective. The third voice, which by nature is more detached from the process, focuses on the theoretical contribution of the work to the strategic spatial planning debates.
7.2 Key perspectives and suppositions

The key perspective of this research has been ‘planning as a practice of knowing,’ introduced in Chapter 6. This is a theoretical construct developed by Davoudi (2015), building, among others, on Aristotle’s philosophy of intellectual virtues. In addition, Flyvbjerg’s (1992) operationalization of Aristotle’s intellectual virtues in planning research was utilized, as well as the work of many other planning scholars who have contributed to the wider debate on the knowledge and capabilities that a planner should possess. The core message of Davoudi is that knowledge is not something one possesses, like a container with information, but a process consisting of multiple steps of both knowing and doing. The Aristotelian virtues of episteme, techne, and phronesis can here be reinterpreted as positivist knowledge of the facts or widely held beliefs (episteme), knowledge in the form of skills in mastering certain tools and technologies (techne) as well as practical judgement (phronesis—what ought to be done).

It is important to emphasize that the ‘practice of knowing’ approach does not specifically include or emphasize the topic of knowledge of the futures. Rather, the perspective of the future is here understood as a critique of the domination of epistemic knowledge, which concentrates on the prediction of events and is less concerned with what the present world means for the people who live in it (Davoudi, 2015). This research has thus attempted to position knowledge of futures, and specifically scenario thinking, within the framework of planning as a practice of knowing. Consequently, it has explored in detail the dialogue between scenario thinking and strategic spatial planning, both of which essentially originate from the wider field of strategic planning and which are practice-based (both oriented to action and also born from action).

In order to position knowledge of the futures within planning as a practice of knowing (RQ5), we must mentally separate two processes that are essentially linked to together (Figure 11.).

The wider of the two is the processes of utilizing scenario thinking in strategic spatial planning. This results from the understanding that the key output in a planning process is the plan and the resulting strategy with its actions, and scenario development is one useful method in the wider process of developing such a holistic strategy. Here, scenario thinking is considered one skill among the broader skillset of mastering the varied tools and methods of planning, techne in terms of the virtues of Aristotle. Scenario thinking as techne is therefore the capability to re-frame with scenarios in order to create scenario stories (Mäntysalo and Gришкаов, 2016). This, in turn, requires masterful collection and mediation of local narratives and plots, while ensuring and collectively developing the consistency and plausibility of the resulting stories. However, in this wider process, the focus is not on creating the stories themselves. Rather, the focus is on the capability to translate the stories into a new plan or strategy, for instance, to critically evaluate and choose desirable future scenario(s) and decide on action(s) to achieve them. In terms of Aristotelian virtues, this can be called phronesis or reflective skill concerned with deliberation about values and interests in planning. The ethical component embedded in phronesis is also crucial for reflecting upon the colonizing features (Groves, 2017) of such scenarios,
which only direct attention to a restricted set of variables (issues) that serve specific but not necessarily public interests.

![Diagram](image)

**Figure 11.** Two inter-linked processes of utilizing scenario thinking in strategic spatial planning and scenario development.

In Figure 11, above, the smaller triangle consists of the scenario development process itself. For that process, carefully crafted scenario stories are the end result. It is useful to view this scenario development process with all its subsets as a separate process, as a sort of microcosm where all the approaches to knowledge (episteme, techne and phronesis) and elements of the practice of knowing play out in order to craft the final stories. It is crucial to examine this process, as helps reveal the dialogue between planning and scenario ‘planning’ as a practice of knowing. Furthermore, what occurs within this microcosm is also relevant, as the scenario development process must be carefully and strategically designed and facilitated in order to be of any support to the subsequent steps, eventually leading to planning action. Furthermore, it is equally important that the participants involved in the development of the scenarios are also able to benefit and learn from the resulting process, gaining knowledge without solely being treated as objects of (embodied) knowledge.

Next, I discuss the core capabilities and knowledge required within scenario development in the order of the process steps.

### 7.2.1 Reframing with scenarios

Every scenario project begins with phronesis. In essence, this is deliberation regarding how to methodologically build the scenario development process in such a way that it supports the project aims. The project aims, in turn, rely on factual, evaluative, and creative judgement (Vickers, 1965), which are all involved in effective decision-making processes. In the context of scenario devel-
opment methodology, these judgements can be reinterpreted as different framing needs (Ramírez and Wilkinson, 2016). For example, a reality check is most concerned with the need of understanding the key future trends and drivers that lead spatial development. An instrumental need is more concerned with the appropriate modes of action that can be used to respond to key future challenges. Finally, value judgement is most concerned with stakeholder relationships and enabling a collaborative strategy. Each of these judgements can be core aims in a scenario project. Here, it is crucial to emphasize that judgements can also be combined within a single project, but, as also illustrated in Chapter 4, each project involves a core aim that can and should be used as a guide for selecting appropriate scenario typologies and for building the scenario development process.

Reframing must bind together the core learnings about futures thinking explored in detail in Chapter 2. The capability to define the central reframing need (reality-check, instrumental, or values) can help in choosing an appropriate scenario typology for the project. For example, the reframing need of reality check implies the use of an external explorative scenario typology, but choosing the same typology for instrumental needs can lead to the project failing to fulfil its core aim of identifying ways to respond to future challenges. A value-based re-framing need implies careful consideration of the didactics used in the scenario development process. If the stakeholders and their communication with each other is at the center of the process, the resulting project methods and pace should allow sufficient time for discussions, debates, and reflections.

Another useful strategy for the framing phase is a comparison of completed scenario projects. This is described in Chapter 3, thereby providing an answer to RQ2 by focusing on the findings from the analysis of existing scenario work. The case of Tallinn-Helsinki used in this work is extraordinary in that it resulted in three different scenario reports with the same focus topic that could be used for comparison. However, even if such resources are unavailable, any example work is a useful resource for discussing and reflecting on particular planning needs and subsequent framing requirements. Such a comparison can reveal dominant attitudes towards the future that, in turn, relate to judgement needs and a critical review of appropriate scenario typologies. A crucial connected question is the range of perspectives that are involved in the scenario development process. As Healey (2009) emphasizes, critical judgement in strategic framing depends on the balance between scientific evidence and artistic creativity for both achieving wisdom and gaining support for a desired future. It is crucial to remember that building such transformative capacity involves the inclusion of multiple perspectives on scenario development and also its collaborative facilitation.

### 7.2.2 Juxtaposition of evidence and intuition

Regarding the future, the only evidence we possess is projections, which are, in turn, often based on past development trends. However, this does not signify that evidence is irrelevant for the scenario development processes. There are
two key capabilities that relate to the role of evidence in scenario development and provide an answer to RQ3.

The first capability concerns collecting and knowledgeably using evidence within the scenario development process to create juxtapositions with the intuition of those participating in the process. These juxtapositions are crucial, foremost, for illuminating both tacit knowledge and, more specifically, self-transcending knowledge. This is understood in scenario thinking as knowledge that one is unaware of but that is made explicit during the scenario development when one is confronted with ‘evidence of the future,’ whether as quantitative projections or mere weak signals. In very simple terms, through this juxtaposition, a person is faced with certain development trends and needs and must make explicit why they agree or disagree with such a development direction and for what reason. Such moments of juxtaposition are also occasions where the futures thinking attitudes and other unexpressed beliefs (such as technocratic fiction of physicalism) discussed in detail in Chapter 2 begin to reveal themselves. The facilitator of the process must recognize various futures attitudes and futures thinking tropes to steer the discussion in a proactive manner in order to create a learning environment that helps illuminate self-transcending knowledge. In every scenario process design, there are multiple stages (e.g., scenario exploration and building phases) of such moments of juxtaposition, occurring in various formats either in working group meetings or workshops.

The second capability relates to the critical stance that both scenario thinking and strategic spatial planning adopt in relation to the positivist approach, which assumes that complex processes could be technicized (Selin, 2006). Without masterful steering, this can lead to over-scientification and evidence-based (quantification and metrics) scenario development that then is translated into plans and resulting strategies. In Estonian, there is a saying that one will receive no gratitude for predicting the future. This holds very true also for scenario thinking, especially for the ‘Intuitive Logics’ method. The core value of the ‘Intuitive Logics’ method lies in bringing tacit knowledge to the surface and collectively checking the plausibility of the resulting future scenarios. However, one must be considerate in presenting any resulting quantifications that are other than merely suggestive. Returning to the reframing needs explained above, the reframing need of reality check, which concentrates foremost on the need to ‘see’ what the future holds, particularly often goes hand-in-hand with an implicit desire to impose positive metrics to confirm specific fictional expectations. The suggestion from this research is to consciously view and present scenario development primarily as a method for collaborative learning, focusing on how we see futures in the present and how to guide the resulting action so as to move towards the desired development paths (and prepare for undesirable developments). Such a position would also help dispel the misconception of scenario planning as ‘predicting the future.’

7.2.3 Story mediation

The description of the study’s challenges presented above already explained
that scenario stories are an underdiscussed and perhaps also undervalued product of scenario development. One can only speculate on the reasons for the lack of focus on stories in the research literature. Perhaps it is because of the complexity of the scenario development process itself, which requires more attention. Or, conversely, story development is perhaps considered so basic and simple that anyone can engage in it. Whatever the reason, it is time that the methodological and technical choices of scenario story development receive similar attention to other crucial steps in the scenario development process. There are multiple reasons why stories deserve more attention. First, stories are the key interface between the scenario project and the public. Stories are the core medium through which the public can understand the various future worlds and the choices leading to those worlds. It is important to remember that stories are never only descriptions of explicit knowledge; rather they manifest and convey implicit knowledge that inevitably involves an aesthetic dimension, as it expresses and conveys a sense of what ‘feels right’ (Eidinow and Ramírez, 2016).

To provide and answer to RQ4, in order for stories to possess emotional resonance, they must be linked with the receiving community through existing story plots, myths, and metaphors. A good example of scenario projects that missed such an opportunity can be found in Chapter 3, which discusses the Tallinn-Helsinki scenarios.

Second, the scenario stories for strategic spatial planning must include stories and story visuals about specific places and worlds. It is extremely difficult to understand spatial change through text alone. However, when choosing visual aids, the illustration should be crafted as a vehicle of imagination that helps readers understand the key changes without being overly realistic or grounding us technically and keeping us in the present.

Chapter 5, which explored scenario stories, proposed that the scenario stories and their elements can be analyzed through the logic of production, formal components, and meaning negotiation (Rose, 2023). In production, stories are developed according to pre-defined framing needs through plausibility and credibility checks with multiple discussion rounds and system map development. The story system map then acts as a skeleton for purposeful story mediation via fictional story, image, video, installation, et cetera, to ensure consistency and coherence. Through this framework, the various mediations can be created by different professionals—artists, writers, directors. However, for this, the capacity to produce a system map is fundamental in order to orchestrate the various story mediations and their interrelationships knowingly and purposefully.

Returning to the central research question, which focuses on how knowledge is used, generated, and validated through scenario planning, we can see that a masterful combination of episteme, techne and phronesis is required throughout the scenario development process. It is crucial to note that this is not the consecutive process of gathering evidence, inserting it into a process, and gaining a result. Instead, we can see how it is an iterative process where one must use all three capabilities in parallel—most importantly, using phronesis to judge what constitutes the actual reframing need and then designing the scenario development process with the suggested framing need in mind. After that, what is
required is the masterful gathering and use of evidence to support intuition and disclose tacit knowledge, while at the same time carefully avoiding the pitfall of over-scientification. It is crucial to emphasize, additionally, that facilitating the scenario development process requires the capacity to use didactics as well as the ability to collaborate with participants and team members to ensure the coherence of framing needs and the plausibility and credibility of the resulting scenario stories.

To provide an answer to RQ5, planning as a practice of knowing draws on the assumption that all knowledge carries value. Through the perspective of scenario thinking, this includes both acknowledged facts and weak signals, as well as other types of out-of-radar knowledge that seemingly appear out-of-joint or ridiculous. Knowledge of the future(s) via scenario thinking is derived from collectively developing plausibility. Thus, the knowledge generated is also situated in a particular place, time, and purpose.

The practice of knowing also includes reflection in action. However, purposive knowing is also the kind of reflection in action that is directed inward, at our personal future attitudes and prejudices. Such reflection is of utmost importance, as it illuminates our hopes, fears, and knowledge gaps (the latter often surfacing also in fears). Scenario thinking as a reflective practice need not be a complicated and expensive separate undertaking. It can be an everyday practice occurring in meetings with colleagues, when reading morning newspaper articles or listening to a panel discussion or report presentation. Moreover, it can simply be the act of considering why one thinks a particular future trend or development path is more desirable or for some reason impossible. This resonates well with the last element of the practice of knowing, which deals with contested knowledge. In scenario thinking, views of reality are treated as constructs, and our understandings of the current present are debated just as fiercely as the various desirable futures. Thus, knowledge of the future should encompass a healthy dose of skepticism towards dominant ideas and notions of truth—including skepticism towards one’s own beliefs.

7.3 Dialogues

To provide an answer to RQ1, which concentrates on dialogues, it must be emphasized that strategic spatial planning and scenario planning both originate from the field of strategic planning and are both oriented to and born from action. Scenario thinking has been popularized and nurtured in the field of business and organizational strategy development. Thus, it has evolved in a very different context of decision-making needs, which can also be seen in its methods, vocabulary, and processes. The communicative turn emphasizing collaborative practices occurred in strategic spatial planning somewhat earlier than in scenario planning.

The dialogue between scenario planning and strategic spatial planning reveals itself though references to certain authors and concepts that are borrowed and then modified to fit the needs of the discipline. Such concepts are, for example, worldmaking (Goodman, 1978) and frame reflection (Schön and Rein, 1994).
Due to the practice-based origins and focus of both disciplines, there is a strong emphasis on the relevance of the planner’s intuition—a higher level of knowing. However, in spatial planning, such wisdom is derived from the interplay of evidence and intuition (that comes from practice). In scenario thinking, evidence is consciously used to stimulate intuition (self-transcending knowledge) through the action of scenario development.

Furthermore, regarding knowledge of the future, there is a difference between futures studies and the spatial planning literature. Futures studies emphasizes knowledge of the future and working proactively with uncertainty while, in the spatial planning literature, the stress is on navigating uncertainty, without a more elaborated debate on the kinds of knowledge future planners should possess (certainty?). The current paradigm of ‘planning as a practice of knowing’ has thus far failed to satisfactorily address the question of knowledge (and the limits of knowledge) of the future, and how this should be approached by and integrated into the practice of knowing. However, knowledge of what constitutes the ‘present’ is crucial, and acquiring such knowledge can also be supported by scenario thinking.

7.4 Contributions

This research has approached the role and use of scenario thinking in strategic spatial planning through the rather wide lens of the knowledge required in planning. This has enabled the comparison and carefully dissection of the knowledge needs present in both strategic spatial planning and the scenario thinking literature. Through a detailed analysis of how knowledge is understood, gathered, used, and validated in scenario thinking, it was shown that various types of knowledge (episteme, techne, phronesis) are utilized not consecutively but in parallel as an iterative process. For example, phronesis is already employed at the beginning of the process in order to define reframing needs.

Nevertheless, the practice of knowing through scenario thinking can and should be in dialogue with the practice of knowing in planning. This research proposes that planners use scenario thinking to support collective learning and reflection not only to look outwards in order to inform strategic framing but also to look inwards to support reflective practice. This research has also identified moments of dialogue between the disciplines of spatial planning and scenario planning, including shared concepts of framing, reflection and worldmaking.

The second contribution of the study is the use of the insider action research approach, which combines two phases of knowledge formation cycles. This includes an exploratory phase for developing a new line of inquiry and a second phase for testing in practice the ideas developed in the first phase in order to build new theory. The two domains of action inquiry and futures studies have instinctively become intertwined. It is not uncommon to combine strategic spatial planning with action inquiry in research, but it is far less common to integrate strategic spatial planning into both action inquiry and futures studies. This
research contributes to the possible methods of combining these three approaches, in order to specifically develop scenario thinking for strategic planning practice and the resulting theoretical insights.

The third contribution of this research concerns the core role of stories both in spatial planning and scenario planning. This research has provided an analytical framework for discussing and evaluating scenario story crafting and mediation. In an era of visual communication, and particularly in spatial planning, which must visualize spatial change, appropriate and impactful mediation practices should be further developed.

7.5 Key takeaways for planning practice

1. Before commencing any scenario project, it is essential to define specific framing needs. The methodology and overall design of the scenario project should be tailored to specific requirements, such as sensemaking, visioning, or enhancing collaboration.

2. To gain insights into local framing needs and key elements of the scenario process, it is beneficial to compare and analyze previous scenario projects or relevant examples from other contexts.

3. Within the scenario development process, the collection, preparation, and knowledgeable utilization of evidence are crucial. This deliberate juxtaposition of evidence with the intuition of participants is not always comfortable and demands masterful facilitation. Nonetheless, it is essential for unearthing tacit knowledge, especially out-of-radar knowledge.

4. The primary focus of a scenario thinking project should be on learning to support decision-making, rather than making predictions. Knowledge of potential futures is derived from collectively developing plausibility.

5. In the scenario projects of strategic spatial planning, it is imperative to incorporate stories and story visuals that focus on specific places and worlds. These stories act as a medium for comprehending the diverse choices that lead to different futures.

6. To foster imagination and flexibility, the stories and their visuals should not be overly precise or technical. They should function as vehicles for re-telling and re-interpretation. Utilizing a scenario system map is fundamental for orchestrating various story mediations knowingly and purposefully.

7. In the pursuit of understanding the future, reflection in action is equally important. This reflection should be directed towards our personal future attitudes and biases.

7.6 The challenges and research ahead

New challenges arise from the results of this research. The first is a methodological question derived from the limitations of this study. Goodspeed and Avin (2020) have previously contributed to explorative scenario development as repertoire building research, showcasing through existing project examples how a scenario process can be changed and modified depending on project needs and
resources. However, for some, the true test in applying scenario thinking is not whether the selected future scenario has been achieved but, rather, whether anyone has changed their behavior because they saw future (or rather their own limits of knowledge) differently (Albrechts, 2005). However, such suggested merits of scenario thinking have been investigated primarily in other contexts than spatial planning. For example, the results of research assessing the ‘second-order’ effects of scenario planning in spatial planning have been conflicting (Zegras and Rayle, 2012). This is important because scenario making is a resource intensive activity, and the potential positive effects (futures literacy, collaboration, usefulness for strategy development and action) should be recognized. The interpretation of the results of any such assessment is complicated, as scenario methods vary and are not always transparent. Moreover, their specific adaption to the context and needs of strategic spatial planning remains a work in progress. Additionally, particular facilitators and their capabilities play a crucial role in the potential impact on learners of any scenario-creation project.

This research did not specifically focus on investigating and assessing the project impacts by, for instance, gathering additional empirical data to reflect on practice improvement options with team members and participants. However, it proposed a useful theoretical framework for research using action inquiry and combining it with scenario thinking and strategic spatial planning. Knowledge formation in scenario thinking will be a difficult task for further assessments, as knowledge formation does not end with the conclusion of a scenario workshop. In this respect, it would be useful to include interdisciplinary research perspectives, for instance collaboration with educational psychologists, to focus, particularly, on future knowledge needs, the unearthing of tacit knowledge, and re-framing effects. Another approach would be to monitor and reevaluate the same community (such as in the case of Naissaar) or the same focal topic over a longer period of time to understand how knowledge of the future can support daily decision-making and coping with uncertainty.

Following the first challenge, the second crucial question concerns how to develop scenario story crafting further both through theoretical frameworks and story mediation practices for strategic spatial planning. With the latter, the playground of different mediums for story development, testing, and comparison is constantly developing and changing as new technological opportunities are introduced, such as AI-based tools, digital twins, and data-based simulations. All those opportunities, on one hand, create the need for greater attention to how visuals can not only support, but also affect decision-making as well as futures knowledge. However, on the other hand, they also create new opportunities for collectively making future worlds and learning about them.

Finally, the third challenge is to develop theoretical frameworks for addressing and discussing knowledge of the future within planning as a practice of knowing. The topic of constructing the future(s) in planning has been more vigorously addressed than the issue of futures knowledge needs. However, understanding such knowledge needs from both a theoretical perspective and a reflection in action viewpoint would again facilitate the work of modifying existing
tools for planning futures, such as modifying scenario thinking for strategic spatial planning needs.
8. References


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Annex 1: Tallinn-Helsinki case additional materials

1. List of interviewees and their positions at the time of the interview (2015).

1. Aleksi Neuvonen and Roope Mokka - Founders of Demos Helsinki think tank
2. Anu Laitila - Head of the Finnish institute in Estonia
3. Damiano Cerrone - Researcher at Estonian Academy of Arts
4. Douglas Gordon - Architect at City of Helsinki City Planning Department
5. Grete Ahola - Head of the Estonian Institute in Finland
6. Hille Hinsberg - Policy Analyst at Praxis think tank
7. Jarmo Eskelinen - CEO Forum Virium Helsinki
8. Jasmin Etelämäki - Planning Officer at City of Helsinki City Competitiveness Unit
9. Kaarel Kose - Adviser of Development Division and Harju County Government
11. Ralf-Martin Soe - Researcher at Tallinn University of Technology

2. General framework for semi-structured interviews

1. Could you please share your initial encounter with the concept of a connection between Estonia and Finland, particularly the idea of a twin city? Describe the circumstances and manner in which this notion first came to your attention.
2. How do you define the underlying concept of this proposed connection between Estonia and Finland? In your understanding, what does the notion of a twin city signify in this context?
3. Provide an overview of the current state of collaboration between these two nations/cities. Have there been notable shifts in this collaboration over time? If so, please elaborate on the nature of these changes and their implications. From your perspective, who are the primary stakeholders driving this collaboration?
4. What do you perceive as the most promising opportunities for advancing and deepening this collaborative effort? From your standpoint, which avenues hold the greatest potential for fruitful cooperation?

5. Conversely, in your assessment, what are the most significant obstacles that hinder the progression of this cooperation? What challenges need to be addressed in order to foster further collaboration effectively?

6. Could you draw a comparison between the distinctions and parallels that exist between the respective countries and capital cities? Highlight the key differences and similarities that contribute to or potentially hinder collaborative endeavours.

7. Based on your personal or professional experiences, provide an account of the prevailing cross-border practices and daily life interactions. How would you characterise the current state of affairs in this domain?

8. From your personal or professional vantage point, outline the tools and measures that you believe are essential for advancing the relationship between Finland/Estonia and Helsinki/Tallinn. What specific initiatives or approaches would facilitate this development?

9. Reflecting on your organisation’s (or project’s) endeavours, what strategies or actions have been employed thus far to enhance collaboration? Please elaborate on the pivotal lessons drawn from these experiences.

10. In your view, how might future technological advancements and other relevant trends influence the dynamics of this cross-border relationship? Consider the potential impact of emerging trends on the nature and scope of collaboration.
Annex 2: Estonian Human Development Report case additional materials

1. Workshop I 19.11.2018 agenda

The Final Chapter of the Current EIA: "Estonia 2050" – Scenarios for the Future

What changes will impact the development of public space and democracy on both local and international levels?
What will be the relationship between democracy and public space in Estonia in 2050?
The methodology of scenario thinking is employed to address the future. Based on the main messages of the EIA chapters, potential future narratives for shaping public space are visualized, taking into account both factual and intuitive trends.

Programme:

10:30 AM – Gathering and Introductions

Kristi Grišakov: On Future Planning (30 mins)
Helen Sooväli-Sepping: EIA Concept (15 mins)

11:15 AM - 12:40 PM – Session I: Influential Changes Affecting Public Space and Democracy at Local and International Levels

Trends and drives – Changes occurring globally or within Estonia referred to as trends or uncertainties. In the scenario thinking process, key trends and driving forces are distinguished. Key trends stem from the main messages of the EIA chapters. These are factors impacting the core question, i.e., public space and democracy on a local level. Driving forces are macro-level factors originating externally that, in turn, impact key trends. Driving forces are observed across six categories:

Society
Economy
Environment
Politics
Values
Technology

11:15 AM - 11:35 AM – Input (K. Grišakov): Introduction to Key Trends based on strategies and EIA main messages.

11:35 AM - 12:10 PM – First Group Discussion: Document the trends and driving forces in two fields based on the input heard and personal knowledge. Address both international and local level topics.

12:10 PM - 12:40 PM – Second Group Discussion: Enhance the list of driving forces provided by the other group. Add additional comments and questions.

Lunch 12:40 PM - 1:40 PM

1:40 PM - 3:10 PM – Session II: Domain-Specific Summaries and Selection of Most Significant Trends

1:40 PM - 2:40 PM – Domain-specific driving forces. Brief summaries from each domain and their augmentation through collective discussion. Larger thematic groups emerge – certain influencers stand out as more significant than others, appearing in discussions across multiple groups.

2:40 PM - 3:15 PM – Working in Groups with Different Spatial Scales. Three groups are formed. Each group works with a distinct spatial scale, creating a hierarchy of the most important influencers and critical questions associated with the future of that scale.

Spatial Scales:

Digital Space (and its relationship with physical space)
Urban Space (large and small cities)
Rural Settlements
Natural Environment

Break: 15 minutes

3:30 PM - 4:45 PM – Session III: Summary and Discussion. Seeking Common Ground and Shared Influencers.

During the joint discussion, crucial influencers and future questions related to each spatial scale are presented and, if necessary, elaborated upon. Are there trends that are important across all three scales? Which are the most significant? For which trends do we have the most evidence, and about which do we know too little? Have any important topics been left untouched?
By the end of the workshop, a central selection of significant trends for various spatial scales is established. This forms the basis for creating scenarios for possible futures of Estonia's public space.


10:15-10:30 Gathering and Introduction to the Workshop

EIA 2018/2019 Chief Editor Prof. Helen Sooväli-Sepping
Editor of the "Future Estonia 2050" Chapter Kristi Grišakov

Slides: Workshop Agenda, Selected Variables, and Scenario Outline. Participants understand their expectations and also that their contributions are input for the chapter, not the final published scenarios to ease tensions

10.30 - 11.00 Kaisa Schmidt-Thomé, Senior Researcher at Demos Helsinki Think Tank
Future Scenarios of Urbanization in Finland by 2039.

Presentation on Screen. Participants comprehend what scenarios are and how they are constructed. Topics under discussion within the Finnish context.

11.00 – 12.30 Selection of Key Scenario Axes for Crafting EIA Future Scenarios.
Which changes will predominantly influence the development of Estonia's public space and democracy?

Final axis selection on the whiteboard. Each participant receives a worksheet. Discussion in English with all participants. Moderated by Kristi.
60 minutes – In-depth Discussion of Topics
Precise meanings of each topic. What are the ends of the axes? Identifying unidirectional topics. Could any topics be combined? Is anything missing? (30 minutes)

Comments on the chosen axis of changes from Kaisa Schmidt-Thomé.

LUNCH

13.30 - 14.00 Jan Kaus, Author
Crafting the Narrative: How to Tell the Story?
14.00-15.00 Writing Future Narratives in Groups.
Greetings and reiteration of the 2 selected axes. Scenario outline shown on screen.
A form of open contemplation. Aim is to provide participants with impulse for writing personal future narratives.
Groups equipped with pencils, large and small papers. Writing can begin individually and then consensus can be reached within the group for a broader future perspective.

BREAK

15.15 - 16.30 Presentation of Future Narratives. Summary and Discussion on Potential Futures of Democracy and Public Space.
Group Presentations (4 groups). Each group has up to 10 minutes for presentation.)

By the end of the workshop, a selection of the most significant influencers for the focal theme of the EIA will be formed. An array of potential futures for Estonia’s public space and democracy will be established, serving as the foundation for creating final future scenarios.


Focus question: How will the relationship between democracy and public space change in Estonia by 2050?

What kind of major changes and decisions will affect democracy and public space the most?
During discussion, it is crucial to differentiate between importance and necessity of possible changes as well as consider the uncertainty or unpredictability of those changes. In the end a decision is made to choose most important and most uncertain changes, which will become the two-final scenario axis (see attached image). Every change must be two-directional.

Impact of technology:
Authentic experiences and places becoming a luxury – restrictions on travel + experience through AR and VR technologies
Communication between machines and with machines – luxury of talking to actual humans Acceleration of processes (innovation) – continuation and acceleration of technological revolutions

Quality of living environment:
Impact of climate change – temperature, clear air and water, growth of population, migration
Mental and physical urbanization
Relationship and attitudes towards centre and periphery

Economy:
Concentration of processes (and power)
Conflicts/(in)balance between local and global aspirations

Inequality:
Concentration of resources vs. balanced development

(Cultural) diversity:
Variations vs. compression of differences

Axis of good life:
Relevance of materialism
Relevance of creativity + human-machine relationship
Acceleration vs deceleration (slow lifestyles)

Axis of personal freedom:
Individual decisions vs. organisation of people’s lives

Redefining relationship between humans and nature

Relationships and decision making:
Do we value capacity of making decisions or the capacity of solving problems?
Efficient solutions vs co-creation
Trust- distrust

Creation of values – collective or individual?

Is public space increasing or decreasing – is it being transformed?
What kind of value is created in public space? Public value?

2.2 II future workshop of Estonian Human Development Report
2018/2019 scenario story development worksheet

Estonian Human Development Report 2018/2019 II Future Workshop
"From Small Ideas and Habits Emerges the Big Picture"

Narrative of the Future: Democracy and Public Space in Estonia in the Year 2050.

How to Be Separate Yet Together?

Task: Create a free-form (positive) narrative from the year 2050, considering two main transformative changes shaping the future world.
The protagonists of the future narrative are the members of each team. Through group discussions, an attempt is made to find a consensus in describing the future world in the context of two chosen directional changes. Each team member may have a distinct role in the story, based on their age, occupation, location, and contributions to the future. Personal stories depict the whole, or life in Estonia in the year 2050. The specific locations (major cities, small towns, villages in different parts of Estonia) where the story unfolds are at the authors’ discretion.

These questions can be used to craft the content of the future narrative:
• How have these changes shaped life in future Estonia, and how did this occur?
• What is the world surrounding Estonia like?
• How do you participate in this future narrative? What kind of life do you lead? How do you interact with people? Where do you engage with people? What contributions do you expect from others?

3. Participants of workshops:
Helen Sooväli-Sepping, Indrek Ibrus, Asko Lõhmus, Kadri Leetmaa, Epp Lankots, Triin Vihalemm, Andres Sevtšuk, Lily Song, Margit Keller, Kaja Peterson, Alar Kilp, Teele Pehk, Gerrit Mäesalu, Anni Müüripeal, Martin Noorkõiv, Mihkel Laan, Mihkel Kaevats, Toomas Tammis, Jan Kaus ja Kaisa Schmidt-Thomé!
Annex 3: Naissaar case additional materials

1. List of interviewees and their positions at the time of the interview (2019).

1. Viimsi Municipality: Development Manager Mailis Alt, Chief Specialist - Partnership Relations Manager Liia Lõpp, Head of Construction and Utilities Department Alar Mõk.
5. Rannarahva Museum Foundation: Jaanus Safaronski, Museum Director.
6. Entrepreneurs: Sunlines OÜ (Herkki and Ave Haldre); Naissaare Guesthouse (Eda Lindström); Naissaare Tourism and Recreation Center (Evelin Terk); Rauno Noormaa (10B Battery, Tours, and Adventure Tourism).

2. General framework for semi-structured interviews

1. In what way and how frequently are you engaged with activities/tasks related to Naissaar's development?
2. Can you share insights into your interactions and involvement with Naissaar's development efforts?
3. From your perspective, what are the most appealing aspects of Naissaar?
4. In your view, what makes Naissaar a conducive living environment?
5. What, in your opinion, represents the most significant challenge for Naissaar’s development?
6. What might Naissaar be like in ten years? How can this be achieved?
7. Could you identify critical infrastructure gaps on the island, such as roads, mainland connectivity, energy, and harbors?
8. Are there specific services you believe are lacking on Naissaar?
9. How would you evaluate the cooperative potential within the Naissaar community?
10. What areas of community collaboration would you prioritize for improvement, and how would you go about enhancing them?
11. Do you perceive the possibility of Naissaar hosting a larger number of permanent and seasonal residents?
12. From your observations, how has the tourism flow to Naissaar been evolving, and how might it be optimized?
13. Are there particular types of tourists that you think could be encouraged to visit Naissaar more frequently?
14. Based on your expertise, which aspects of the island’s tourism services could be refined?
15. Considering the growth in tourism, what concerns or challenges do you perceive as particularly troublesome?
16. In light of the island’s nature conservation, do you believe any revisions to the existing restrictions would be beneficial? If so, which restrictions might be relevant?

3. Online questionnaire (survey) questions:

1. My Role on Naissaar (selection)
2. How much of the year do you spend on Naissaar?
3. How often do you visit the mainland?
4. What do you like most about Naissaar?
5. Complete the sentence. Naissaar is a good living environment because...
6. In your opinion, what is the biggest drawback of Naissaar?
7. The most important missing infrastructure (roads, connection to the mainland, energy, harbors, etc.)
8. The most essential missing service?
9. How do you assess the community’s ability to collaborate on Naissaar?
10. What would you like to improve in community collaboration? How would you enhance it?
11. Could Naissaar have more permanent and seasonal residents?
12. How do you evaluate the number of tourists visiting Naissaar?
13. What type of tourists could visit Naissaar more?
14. What tourism services could be improved in your opinion?
15. What bothers you the most regarding tourism/tourists on Naissaar?
16. Should the nature conservation restrictions on Naissaar be changed?
17. If possible, specify which restrictions you were referring to in the previous question.
18. How can Naissaar’s nature be better protected?
19. The nature conservation area restrictions on Naissaar remain unchanged [Would you prefer that?]
20. The nature conservation area restrictions on Naissaar remain unchanged [How plausible is that?]
21. The number of tourists visiting Naissaar increases [Would you like that?]
22. The number of tourists visiting Naissaar increases [How plausible is that?]
23. More permanent residents come to Naissaar [Would you like that?]
24. More permanent residents come to Naissaar [How plausible is that?]
25. More seasonal residents come to Naissaar [Would you like that?]
26. More seasonal residents come to Naissaar [How plausible is that?]
27. Due to ongoing urbanization in Tallinn, the pressure for housing development intensifies on Naissaar [Would you like that?]
28. Due to ongoing urbanization in Tallinn, the pressure for housing development intensifies on Naissaar [How plausible is that?]
29. By 2030, Naissaar will have a permanent electricity and internet connection (based on renewable energy) [Would you like that?]
30. By 2030, Naissaar will have a permanent electricity and internet connection (based on renewable energy) [How plausible is that?]
31. By 2030, Naissaar will have year-round ferry connections [Would you like that?]
32. By 2030, Naissaar will have year-round ferry connections [How plausible is that?]
33. By 2030, Naissaar will have renovated railway connections [Would you like that?]
34. By 2030, Naissaar will have renovated railway connections [How plausible is that?]
35. By 2030, Naissaar will have renovated main roads connecting the villages [Would you like that?]
36. By 2030, Naissaar will have renovated main roads connecting the villages [How plausible is that?]
37. What will definitely have changed on Naissaar by 2029?
38. Complete the sentence: In 2030, Naissaar will be...

4. Naissaar Scenario workshop 11.05.2019 programme

Workshop for Permanent and Seasonal Residents of Naissaar Island and Local Entrepreneurs

The Naissaar Islanders’ Community NGO, in collaboration with Linnalabor, is in the process of developing a new development plan for Naissaar for the years 2020-2029. The development plan is a tool that enables the mapping of spatial
opportunities on the island and thereby guides – and sometimes initiates – investments in developments and services.

The workshop day is divided into three parts:

1. INSPIRATION
   Presentations by Linnalabor and an overview of questionnaire responses (Kristi Grišakov and Keiti Kljavin)
   Naissaar in comparison with other islands in Estonia and elsewhere.
   Naissaar's needs and possibilities. Axes of Naissaar's future scenarios.

2. INPUT
   Working in groups with future scenarios. Group work focal points on the back of the page.

3. SUMMARIES
   Discussion of the action plan for the preferred scenario.
   1. Please describe in a few sentences what the world of your group's future scenario looks like. What is Naissaar's future like in 2050? What is the island's (living) environment like, who are the inhabitants, how has island life changed, and why has it changed? 30 mins
      Each group presents the description of their world/scenario. Discussion. 20 mins
   2. Which future do you prefer and which do you avoid?
      • Arrange the possible scenarios in order. 10 mins
      • Ranking 10 mins
   3. Formulate in the larger group five steps to reach the preferred future (what to do or avoid to prevent unwanted development). The task is to outline the top 5 activities for an ideal future. Please sequence the action plan steps (consider a timeline of 2-3, 5, and 20 years). 20 mins
      A draft of the action plan is prepared. 20mins

5. Workshop participants
Annex 4: Shrinking patterns case additional materials

1. List of interviewees and their positions at the time of the interview (2020).

- Vadim Vilde - Development officer of Kohtla-Järve Municipality
- Anu Needo Development officer of Kiviõli Municipality
- Kristel Kütt - Real Estate manager or Kiviõli Municipality

2. General framework for semi-structured interviews

1. Please provide a brief overview of the municipality/city and your role within it.
2. Could you describe the demographics, socio-economic situation, general living conditions, and urban characteristics of the area?
3. Who are the inhabitants of municipality, and are there any distinctions between different settlement areas or districts within the municipality?
4. How would you characterise the local real estate market? (renting, consequences of privatization, etc.)
5. Where are the more vibrant areas located, and what factors contribute to their vitality?
6. What have been the trends in urban development until now and what factors have influenced them? (business and economic activities, emigration, aging). What have been the outcomes, such as service reductions?
7. What are the future projections? (potentially available in development plans, but perhaps you could provide your insights as well)
8. What might the municipality be like in ten years? How could the reorganization of the housing sector impact this? How can this be achieved?
9. What is the most evident manifestation of decline in your municipality, if any?
10. Have any urban development decisions led to the need for demolition? Have any buildings been demolished or abandoned?
Analysis of Living Environment and Housing
11. What aspects and questions related to housing and living environment are typically included in satisfaction surveys? What are the key indicators?
12. Is there separate data collection regarding living spaces (outside of census data)? How about accounting for renovation activities and communication?
13. What tools (provided by the government) are needed by the municipality to strategically enhance the quality of the living environment and housing? What data/resources are currently used, and what additional support is required? Have you heard about the PILOODI project focusing on vacant apartment buildings? Do you plan to engage with it?
14. What changes should the government make to better support the development and renovation of the living environment?
15. If addressing decline and depopulation:

Challenges Related to Decline and Emptying
16. What types of living spaces tend to remain unoccupied? (age, size, type)
17. What is the technical condition of partially vacant buildings?
18. When and how was it realized that systematic intervention was needed in reorganizing the housing sector? How was this approached?
19. What urban developments led to this realization? (Rephrased for clarity)
20. What has been the experience so far?

Actions Taken, if any
21. What was the initial action plan of the municipality?
22. How did the search for solutions commence?
23. What was the municipality’s capacity for implementing the solutions?
24. How effective were the interventions?

Expectations from the Municipality Regarding Addressing Decline
25. What type of support or assistance do you expect from the government?
26. Are there expectations from the private sector? (Public-Private Partnerships, for instance.)
"We are living in turbulent times!" In recent years, this claim has become almost ubiquitous; we hear it in the media, from politicians, and in our professional discussions. The future has always been uncertain, but uncertainty has become the defining feature of our current present (Bates et al., 2020). As a society, we feel the need to develop capabilities to deal with uncertainty, and consequently we search for existing tools that would allow us to orientate ourselves in alternative future environments.

This research is a methodological inquiry into using futures studies techniques in the context of strategic spatial planning, more specifically the approach of ‘scenario thinking’. In this research I explore the potential contribution of scenario thinking to knowledge and capabilities needed in strategic spatial planning. In order to identify opportunities for such a contribution, the dialogue between the disciplines of strategic spatial planning and scenario planning is explored, focusing specifically on the debates on knowledge needs. Particular attention is directed to understanding how knowledge is used, both generated and later validated, in scenario thinking and strategic spatial planning alike. The theoretical argument of the dissertation is further illustrated by four cases that encompass a total of six scenario projects.