



Moving deliberation online

How stakeholders express disagreements in physical and digital environmental governance meetings

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Moving deliberation online. How stakeholders express disagreements in physical and digital environmental governance meetings.

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Abstract

When stakeholders discuss environmental issues, they need to be able to express constructive disagreements. Meetings of environmental governance processes are increasingly held digitally, driven by technical and societal developments. While experimental studies have directly analysed the expression of disagreement in negotiations related to the meeting medium, the impacts on real-world processes have mostly been studied by measuring outcomes and perceptions. Therefore, this thesis explores how stakeholders express disagreements in digital and physical environmental governance meetings.

The material for this thesis consists of recordings from environmental governance meetings in Sweden and includes both digital and physical meetings. I use conversation analysis to identify differences in the naturally-occurring interactions selected from five meetings. I interpret these results, guided by theories about the expression of disagreement in environmental governance.

Differences between digital and physical meetings become visible in a range of speech phenomena: While participants manage to initiate disagreements regardless of the medium, turn coordination differs. For instance, unstable connections make it harder to coordinate turn-taking in digital meetings. By talking simultaneously, participants complement each other in physical interactions. In contrast, the same phenomenon could embody dominance in digital interactions. In addition to these observations, some features of videoconferencing restrict communication in general and particularly the voicing of disagreement. Videoconference software streamlines communication and reduces meta-comments and additional interventions, supported by strict moderation. While disagreements are expressed in both digital and face-to-face meetings, these differences may affect the quality of the deliberation.

Keywords: environmental governance, disagreement, deliberative theory, digital meetings, physical meetings, conversation analysis

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1. Introduction

[...] Och det är ju precis som någon skrev precis nu. Fysiska möten kan vara enklare att diskutera. Det kan ju va- vi vet ju att när vi lyfter på locket- då är att diskutera de här frågorna så finns det mycket att diskutera. [...]

[...] And it's just like someone wrote right now. Physical meetings can be easier for discussing. We know that when we open that box- it's that when discussing those questions there is much to discuss. [...]

(AO1)

At the end of a three-hour digital meeting, the dates and locations for the next meetings are set. The group convenes several times a year, sometimes in person, but more often digitally on Microsoft Teams. Physical meetings make engaging discussions easier than digital meetings, according to the quote. Thus, they try to schedule mostly information sessions for digital meetings. In this thesis, I explore what is behind this notion, by looking at how disagreements on environmental management are expressed in digital compared with physical meetings.

1.1 Background

This thesis investigates the expression of disagreements in digital and physical environmental governance meetings. Governance can be defined as the interplay of multiple state and non-state actors (Kooiman 1999). Similarly, Lemos and Agrawal (2006) define governance as a management system involving state actors, corporate actors, and civil society. Interactions between these different actors produce changes and decisions, instead of, for example, sweeping state interventions. In other words, change is a product of nudging a complex system in a certain direction. When faced with complex challenges such as environmental management, it can become beneficial to steer a system instead of managing each part by itself (Luhmann 1992; Kooiman 1999).

Governance can therefore deal with complex environmental problems. The public policy and planning researchers Innes and Booher (2016) describe environmental problems as wicked problems, where no straightforward or mutually beneficial solution exists. Typical examples of such wicked environmental problems include land-use and wildlife-management conflicts. Environmental governance means to manage these problems collaboratively.

Collaborative management was first approached by the so-called “deliberative turn.” In deliberative democracy theory, ideals about communication inform the practices for dialogues. Following this theory, practitioners establish ground rules and strive for consensus as a result (Innes & Booher 2003). Typically, they

emphasise mutual understanding and good interpersonal relations and try to discover win-win solutions to find a consensus on these.

Scholars have been critical of this initial version of deliberative democracy theory for several reasons. Mouffe (2000), known for her theory of agonistic pluralism, argues that any consensus must be based on exclusion. One should aim for a free deliberation that encourages the articulation of differences in a constructive, agonistic manner. This concept fundamentally differs from the idea of deliberative democracy. Nevertheless, these ideas sparked a discussion in deliberative democracy theory on how to adapt deliberative ideals to an imperfect world (Kühn 2021). Adding to this, Flyvbjerg and Richardson (2001) criticise the power blindness in deliberative democracy practice. They argue that strictly adhering to Habermas' deliberative ideals inevitably requires acts of power to balance power imbalances.

Certainly, agonistic and deliberative theories differ. But for this thesis, the contrast is no hindrance. As theory merely supplements my discussion and is not an analytical framework, I can present both theories without preferring one over the other. Theory becomes relevant where the results connect to agonistic or deliberative theory, and to motivate why I investigate the expression of disagreement as a marker of deliberative quality.

1.1.1 Constructive Conflict

Regardless of the democracy theory used, environmental governance needs to create spaces for actors with differing opinions to meet and discuss. This expression of disagreement requires mutual trust and a suitable process (Senecah 2024). Interestingly, environmental governance processes are often marked by an ideal of consensus, which might not be beneficial to the possible outcomes from an agonistic standpoint (Mouffe 2000). In other words, expression of disagreement is both an important part of environmental governance and might be suppressed during discussions in the name of consensus (Hallgren et al. 2023). This connection to deliberative quality alone makes disagreement an interesting phenomenon to study. In combination with the digitalisation of environmental governance, expression of disagreement may provide insight into how videoconferences impact deliberative environments, whether they can handle verbal communication similarly, and what the technical features add to or remove from the communicative situation.

The conversations in stakeholder meetings differ from everyday talk. Another expression for this could be “institutionalised discussion” since the fora created in such processes create a regulated and special interaction style (Lester & O'Reilly 2019). The meeting structure helps to produce results and make decisions while reducing tensions between participants that could lead to destructive spirals. Such meeting structures are formed by the democracy theories outlined above as well as

resources from facilitation practice, outlined in facilitation guides such as Westin et al. (2014) and Seeds for Change (2024). Models for “good” deliberation list access, civic standing, influence (Senecah 2024), equality between participants, collective learning, fairness in participation, and constructive conflict (Reed 2008; Westin et al. 2014). The meeting facilitator faces challenges in realising these. This role involves reflexivity and a tight walk between interventions and letting the participants run the process (Connelly & Richardson 2004; Moore 2012).

In the theories and in practice, disagreement is a recurrent theme. Only some early approaches to deliberative democracy focused on consensus and restricting tensions. Instead, both the deliberative and agonistic theories acknowledge the importance of constructive conflict just as deliberative practice does (Mouffe 2000; Bäcklund & Mäntysalo 2010; Bond 2011; Innes & Booher 2016; Kühn 2021). Allowing constructive conflict means allowing the expression of disagreements. Participants have the permission of arguing against what the other just said. Constructive conflict also connects to civic standing (that one’s input is included in the outcomes) (Senecah 2024). It requires common issues at stake and trusting that other participants share the same interest in exploring the differences constructively (Innes & Booher 2016). Through this, constructive conflict becomes a communicative phenomenon that crystallises in the form of (constructive) disagreements (Connelly & Richardson 2004). Essentially, constructive disagreement plays a central role in deliberations and its expression becomes an interesting phenomenon to study.

1.1.2 Physical and Digital Meetings

When the Covid-19 pandemic hit, all levels of society moved their communication to digital spaces. As witnesses of a dramatic shift, researchers predicted a lasting impact on all aspects of life (for example Soto-Acosta 2020). Indeed, some actors favour digital meetings and intend to continue with this practice (Baron 2023; Boström 2023). However, such remote environments have lost ground in the years since. Large companies have called their employees to come back to the office (Hsu 2023). Furthermore, universities and schools have shifted their teaching practices back to physical settings. While they often motivate their decisions by a desire for a “back to normal,” the body of research has also grown. Different disciplines started investigating the impacts of video calling on communication. This field of study consists of experiments about different phenomena within interactions and their effects, as well as overall surveys on real-life processes (e.g. Zhao et al. 2023; Javalagi et al. 2024; Mualam et al. 2024).

While communication is more than just talk, I centre my research on verbal real-time communication. The terminology for my research sites is ambiguous. Thus, when I write about digital interactions, the relevant research fields might use different terms. In the literature, they are also known as online, virtual, or remote

meetings; as video calling, videoconferencing, or computer-mediated communication; or by mentioning the names of popular clients such as BigBlueButton, Microsoft Teams, or Zoom. I compare digital meetings with physical meetings, which are also defined with many different terms. A non-exhaustive list includes in-person, face-to-face, on-site, offline, and in-real-life communication. Unfortunately, many of these terms are quite general, which is a challenge for developing a comprehensive literature review. In this thesis, I use primarily “digital” and “physical” to label these two concepts.

Experiments measuring medical, cognitive, and psychological parameters have identified differences between physical and digital settings (Shin et al. 2017; Zhao et al. 2023; Macchi & De Pisapia 2024). But the studies treat these parameters differently: Shin et al. (2017) suggest harmony in digital conflicts to be beneficial to the results. On the contrary, Macchi and De Pisapia (2024) state a better performance of face-to-face meetings.

Moreover, higher-level phenomena such as creativity, problem-solving and negotiations are the subjects of other qualitative and quantitative studies. Based on a laboratory study and a field experiment, Brucks and Levav (2022) conclude that digital settings are less creative than physical work environments. Similarly, Javalagi et al. (2024) state that participants in digital meetings are less likely to solve problems, based on group experiments on problem-solving that involved decision-making in a study spanning several years, including pre-pandemic time. Based on interviews on remote work, Houtti et al. (2023) criticise the bias created by the user interface that privileges the moderators and higher-ranked participants to undermine trust and equality in workspace meetings. They point out the arrangement of video tiles, the ignorance of the text chat, recordings, and an underutilisation of raised hands as factors that produce those dynamics.

Some experiments come to more positive conclusions on digital meetings. For instance, Sondern and Hertel (2023) do not find differences for negotiator trust in a quantitative experiment simulating employment negotiations. Also, an early study on online deliberation found no bigger differences when comparing videoconferences to an earlier face-to-face deliberation on the same issue (Strandberg & Grönlund 2012). Notably, the study experienced severe technical challenges from the limits in the technical equipment and server outages that reduced the scale of the conducted activity, which the authors did not problematise.

The Covid-19 pandemic provided an opportunity for researchers to investigate the impact of digital meetings on authentic deliberations. For instance, Baron (2023) studied a series of dialogues on mobility policy conducted in France in 2019-2020. While the dialogues used physical meetings initially, the pandemic restrictions moved the process to digital meetings. Interested in these changes, the researcher interviewed the meeting facilitators about their views of the process and visited the public meetings. The facilitation design had changed substantially when

introducing digital meetings. Specifically, the facilitators extended the informative parts and cut down the discussion. Interestingly, they evaluated this change positively, although it clearly restricted the deliberative potentials of the meetings. Another study conducted in Israel found digital meetings to have deficits in the interactions and relationship building, but these changes do not seem as big as in the French study (Mualam et al. 2024). In their study, they investigated planning boards during the pandemic and asked 182 individuals about their perceptions of the processes. In their assessment, the authors highlight the notion of digital processes as effective and functional.

The presented research on physical and digital interaction mostly covers investigations connected to the Covid-19 pandemic. On the one hand, experimental setups have investigated interactional phenomena connected to the expression of disagreement, by examining individual parameters (e.g. psychological aspects), problem-solving, and negotiations. However, simulated interactions might differ from situations where real-life issues are at stake. Yet, the studies connected to naturally-occurring interactions focused on the perceptions of the participants in governance processes and not on the details of their interactions. Certainly, this helps to form a general understanding of the differences and similarities between digital and physical meetings, specifically connected to the special conditions during the pandemic. But neither the experimental studies nor the survey studies discuss how interactions may differ between physical and digital real-life interactions. Specifically, these methods fall short of discussing the expression of disagreement in environmental governance processes.

1.2 Thesis Statement

This thesis features an observational study of how people in digital and physical meetings express and manage disagreement. Three environmental governance processes in Sweden serve as my case, as they use digital and physical meetings. Thereby, I intend to shed light on how the medium of meetings influences the ability to manage conflicts constructively, as ideals about participatory processes suggest.

The following main research question explores the research problem:

- What do digital meetings mean to how stakeholders can express their disagreements about environmental management issues, compared to physical meetings?

Arguing that constructive disagreement is a central and desirable element of stakeholder dialogues, I specify the research question with the help of two sub-questions:

- How do stakeholders interactively express disagreements in physical and digital environmental governance meetings?

- What do the differences and similarities between these meeting media mean for their ability to have constructive disagreements and deliberate complex environmental questions?

This qualitative study cannot provide a general guideline on whether to avoid or to embrace digital meetings. Looking at one specific phenomenon – disagreement – and a specific material context – short extracts from recordings of environmental governance meetings in Sweden – can only contribute to a limited extent. For general guidance on whether environmental governance should use digital meetings, other factors would also play a role. For example, digital meetings can help with avoiding travel, which is important in countries like Sweden where distances can be large. Apart from the comfort and time savings, this can be a measure against the intensifying climate crisis (Tao et al. 2021). However, this thesis does not aim to paint an overall picture of the losses and benefits of digital versus physical meetings but focuses on the key aspect of interactions.

Conversation analysis is a suitable method for studying the interactive expression of disagreement. As an inductive discipline, conversation analysis is powerful for detecting fine and subtle differences in human interactions. In this thesis, the description of interactions becomes more meaningful together with a theoretical interpretation. This way, the theories about environmental governance can connect the results to practices within this field. Therefore, I have started this thesis by outlining theories about environmental governance and research on videoconferencing. In Chapter 2, I describe my approach to the research problem, including an outline of conversation analysis and my material. As I cannot attach the recordings themselves due to anonymisation, I describe the material and my method in detail to ensure transparency and accountability in my research process. Appendix B supplements this description by providing the structure of the transcripts along with illustrations of the video recordings. Naturally, a large part of this thesis is the presentation and analysis of the material in Chapter 3, followed by a discussion of what this means for deliberating environmental problems in digital environments in Chapter 4.

2. The Research Process

Conversation analysis is an inductive research method. In this chapter, I present my research process. As the researcher is the main instrument in such studies, I start by describing my personal relation to the research problem and the material. Next, I present the characteristics of the recordings of governance meetings that fed my analysis, followed by a more theoretical description of the ideas and methods of conversation analysis. Making sense of this method is the focus of a section on the practicalities of transcribing and analysis. I started my analysis without larger theoretical considerations as conversation analysis implies (Hutchby & Wooffitt 1998). However, I also intended to connect the differences to how they affect the ability to express disagreement. Therefore, I needed to anchor the findings within the theoretical frame of environmental governance. Therefore, the last section of this chapter outlines how I approached connecting and situating the findings.

2.1 A Critical Distance

Qualitative methods produce a close connection between the researcher and the research. Therefore, reflexivity becomes a criterion for quality (Robson 2009). Here, this discussion acknowledges my personal biases and views. Furthermore, it scrutinises my (physical) access to the research subject and the connections feeding the interpretation. Hence, I discuss my connection to the topic and the material to shed light on these questions.

First, I should speak of one bias I indeed have. My personal view of digital meetings is shaped by remote education as a Covid-19 prevention measure. However, video calls also allow me to stay in touch with my family while living abroad. That way, they have become a tiring but necessary detail of my personal life, shaping both my interests and my ideas about comparing digital and physical interactions. This connection motivated me in my research process. Yet, this thesis did not become a story of praise or disgust on digital meetings but I found effective ways of harnessing my feelings. This entails using conversation analysis, which leaves the interpretation of the communicative situations to the participants (e.g. Hutchby & Wooffitt 1998), and applying the theories about environmental governance and disagreement as my larger interpretative frame (e.g. Mouffe 2000; Innes & Booher 2016).

Second, the analysis required me to reflect on what counts as a disagreement. A Swedish sense of harmony tends to downplay disagreement as a difference of perception or understanding (Salö et al. 2022). However, these different phrasings seem to describe the same phenomenon. In addition, expressing disagreement overlaps with other speech phenomena, such as humour, other-correction, and persuasion (Osvaldsson 2004; Kangasharju 2009; Sidnell 2010; Humă et al. 2020).

Third, I have not attended any of the meetings that form my material. It makes it harder for me to understand what the meetings were discussing in the first place, which dynamics took place, or what atmosphere influenced the interactions. But it also reduces the preconceptions and biases I might develop from a more personal connection with the participants. While I was responsible for carrying out the research process from understanding the material, selecting interesting episodes of interaction, Jeffersonian transcription, to analysis and interpretation, I stayed in close contact with the researchers who attended the meetings. This way, I could double-check my insights and account for potential misunderstandings due to not having been there. This also builds a connection to the people in the room, reducing the risk of seeing them just as my material. Hence, I am grateful to the participants for granting researchers access to their discussions.

2.2 Digital and Physical Environmental Governance Meetings

My data consists of video recordings of digital and physical interactions from two Swedish natural resource management processes about forestry and moose management, collected by a research project (SLU 2025). These have taken place in 2024-25, after the influence of the Covid-19 pandemic.

This research project has been approved by the ethical review authority. The researchers then sought contact with potential meeting chairs and participants to inform them and ask for consent. This process also allowed every individual to withdraw their consent from the data collection. The consents were documented in written form (on paper or via email). While I have not participated in the data collection, the other researchers in this project on trust have attended and recorded more than 20 meetings within different environmental governance processes.

From this bulk of material, I selected processes that contained both digital and physical meetings of similar character to allow for comparison. As a result, my analysis covers about seven hours of video recordings from three Microsoft Teams meetings and about seven and a half hours from two face-to-face meetings. The meeting characteristics varied but stayed within a general institutional frame.

The sensitivity of this context makes the anonymity of the participants and organisation a significant concern. Therefore, I cannot provide names, places, and agendas. All names, organisations, places, and some details discussed in the meetings are therefore anonymised or excluded. Below, I provide general information to help my reader understand the context of the material. In addition, Appendix B provides further details of the analysed transcripts, including representative sketches of moments in the video recordings.

2.2.1 “Forestry”

This is a long-running participatory process. Representatives from the public sector, corporate actors, and civil society representatives meet to discuss difficult forestry-related questions. Most of their meetings take place digitally. I selected two digital meetings and one physical meeting in an indoor venue. The meetings are dominated by presentations followed by an interactive discussion in the form of “questions and answers.” The face-to-face meeting also contains a small-group discussion.

2.2.2 Moose Management

In moose management meetings, three representatives from forest owners and landowners and three representatives from hunting and wildlife management meet. Together, they create a proposal for the next year’s moose hunting (Johansson et al. 2020). The discussion is based on statistics on population and damage to young pine plantations. In general terms, hunters want a larger population for more interesting hunting, while the forestry representatives want to reduce the population size to limit damage to their plantations. They are supposed to present and discuss their management decision at a larger stakeholder meeting.

Here, I selected two recordings of two distinct groups: A group that convened physically, and one that met digitally on Microsoft Teams. The digital group had also used physical meetings before. While their concrete group dynamics differ, the meetings follow the same pattern of inspecting the statistics and discussing their implications in preparation for the stakeholder meeting.

2.3 Conversation Analysis

Conversation analysis (CA) is an inductive method that investigates naturally-occurring talk (Sidnell 2010). CA identifies the norms, patterns, and experiences of human interaction. Conversation analysts usually refrain from introducing higher-level interpretations of intentions behind specific speech actions and try to keep a close connection to their data.

Key tenets of CA are (Schegloff 1990; Hutchby & Wooffitt 1998; Sidnell 2010; Sidnell & Stivers 2014):

- Talk is organised in turns and sequences.
- A turn is an utterance by a single speaker that they consider complete by giving signals of a turn completion at the end, called transition relevance place (often the completion of a sentence without continuing with further talk).
- A sequence is a chunk of turns that corresponds to a minimal or expanded adjacency pair. An adjacency pair denotes two turns that are supposed to follow each other, such as an answer following a question. Preparations,

post-expansions, and insertions often expand adjacency pairs into a larger structure.

- Researchers work closely with audio or video recordings and produce transcripts that should present everything that can be heard¹ in the recording (and seen, if there is a video recording).
- CA leaves the interpretation of utterances to those producing them. This means that the turns following an utterance will clarify whether the participants interpreted it. For example, if a participant responds to an utterance, then they treat this utterance as a question.

A detailed transcription and close relationship to recordings play a vital role in CA. Some scholars, however, have criticised this mindset, citing imperfections of the recordings and the Jeffersonian transcription system (Ashmore et al. 2004; Walker 2012; Sidnell & Stivers 2014; Ayaß 2015). Certainly, access through voice and video recordings can only capture parts of the interactions in the room. And participants might restrict their behaviour when recording equipment is in the room. Yet, recordings allow analysts to study interactions many times and from different perspectives, in a way that taking notes in a meeting cannot offer. Therefore, I can build a strong connection to the material. Not having attended the meetings myself is less challenging than with other methods. CA is a powerful method for studying interactions, even though it sets high demands for the researcher's analytic skills, specifically regarding observation. In other words, the method forces the researcher to scrutinise their data and pay attention to details.

A critical reader might want to point out other ways to compare physical and digital governance meetings. Indeed, there are examples of studies that approached this comparison differently (Baron 2023; Mualam et al. 2024). For example, I could simply ask participants about their impressions after they have met to discuss an issue. This would allow me to explore their ideas and opinions about meeting digitally or physically. Other studies have used experiments for comparing simulated negotiations (Strandberg & Grönlund 2012; Shin et al. 2017; Sondern & Hertel 2023).

While experiments and surveys can describe aspects of communication and interaction, they cannot answer how participants act in real-life meetings, and what this means for their ability to negotiate complex natural resource management issues. For this, I need to employ a method that does not rely the reflections and interpretations of the participants. CA allows me to investigate the hidden norms of

¹ I am intentionally using the passive form here. While CA acknowledges the position of the analyst, there is an ideal of extracting whatever influences the conversation participants in their actions, which is potentially everything that any one of them can hear and otherwise notice. However, this means that CA is not using some technical instruments that, for example, phonetic analysis employs, since this might identify phenomena that cannot influence an interaction (Sidnell & Stivers 2014).

authentic interactions. And this rigorous method exposes the interactional details observers usually take for granted (Have 1990).

2.3.1 Disagreement in Conversation Analysis

CA methods are useful for studying the expression of disagreement as this is an interactive process. To clarify what I mean by the interactive process of expressing disagreement: This is the speech action of a speaker presenting an opposing view to a preceding turn. Following Kangasharju's study of dispute (2009), such sequences might be marked by accelerated speed, raised volume, animated voice, overlaps and interruptions, repetitions and ignorance, outright denial, swearing, accusations, and short, scornful laughter. Whereas my material does not include clear disputes like those Kangasharju analysed, these markers can still help to identify disagreements.

As a conversational norm, agreement is preferred over disagreement in ordinary conversations (Pomerantz 1984; Sacks 1987; Sidnell & Stivers 2014). Compared to agreement, disagreement comes weak and delayed. That means that interlocutors play down their disagreement. For example, they might express their disagreement as "Yes, but that's not really true" (AF1-3) instead of in an outright negation like "No, you're wrong!" In connection to this, disagreement is often treated as an act of impoliteness (Concannon et al. 2015). Notably, the consensus-oriented Swedish society is said to avoid explicit disagreement (Hallgren et al. 2018; 2026; Salö et al. 2022).

Disagreement overlaps with other speech phenomena. It relates to repair, rudeness, and teasing (Haakana & Kurhila 2009); persuasion (Humă et al. 2020); and even humour (Osvaldsson 2004). Specifically, correcting others² can cause trouble (Sidnell 2010).

While expressing disagreement is socially difficult and participants often try to avoid it, disagreements may also build robust social relations. Sifianou (2012), for instance, observes that disagreement can indicate intimacy and improve the relationship between the opponents. In particular, Sifianou (2012:1555) highlights the importance of relationship history, that a "current interaction may also draw on previous exchanges". Disagreement "can be a sign of intimacy and sociability and may not destroy but rather strengthen interlocutors' relationships" in Sifianou's (2012) words. Likewise, disagreement could play a productive role in problem solving and deliberation (Chiu 2008; Healey 2008).

2.4 Practicalities of Transcribing and Analysing

The 20-week time frame for this master's thesis required adjustments to the depth of analysis. When it comes to identifying interesting phenomena, conversation

² CA calls this phenomenon "other-correction".

analysts suggest the strategy of “unmotivated looking” (Lester & O’Reilly 2019). With more than 14 hours of material, some with multiple video streams, this was not feasible for my thesis project. To make the process of identifying interesting phenomena less daunting, I screened the full recordings for episodes of tensions and potential disagreements and worked with these candidates.

This involved transcribing the episodes with the Jeffersonian transcription system (Sidnell 2010), following slightly adapted conventions as listed in Appendix A, Table A1. The same appendix includes a short introduction on how to read Jeffersonian transcripts. Building these extremely detailed transcripts is central to conversation analysis (Hutchby & Wooffitt 1998). Thereby, I started to grasp what the interlocutors do and how their actions build on one another.

The process of revisiting the recordings and transcribing is an essential part of CA. The method proposes that through this activity, insights into phenomena in the material will arise (Hutchby & Wooffitt 1998). Often, I made observations and tried to locate similar phenomena in my remaining material. This comparison connects to my problem formulation and has produced the insights presented in the analysis chapter of this thesis.

An essential step was also to prepare the material for presentation. While I had used pseudonyms for the participants from the start, I also anonymised terms that would make it easier to identify the specific meetings. This would have negative ethical implications when using material under the condition of granting anonymity to the participants (Rhoads 2020). Furthermore, the preparation included a translation from Swedish to English (Hepburn & Bolden 2017). While this interpretative process was necessary for presentation in this thesis, it gave me more time to reflect on my understanding of the utterances. Checking on this was also reassuring since I am not a native Swedish speaker. In terms of practicalities, the transcripts printed in the analysis chapter include a first line in Swedish, followed by a second line with a so-called morpheme translation (“word-by-word”) representing the locations of overlaps and pitch changes. To a limited extent, I have added symbols and comments about phenomena that lack an equivalent in English, summarised in Appendix A, Table A2. A third line translates the Swedish utterances to standard English. However, I omit translations where they would not add any value to understanding the phenomena (such as for laughter).

2.5 Contextualising the Results

The work of this thesis does not stop at describing speech phenomena. A description alone could not establish the comparison between digital and physical meetings that I intended to produce. Therefore, I interpreted the analytical results in terms of what they might mean for the ability to have constructive disagreements and deliberate complex environmental questions. To be clear, this does not aim to draw general conclusions far beyond the limitations of this analysis! Instead, I attempted to

identify where observations connect to theoretical arguments on disagreement. In this section, I outline my procedures to connect observations to interpretations and describe how I present this connection in Chapter 3.

My interpretative journey started with notes and reflections during the transcription process. In the next step, I collected and systematised these, which formed a basis for selecting the phenomena relevant to comparing the expression of disagreement in digital and physical environmental governance meetings. To be clear, this means that I excluded observations that I assumed would not contribute further to the interpretative process. While this is an economic decision in the first place, I documented the basis of my decisions systematically and used a reflective field diary to account for my personal biases in this process. In the final step, I developed my interpretation further for the selected phenomena to present them in this text.

The presentation of results centres CA. This also means that my interpretation stays separated from this method, and does not imply assigning intentions to the participants or speculating about the meanings in their words. Instead, I describe what the CA results could mean for the ability to express disagreements in digital and physical meetings and what this implies for environmental governance.

3. Disagreements in Digital and Physical Meetings

This chapter presents my analysis and interpretation of the material. I contrast similarities and differences between the settings. Grounded in transcripts of the material, I present speech and interaction phenomena to highlight where they differ and where they are similar across digital and physical environmental governance meetings.

First, I present how participants introduce disagreements, outlining actions that precede the expression of disagreement, as well as playful attempts at dealing with differences. Second, I zoom in and examine the turn-taking behaviour, highlighting the importance of timing. Therefore, I analyse how a weak internet connection challenges the turn-taking coordination. Furthermore, simultaneous talk fulfils multiple functions in expressing disagreements. Third, I examine restrictions imposed by the interplay of institutional talk and digital meetings. This includes meta commentary, moderation, and the limited role text chat and the reactions bar play in the interactions.

3.1 Introducing Disagreements

Participants start disagreements regardless of the meeting medium. However, the medium requires them to adapt their tactics. While most disagreements, especially in digital meetings, take formal, bureaucratic form as discussed in the first part of this section, humour can enable creative pathways to confront opponents.

3.1.1 Directly Before Disagreements

Entering and voicing disagreements requires active efforts by the participants. They need to step out of the consensus frame of the meetings stemming from societal and facilitative expectations as well as the meeting structure (Innes & Booher 2003; Salö et al. 2022). Predominantly, the material for this thesis consists of shorter and longer presentations, interrogatory phases, and less-regulated group discussions. In this institutional setting, participants employ specific techniques to voice misalignment and disagreement. In addition, the presence of an active moderator – explicitly assigned or de facto through role assignments and personalities – complicates nonconforming actions related to disagreement.

Regular Institutional Opening

In most of the analysed disagreements, participants ask questions combined with longer explanations of the context. Longer rounds of questions usually follow the presentations in the digital meetings of the “forestry” process. In one of these digital

discussion rounds, the moderator has selected Selma. She asks two questions embedded in an extensive elaboration on their context, before ending her speech explicitly (line 57). Selma expands her context even further by referring to her earlier chat question (line 5), providing a substantial base for the discussion:

- 4 SE: ja (.) ä: (.) nämen ja tänkte på den här frågan ja
yes (.) uh: (.) PRT i thought on that here question-DEF i
Yes. Oh, I thought about that question I've
- 5 hade i chatten då.=som jag förstår de så: har
had in chat-DEF.=as i understand it so: has
had in the chat. As I understand it,
- 6 man inte gjort {den här miljö- miljöbedömningen}
one not done {that here enviro- environmentalassessment-DEF}
no {environmental assessment} has been conducted
- 7 för: (.) nationellt [fridlysta arter;]
for: (.) nationally [protected species;
for nationally protected species.
- 8 KE: [(noise))
- 9 (.)
- 10 SI: ((nods))
- 11 SE: äm: (.) ja hade för mig de var planen från:
uhm: (.) i had for me it was plan-DEF from:
I think I remember that this was the plan from
- 12 bö:rj↑an (.)
sta:rt↑-DEF (.)
the start (...)
- ... ((42 lines omitted))
- 55 SE: ... asså vid gallring å andra
... FIL in thinning and other
... I mean in thinning and other
- 56 skogsbruks:åtgärder (.) i utbildning å
forestry:measures (.) in education and
forestry measures in education etc.
- 57 liknande. (.) ↑tack:.
similar. (.) ↑thanks:.
Thanks!
- 58 (.)
- 59 SE: ((mutes, then moves around on the chair))
- 60 KE: m↑:
- (AO2-1)

Selma produces a long monologue, which is typical in this institutional setting (cf. Lester & O'Reilly 2019). Such monologues occur both in digital and physical meetings. They result from the meeting facilitation, which follows a similar style across the material. They might be beneficial to deliberations by highlighting and creating shared knowledge (Innes & Booher 2016). However, some small groups in physical meetings break out of this scheme for longer discussions. Their interactions do not prefer monologues any longer, but quicker turn-taking from the start.

Face-to-Face Variability

In the digital and some face-to-face sequences, the disagreements follow long, monologic questions or comments that provide the context. Based on this context, verbal disagreements unfold. But in some face-to-face sequences, this “context” becomes embedded in interaction. There, the act that precedes the expression of disagreement can be as minimal as a single provocative statement or a one-sentence question. This could lower the threshold for critical remarks and disagreement.

The following example illustrates what minimal context can mean. The physical meeting on moose management has a tense atmosphere, and utterances are often short. The meeting chairperson, Anna, stands at the screen and discusses the statistics shown there. After a lapse (line 6), Anna proposes a management solution. This provides the basis for a disagreement that I have not discussed here, but a general description of the interaction can be found in Appendix B.

- 2 A: ((points on the screen))
 3 A: då komme- då kommer den ö:ka. hade vi tre komma åtta,
then com- then come it ri:se. had we three comma eight,
Then it'll rise. If we would have 3.8,
 4 (.) så minskar den.
(.) then falls it.
then it would fall.
 5 B: m
 → 6 (1.9s)
 7 B: just de [var fyrti-
just it [was forty-
Oh, that was forty-
 8 A: [ja ↑har ett försl↓ag. (1.6s)
[i ↑have a propo↓sal. (1.6s)
I have a proposal.
 9 att vi lägger den (0.5s) så att den är li:ka,
that we place it (0.5s) so that it is e:qual,
That we place it similarly,
 10 men planar ut,

but even(s) out,

but even(s) out.

(BF1-1)

After Anna has responded to a question, encouraged by Birgitta's continuer (line 5), she directly proposes what becomes the focal point of the following discussion. Compared to the sequence presented as the "regular opening," this takes significantly less time, as visible by the lower number of lines. However, this does not lead to more disagreements. But it might limit the details and nuances covered by the extensive contexts in the long questions.

3.1.2 Humour

Many disagreements stay within a formal, bureaucratic frame. But sometimes, participants play when presenting challenging assertions. While their points could be problematic when uttered in plain language, humorous framing might reduce the tension and potential face threats. Amusements follow some of the more challenging disagreements, in several physical interactions and in one digital interaction.

Face-to-Face Humour

Power moves are a potential trouble source that humour can absorb. In a breakout group of the "forestry" process, the notetaker, David, interrupts a discussion that is covered in greater detail in Section 3.2.

Anders and Christina had expressed a disagreement about a tool. David had left the table during this discussion. When he returns, he interrupts the discussion by introducing a new topic – when to take a break. Initially, the three participants sitting at the table – Anders, Bo, and Christina – continue with their discussion, but David tries again to change the topic. In line 79, David knocks on the table with a pen, associated with a meeting chairperson's behaviour.

Having been interrupted by David, Anders criticises this behaviour playfully. He modulates his voice, taking out the sharpness. When Christina starts adding to this, Anders comments again (line 94), something that results in laughter. While it is clear from the recording that most participants laugh, attributing utterances to speakers is difficult, as some participants are hidden behind others in the arrangement of the recording equipment.

78 D: nu har vi::: nu är klockan två,
no have we::: now is clock-DEF two,
Now it's 2 pm.

79 ((knocks with the pen on the table))

... (6 lines of David's and Christina's talk omitted)

86 D: =å vi:: skulle fika där[emellan.=
 =and we:: should fika in[between.=
 ... and we're supposed to take a coffee break (Fika) in between.

87 C: [a.
 [yeah.

88 =a[:
 =y[eah:

89 A: [<n↑u tar du ro↓llen [av bå↑de ord[förande och=
 [<n↑ow take you ro↓le-DEF [of bo↑th word[Leader and=
 Now you take the role of both chairperson and

90 D: [((ruffles the paper))

91 A: [((gesticulates))

92 =sekret↑er[are>
 =secret↑ar[y>
 meeting secretary.

93 C: [A↓: [(NU ÄR) ()
 [YEAH↓: [(NOW IS/ARE) ()

94 A: [nu kanske att
 [now maybe that
 Maybe

95 dom inte (kl↑ur[ar) dig också.
 they not (p↑ond[er) you too.
 (Not sure what Anders intends to say here but the others comprehend the joke
 as seen by the following lines of laughing.)

96 B: [EH EH EH EH

97 C: [jo::a::e

98 B: [((leaning back and turning towards D))

99 D: HAH [HAH HAH hah joj ja lärh mig att de-
 i Learnh me that this-

100 A: [ha ha ha ha ha ha hah hah hah hah

101 [hah hah

102 D: [HAH HAH HAH HO AH [AH

(AF1-5)

After a disagreement with Christina and David disrupting the treatment of this disagreement, Anders criticises David but clears the ground by using humour. This releases the tension that has built up in the sequence. Humour restores or improves relations that might suffer from otherwise direct and assessing talk. Notably, all four participants of this breakout group contribute to the amusement, which expands beyond the presented lines. While Anders has challenged both Christina and David, the mode of talk move beyond the challenging situation (c.f. Osvaldsson 2004).

Digital Humour

Humour also appears in digital meetings, but with limited impact. An example of this occurs at the end of a digital meeting on moose management. After the participants have collaboratively created a proposal for hunting goals in the next season, the chairperson, Alfons, asks whether there were any open discussions. Fritz uses this opportunity to propose an alternative to the meeting outcome. Alfons and Sylvia reject this proposal strongly, but Arnold welcomes it. After a few technical arguments, Alfons restricts the discussion to wrap up the meeting.

As these moves have effectively rejected the proposal, Fritz comments on why he has raised the topic in the first place (line 148). He packs this playfully and giggles (line 153). Some other participants start smiling behind their cameras, including the two researchers observing the meeting (lines 157, 160).

- 145 FR: å[: ja.
a[:nd yes.
- 146 AL: [s:-
[(:-:
- 147 AL: .h[hhhhhhh
- 148 FR: [a du ställde frågan om de var nån som hade
[yeah you put question-DEF if it was someone who had
You asked the question whether someone had
- 149 nånting som man skulle [t i]tta ()
something that one should [l o]ok ()
something to look at,
- 150 AL: [a :]i
[yeah:]i
- 151 (.)
- 152 FR: å därför sa ja de.
and therefore said i it.
and therefore, I said that.
- 153 °hehehe[he°
- 154 AL: [des- de är helt rätt.
[(:- it is completely right.
That's completely right.
- 155 (.)
- 156 AL: de är därför=
it is therefore=
That's why
- 157 ((both researchers start smiling))
- 157 AL: =du sitter där.
=you sit there.
you're sitting here.

158 FR: mhmhm
159 (0.2s)
160 SY: ((smiles))
161 AL: .hh va bra ((...))
 .hh what good ((...))
 Okay, ...
(BO1-2)

While Fritz complains about the facilitation style, he manages to contain the problematic implications of doing so by presenting it as a joke. This reduces the face threat, similarly to the comment in the physical meeting. However, the result here is not collective laughter but merely smiles. While Fritz's joke might not be as funny as the physical example, its potential to create collective laughter was limited from the start. Most participants remained muted, and their laughter would not have been audible. While humour helps to treat conflicts constructively regardless of the medium, its effects are limited by the technical constraints and etiquette of digital meetings.

3.2 Turn-Taking

Conversation analysis is the best method to analyse turn-taking. An interesting question is how participants manage to realise the “one speaker at a time” rule. When they reach a transition relevance place, a location where turn-taking is normal, there are three options to continue (Sidnell & Stivers 2014): Either the next speaker self-selects, is selected by the previous speaker, or the previous speaker continues with the next turn. Deviating from the norms of natural conversation, speakers might also interrupt the current speaker outside of transition relevance places. In institutional talk, moderators can play a special role in turn-taking by selecting the next speaker after the previous speaker has finished. In this section, I discuss coordination issues created by a weak internet connection and the different meanings of simultaneous talk in expressing disagreements in digital and physical meetings.

3.2.1 Network Bandwidth Affects Turn Coordination

A weak network connection is more than an annoyance. When the network link becomes unstable or the bandwidth is generally low, this disturbs turn-taking, where timing is especially relevant. To illustrate this, the following subsections juxtapose two sequences with otherwise similar characteristics like the number of speakers, duration, intensity of disagreement, even turn patterns and the behaviour of other participants.

Digital Coordination Issues

This sequence from a digital meeting belongs to a discussion of forestry practices. Two participants engage verbally: Fritz, with his camera turned off and occasional glitches in voice quality, and Sylvia, with a more stable connection and a camera image. Fritz presents a theory of how the practices have changed in the last twenty years, with Sylvia disagreeing with some of Fritz's assessments. While the missing camera makes this sequence stand out compared to other digital sequences, these delay characteristics also penetrate other digital meetings.

Throughout this sequence, the turn-taking sticks out. When Sylvia attempts to comment on Fritz and disagree, she needs to make four attempts to stop Fritz, even though his turns contain a transition relevance place. The cut-off in line 38, however, indicates that Fritz is becoming aware of Sylvia's attempts:

35 S: ((tilts the head))
36 F: =till[ba- a:ks].
 = ba[:- a:ck].
37 S: [h h h]
→ 38 F: så är [de ju de-
 so is [it PRT it-
 so it's of course that
39 S: [men {fritz}].
 [but {fritz}].
 But {Fritz}.
40 (.)
41 F: f[eɪ ()
 w[rɔŋg ()
 wrong ...
(BO1-1)

There seems to be a smooth transition from Sylvia to Fritz. But the non-existent gap is suspicious, especially as Fritz re-states a word in line 46. What my recording presents is probably not what Fritz observes. Instead of waiting for the end of Sylvia's turn, Fritz resumes in line 46, resulting in his self-correction to make himself understood. In his version of the meeting, he might already start simultaneously with Sylvia in line 45, making the repetition necessary.

41 F: f[eɪ ()
 wɹ[ɔŋg ()
42 S: ((moves around in the camera frame until *))
43 [de där stämmer inte r:iɕtigt. du kan ju inte dra
 [that there tallies not r:iɕt. you can PRT not pull
 That isn't really correct. You can't paint

- 44 all:a (.) äm skogs: (0.3s) ägare under samma.
 all: (.) *uhm fores:t (0.3s) owners under same*
all forest owners with the same
- 45 (0.3s) lupp där.
 (0.3s) *Loupe there.*
brush. (probably confuses Swedish idioms here)
- 46 F: nej men tren- ↑trenden ((*)) dom senaste tjugo åren har
no but tren- ↑trend-DEF (()) the last twenty years-DEF has*
No, but the trend in the last twenty years has
- 47 ju varit på de här vis^oet^o.
PRT been on that here wa^oy-PRT^o
been like this.

(BO1-1)

The next time Sylvia starts speaking, after a completed turn and a gap, Fritz starts talking again, yet stops soon after. Fritz's following expression of disagreement follows the same pattern:

- 59 (0.3s)
- 60 S: j[a: de kan ja nog inte säga på=
 y[e:s that can i probably not say on=
Well, I probably can't say that about
- 61 F: [in ()
 [in ()
- 62 S: =familjeskogsbruket faktiskt {fritz}.
 =familyforestry-DEF actually {fritz}.
family forestry, {Fritz}.

(BO1-1)

Fritz and Sylvia have difficulties coordinating their turns. Perhaps, Fritz tries to suppress any critical remarks or disagreements about his statement. However, given that he responds to Sylvia's allegations, this seems unlikely. In addition, Fritz has turned off his camera, and the voice quality varies. These factors indicate that technical issues and limitations indeed disrupt the turn coordination in this sequence. They reduce Sylvia's chances of intervening successfully, increase the potential of misunderstanding, and thereby decrease the chances of early resolution (Hutchby & Wooffitt 1998).

Face-to-Face Turn-Taking

The physical sequence follows a similar structure to the above digital interaction. Here, Anders describes to Bo the development of a new landscape management tool. Christina intervenes by bringing in an older tool developed by Anders's

organisation, which would fulfil the same purpose. While Anders then denies the applicability of that old tool, Christina insists that resources have been set aside for this. Noteworthy, the participants voice their differences in opinion very carefully, hiding the misalignments in the implications of their questions.

The turn-taking in this sequence, and the other physical sequences, follows what conversation analysis observes to be a norm in natural talk: Overlaps and gaps are minimised (e.g. Hutchby & Wooffitt 1998). This does not mean that overlaps and gaps do not exist, but their character is distinct from the miscoordination that impairs the interactions in the digital sequences.

In some cases, participants start speaking when the current speaker has not yet completed their turn. The following example features two such events in direct succession. While Christina has finished the previous turn in line 38, she starts with the next turn in line 40. When Anders has started to respond, this utterance could be complete in line 39, but he continues in line 41, overlapping with Christina's continuation.

- 37 C: men ni avsätter ju- alla avsätter ju
but you ((plural)) setaside PRT- all setaside PRT
But everyone sets aside
- 38 resurser för de, trots allt.
resources for it, despite all.
resources for this, right.
- 39 A: ja, ja,=
yes, yes,=
- 40 C: =så jag [menar-
=so i [mean-
So I mean ...
- 41 A: [så dom finns, men de är bara en
[so they find-PAS, but it is only a
They exist, but it's just a
- 42 (pappersprodukt).
(paperproduct).
paper tiger.
- (AF1-5)

While this interaction resembles the patterns familiar from the digital sequence above, there are some fundamental differences in what happens. One lies in the timing itself. Where they do not overlap, the turns follow each other directly, with virtually no silence between lines 39 and 40. And Christina abandons her turn after a short overlap in line 40. Christina could interpret Anders's utterance in line 39 as a continuer, although the rising pitch indicates that Anders intends to continue

himself. Altogether, these phenomena produce a complex interaction pattern and show how quickly the two speakers become aware of each other's speech activities.

In turn, the difficulties appearing in the digital sequence can be attributed to several factors disturbing the coordination. Without a camera, Sylvia cannot use any visual clues from Fritz to time her utterances. Noise and glitches in Fritz's audio quality hint at a weak internet connection as another factor. This can produce transmission delays that could explain the timing issues. Both disagreements stay constructive. But for the digital meeting, the technical issues complicate voicing disagreements and make them seem impolite.

3.2.2 Simultaneous Talk

In natural conversations, usually one person speaks at a time (Hutchby & Wooffitt 1998). While this does not mean that there cannot be silences between or within turns nor short overlaps of several speakers, simultaneous talk is nevertheless minimised in naturally occurring talk. When I selected the sequences, I noted that disagreements often coincided with simultaneous talk, separating them from surrounding talk. Therefore, this section investigates how participants who disagree manage situations when they speak simultaneously.

Indeed, many disagreement episodes in the material contain moments of simultaneous talk where no participant withdraws immediately. First, this looked like a parallel regardless of the medium, but closer examination reveals differences: While the simultaneous talk in face-to-face interactions often resembles a co-production, it becomes a dominance pattern in digital disagreements. Here, participants mainly restate their own key argument after simultaneous stretches of talk, reducing the interest and ability to jointly investigate their differences (Hutchby & Wooffitt 1998).

Digital Dominance

As an example of the dominance pattern, I present the phenomenon with the sequence AO1-3. In this digital sequence, the meeting moderator, Olaus, has given Bartolomeus the chance to ask the final short question before the break. Yet, Bartolomeus tries to carve space for a larger argumentation. Olaus stops this attempt when Bartolomeus announces that he intends to cite from an authority. Olaus brings up that this will be a subject after the break. However, Bartolomeus doubts that his question will be discussed there, which Olaus responds to by repeating his statement (line 41). With high volume, he states that this will be taken up later, while Bartolomeus nevertheless sets out to make a point. However, he withdraws gradually. There, Olaus repeats his statement while still overlapping with Bartolomeus (lines 43, 46). When Olaus has finished, Bartolomeus continues with the sentence from the overlap. They restate their own stances instead of acknowledging each other's points.

39 (0.2s)
40 (): .hh
41 O: JA [MEN E VI HAR JU VI HAR [TÄNKT KOMMENTERA=
YES [BUT UH WE HAVE PRT WE HAVE [THOUGHT COMMENT=
Yes, but we've intended to comment
→ 42 [((nods slightly))
→ 43 DEN VI HAR TÄNKT KOMMEN]=
IT WE HAVE THOUGHT COMM]=
on it ... we've intended to comment
44 B: [vi kan ju åtminstone säga=
[we can PRT atleast say=
We can at least say
45 B: de oh ah]
it oh ah]
46 O: =TERA DEN SENARE, {bartolomeus}.
=ENT IT LATER, {bartolomeus}.
on that later, {Bartolomeus}.
→ 47 B: vi kan ju åtminstone säga att vi- vi har vart
we can PRT atleast say that we- we have been
But we can at least say that we've been
48 (.) v:äldigt tveksamma till de här me
(.) r:eally doubtful to that here with
very hesitant about that here with
49 {informa:tions: (.) .hhhh ä dokument}.
{informa:tion: (.) .hhhh uh: documents}.
{information documents}.

(A01-3)

Interestingly, Olaus nods softly while restating the command (line 42). Bartolomeus interprets this as a go-ahead gesture, allowing him to continue even though the verbal command is to stop the argument. However, this behaviour could also be a continuation of Bartolomeus's tactics to create space for himself. In any case, Olaus's intention is to stop the argument, as he interrupts and mutes Bartolomeus soon after, as discussed at the end of this section.

In physical meetings, simultaneous talk might be less charged. Before I continue with the discussion of co-production in physical interactions, I would like to introduce the following example as it relates stronger to the idea of dominance. In sequence AF1-2, Anders has asked a question about a template. Other participants respond to this by denying that there is such a template. However, Anders continues investigating the template topic. I skip presenting these interactions in the transcript below and start directly with the following exchange of arguments: Anders continues the discussion of the template and now assesses its potential functions.

Similarly to Bartolomeus in episode AO1-3, Gunnar introduces a disagreement but steps aside before articulating the details (line 52). Encouraged by verbal continuers (line 53), Anders continues the argument (line 55). Certainly, less power is involved in this interaction, but it illustrates the contrast between constructive and destructive tendencies.

- 49 A: okej, men ja kan tänka mig-
okay, but i can think me-
Okay, but I think ...
- 50 [de (.) kan nog fylla en bra funktion::, å om
[it can probably fill a good function::, and if
that it might fill a good function, and if
- 51 de finns en mall]
it find-PAS a template]
there's a template
- 52 G: [(men jag kan säga att-)
[(but i can say that-)
But I can say that ...
- 53 ((clears throat)) ehe ja]
uhh yes]
- 54 G: m
- 55 A: så tar ja gärna del av den men (0.3s) ja tänkte
so take i happily part of it but (0.3s) i thought
then I'm happy to take part in this but I think
- 56 att sånt (.) där är bra att de går igenom
that such (.) there is good that it goes through
it would be good if it would go through
- 57 {den här gruppen} först: innan:=
{that here group-DEF} first: before:=
this group before
- 58 G: mhm
- 59 G: ((nods))
- 60 (.)
- 61 A: =de går ut [ti]ll mina kollegor
=it goes out[t]o my colleagues
it's sent out to my colleagues
- 62 G: [ja]
[yes]

(AF1-2)

This physical meeting example stays constructive despite Anders's insistence on the template. However, the digital discussion between Olaus and Bartolomeus takes

a different direction. It ends with the moderator Olaus muting Bartolomeus and introducing the break instead. Section 3.3.2 presents and discusses this behaviour in detail.

Physical Co-Production

Simultaneous talk can co-produce meaning as shown by the following physical sequences (Sidnell & Stivers 2014). In the first sequence, the participants discuss what influenced the figures provided by LST Moose. LST Moose is a statistical population model for moose that estimates population figures based on moose observations and dropping inventories where available (Widemo & Leonardsson 2025).

In this sequence, the confusion about how to interpret the LST Moose output is clearly visible. Erik has speculated that the dropping inventory had been included at the start, but then “they” had changed the calculation. In the episode presented below, the meeting chair, Anna, responds by assuring that the dropping inventory was included again (lines 47-49). Contrary to his earlier speculation, Erik now proposes that it was not included in LST Moose from the start. Yet, Erik nods after Anna’s contribution (line 47). Anna, Carl, and Daniel jointly disagree with speaker Erik (lines 52-55), followed by a weak disagreement by speaker Erik that something must have changed as the figures would not add up (lines 56-57).

- 47 A: (spillningsinventeringen) ä:r me:.
(droppinginventory-DEF) i:s with:.
The dropping inventory is included
- 48 E: den var ju [inte me=
it was PRT [not with=
It wasn't included
- 49 A: [i:gen.
[a:gain.
- 50 E: =från ((nods)) början (0.4s) i el ess te mo:s.
=from ((nods)) start-DEF (0.4s) in el ess tee moo:se.
from the start in LST-Moose.
- 51 (0.8s)
- 52 D: °de var [ju°
°it was [PRT°
- 53 C: [nej
[no
- 54 NEJ inte förs[ta () nej nej]
NO not first-[DEF () no no]
No, not for the first, no no.
- 55 A: [naj (.) naj (.)] naj

[no (.) no (.)] no

56 E: men dom- dom har väl (0.2s) lagt i- för ja ser att
but they- they have PRT (0.2s) put in- for i see that
But they must've included it, since I see that

57 siffrorna är inte alldeles lika som () då heller
Figures-DEF are not quite same as () there either
the figures are not at all similar (incomprehensible word) either.

(BF1-2)

The second overlap in lines 52-55 differs from the previously discussed overlaps, where the participants expressed their disagreements in simultaneous talk. Here, Anna, Carl, and Daniel align as representatives of the land- and forest owners, and in their positions on this specific issue. They join in expressing disagreement with the hunter representative Erik, which gives them a stronger voice as they affirm each other's stances. Yet, Erik manages to voice a deviating position against the joint statement.

Talk can also overlap when participants assume that they have gathered enough information to continue (Sidnell & Stivers 2014). The following example from a physical meeting follows Anders's presentation of a new tool his organisation is working with. Christina makes a critical remark about other work that Anders's organisation and other organisations had conducted (lines 28-32). Before she has finished, Anders starts voicing his disagreement (line 33). While Christina still corrects the grammar of her earlier utterance, the simultaneous talk follows a transition relevance place in line 31. Anders then rejects Christina's assessment with a technical comment (lines 33-35), to which Christina responds with another critique (from line 36).

28 C: för ja menar ni gjorde ↑ju, (0.3s) för länge sen,
for i think you ((pLural)) made ↑PRT, (0.3s) for long ago,
Because I think you created, long ago,

29 dom här=
these here=
those

30 ((B leans forward, and A towards C))

31 C: ={pla:nerna}. å D↑E gick ju. (.)
={pLa:ns-DEF}. and I↑T went PRT. (.)
{plans}, and it worked(?). (she corrects herself after)

32 ä [(.) de gjo- gjorde ju alla.]
uh[(.) it ma- made PRT everyone.]
Everyone did this.

→ 33 A: [ouɿ ja ja, fast de- de är rit]ad-
[ouɿ yes yes, but it- it is dr]awn-

- Oh, yes, yes, but it's drawn ...*
- 34 ritad i {namn på mjukvara}
drawn in {software name}
drawn in {software name}
- 35 [med sammanställning av: förhållanden.]
[with compilation of: circumstances.]
with a compilation of the circumstances.
- 36 ((...))
- (AF1-5)

While simultaneous talk disrupts both speakers' utterances, they can continue without longer repetitions of non-comprehensible utterances. This implies that they can comprehend each other's utterances when speaking simultaneously. This feature of physical interactions allows for a higher pace in communication. Instead of dominance, the overlaps constitute a heated discussion with rapid turn-taking, indicating a high degree of intersubjectivity that connects to constructive conflict management (Coleman 2006).

3.3 Restricting Features

Digital meetings exhibit phenomena that lack a clear correspondence in physical meetings. Undoubtedly, this concerns the software that provides a list of technical features meant to support or supplement verbal communication. The other speciality is not based on a clear technical requirement, but still impactful in the larger meetings: Moderator and participants follow an implicit rule not to intervene verbally in discussions or statements when they have not been selected explicitly. This locks the interactions in a neat box as a discussion between two to three participants, with the moderator playing a crucial role in determining who may be involved and who may not speak.

3.3.1 Transparency in Withdrawal

The digital meetings and some of the physical meetings share a strict structure and agenda, regulating the duration of topics and discussions and enforcing breaks. The participants are usually aware of this timing requirement and tend to limit their share of talk, resulting in a compromise between getting heard and keeping time.

Giving Reasons for Withdrawal from Discussions in Physical Meetings

After the lunch break of the physical "forestry" meeting, the facilitators split the participants into breakout groups of about four. Members of the facilitation team join these groups to observe the discussions. Uncertain about what they are supposed to discuss, Christina, Bo, and David end up discussing the details of a

case from their perspectives and knowledge. Anders and the facilitator Elisabeth listen.

Elisabeth intervenes to correct their description, but David stops this move with a hand gesture since Elisabeth, as a member of the facilitation team, was supposed to only listen (line 49). After Christina jokes about the challenge of taking notes when the meeting gets chaotic (line 54), the whole group laughs. However, after Bo stops the laughter with a gesture (line 58), he and Elisabeth start talking simultaneously. Elisabeth withdraws from the scene, stating that Bo should speak first since she is supposed to listen (lines 62-64). Elisabeth is explicit about the reason for withdrawal, while she does not voice further details on the matter itself.

- 43 E: ((with a raised finger))
44 E: ja men de är inte rik- riktigt sant.
yes but it is not rea- really true.
Yes, but that's not really true.
45 alltså de man-=
FIL that one- =
What is
46 D: ((lifts the hand a bit))
47 E: =de man prövar [är ju-
=that one checks [is PRT-
checked, that's
48 B: ((lifts the hands a bit))
→ 49 B: [hehehehehehe
50 D: a:
yeah:
51 (.)
52 ():ahaha
53 B: hehehe
→ 54 C: sekreterare (ser jag trö-)
secretary (see i tir-)
55 ((C, B laugh audibly. for D, E, A the camera shows laughter))
56 B: >ha de här de är så jobbigt om ma skriver
>ha that here that is so tiring if one writes
That's so tiring to write
57 anteckningar.<
notes.<
meeting notes.
→ 58 D: ((both hands a bit up))
59 (.)
60 B: [(och vad säger)
[(and what say-)

- 61 E: ((leans back))
- 62 E: [ja men de finns- >du får säga först om du vill,
[yes but it find-PAS- >you may say first if you want,
Yes, but there's ... Speak first if you'd like to,
- 63 {bo}, för egentligen de ja- (.) s- ska bara
 {bo}, *for actually that i- (.) s- shall only*
{Bo}, since I am only supposed to
- 64 [lyssna a; s;äg först, så kan ja ()-
[listen yeah; stay first, so can i ()-
listen. You first, then can I ...
- 65 B: [ja ä:::::m:: ((...))
 [yes uh:::::m:: ((...))
- (AF1-3)

Following this episode, Elisabeth participates more actively but still restricts her utterances in several instances. This allows her to balance role conflicts and potential power imbalances from knowledge differences and from being a member of the meeting's facilitation team.

Withdrawing Without Comment in Digital Meetings

While the digital meetings of the “forestry” process do not use any self-moderated breakout discussions, they show self-restrictive behaviour that is visible in the above face-to-face interaction. However, the setting does not encourage commentary on the reasons for withdrawal, as discussed in section 3.3.2.

In response to a critique by the participant Selma, Edith has explained the point of view of her authority. Selma then voices a strong opinion (lines 104-106). Instead of continuing this discussion, Edith shakes her head and holds a hand before her mouth (line 112). When Sigmund starts commenting on Selma's assessment, Edith mutes. She does not state what caused her reaction.

- 102 SE: ja tänker [att de behöver vara omvänt kanske.
i think [that this needs be reversed maybe.
I think that this might need to be reversed.
- 103 ((gesticulates until *))
- 104 (.) ni prioriterar [dom förs::t ((*)) (.)=
 (.) *you prioritise [them firs::t ((*)) (.)=*
You prioritise them highest
- 105 ED: ((smiles))
- 106 SE: =på grund av politiken.
 =*on ground of politics-DEF.*
because of politics.
- 107 ((smiles))

108 (.)
 109 tack.
 thanks.

110 (.)
 111 KE: [m m
 → 112 ED: [((shakes clearly the head,
 113 then holds a hand in front of the mouth))
 114 SI: ja förstår.=va ja menar ja vill bara säga de=
 *i understand.=what i mean i want only say that=
 I understand. I just want to say that,*

116 ED: ((mutes))
 117 SI: =när vi började, ((...))
 =*when we started, ((...))
 when we started, ...*

(AO2-1)

Edith does not let the other participants know her reasons for not participating verbally, nor what she intended to say. Therefore, the other participants might not be able to estimate or be aware of Edith's feelings. This comes at a price for intersubjectivity and inclusion, which hurts the ideals of deliberation (Westin et al. 2014; Senecah 2024).

3.3.2 Blocking Interventions

In most digital sequences, two participants take an active part in the discussion of their disagreement. In addition, the moderator sometimes assigns speaking rights and frames and ends discussion threads. However, the moderator also intervenes to restrict additional participation.

With Moderator Comment

After Bartolomeus and Susanna have had a longer discussion about the usefulness of a specific tool, Paulina tries to intervene (line 144). However, the moderator Olaus blocks that intervention (line 150). Bernhard, who is not verbally involved in the discussion, is visibly amused, although the laughter is not audible since Bernhard is muted (line 145).

143 BA: men men ä: .hhh m[en ä:
 *but but uh: .hhh b[ut uh:
 But but ... but ...*

144 PA: [då tar ja också en {bartolo[meus}.
 *[then take i also one {bartolo[meus}.
 There, I also take one, {Bartolomeus}.*

145 BE: ((laughs until * but his microphone is muted))
146 OL: [DE-
[THAT-
147 den frå- den frå[gan () senare.
that que- that quest[ion-DEF () Later.
That question later.
148 SU: [ja pre(h)cis(h) {paulina} vill
[yes exa(h)ctly(h) {paulina} wants
Yes, exactly, {Paulina} also wants
149 också ha en-
also have one-
to add to this ...
150 OL: a {paulina} a hade fler som [här. vi- den här frågan
yeah {paulina} yeah had more like [here. we- that here
question-DEF
Well, {Paulina} had more of this sort. We can
151 kanske vi kan ta senare då].
maybe we can take later then].
maybe take that question later.
152 SU: [men ä:: ja kan
[but uh:: i can
But I can
153 kommentera lite mer] (.) generellt kring- ((*))
comment little more] (.) generally around- (())*
comment a bit more in general on (...)
154 ((...))
(AO1-1)

While Susanna comments on Paulina's intervention, the purpose of this remains unclear. Susanna continues with her answer after Olaus has blocked the attempt (from line 152), starting even before Olaus has finished his turn. Susanna's immediate reaction to Paulina's intervention shows sparks of laughter following Bernhard's inaudible laughter (line 148). Given that Bartolomeus had attacked her answers only about a minute ago, this reflects falling tensions at the end of the disagreement. While this could be seen as a sign of constructive conflict management, disregarding Paulina's contribution could hurt the ideal of inclusion to a greater extent than necessary (Connelly & Richardson 2004).

By Not Selecting

This is not the only interaction pattern that restricts the number of speakers in digital meetings and thereby excludes participants. When the moderator does not act on

intentions to participate, this can also silence participants who do not speak up for themselves. In the following example, the moderator asks one participant to respond to a question. However, both Susanna and Gisela had reacted to Bernard's argument. In fact, the moderator starts by selecting Gisela but then changes his mind and gives the word to Susanna (line 115).

115 O: °ja tänkte° {gisela} vill- e ell {susanna} ()=
°i thought° {gisela} want- uh or {susanna} ()=
I'm thinking, {Susanna}, do you- or {Gisela},

116 S: ((gazes into the camera))

117 G: ((unmutes))

118 O: =vill du (.) kommentera e=
=want you (.) comment uh=
would you like to comment

119 G: ((mutes))

120 O: =de här me=
=that here with=
on this with

121 S: ((unmutes))

122 O: =prioriteringerna.
=prioritisations-DEF.
prioritisations?

... (5 lines of fillers omitted)

128 G: ((unmutes))

... (6 lines of Susanna's comment omitted)

135 G: ((mutes))

... (6 lines of fillers and unrelated activity omitted)

142 G: ((unmutes))

... (4 lines of Susanna's comment omitted)

147 G: ((mutes))

... (20 lines of Susanna's comment omitted)

168 G: ((unmutes))

169 (1.0s)

170 S: så de är väl min (.) kommen[tar] till de
so that is well my (.) comm[ent] to this
So, this is then my comment on this.

171 G: [m]

172 (0.3s)

173 G: °.hmm°

174 B: ((moves a hand to the face))

175 O: okej
okay

176 S: ((mutes))
(AO1-2)

Not getting selected does not stop Gisela from trying to intervene during Susanna's answer. Gisela unmutes three times but only produces a few sounds after Susanna has finished. As Gisela does not comment on the situation afterwards, her intentions remain unclear. Either way, she has neither intervened nor been given the right to speak, reducing interactions and missing the opportunity to add another view to the argument that Susanna takes up with Bernhard.

By Muting a Participant Against His Will

In episode AO1-3, Bartolomeus tries to dive into a topic which the moderator Olaus prohibits in favour of the overdue break. After Olaus has stated that the discussion of Bartolomeus topic is on the agenda for the last part of the meeting, Bartolomeus continues his argumentation. But his talk becomes rushed until he gets stuck (line 70). At this point, Olaus mutes Bartolomeus (line 73) and calmly restates his point of addressing the topic where it is on the agenda (lines 72, 74-79):

69 O: ((moves back))
→ 70 B: d d ä[: (.) [A A JA MENA ATT DE HÄR-]
d d u[h: (.)][UH UH I MEAN THAT THIS HERE-]
I mean that this-
71 [(gesticulates until *)]
72 O: [vi har en punkt]=
[we have a point]=
We have a point
→ 73 B: ((gets muted but continues mouth movements))
74 O: =[om {informationsdokumenterna}=
=[on {informationdocuments-DEF}=
on the {information documents}
75 [(moves back towards the screen))
76 =som vi skulle ta upp sen. ((*))
=that we should take up then. ((*))
that we'll do later.
77 (0.8s)
78 O: eller hur? vi har en punkt sen som vi skulle
or how? we have a point then that we should
Right? We have a point later where we talk
79 ta upp om de.
take up on it.
about this.
→ 80 B: ((stops moving the mouth and moves a hand

81 to the mouth))
(AO1-3)

Bartolomeus realises in line 80 that he has been muted. Soon after, he turns off his camera, earlier than other visible participants following Olau's announcement of the break. A moderation intervention like this is conflictual. When Olaus uses power over Bartolomeus, his trust in the meeting may be harmed. Yet restricting Bartolomeus's attempt to gain extra room for his arguments also balances his speech share with the other meeting participants. Thus, Olaus restricts Bartolomeus's talk to restore equality, which is one of the ideals of deliberative theory (Flyvbjerg & Richardson 2001; Reed 2008; Westin et al. 2014).

Muting a participant is a drastic step. This does not belong to the usual moderation toolbox in the environmental governance meetings I analysed. Nevertheless, this intervention would not be possible in the same way in a physical meeting. The moderation tools in digital meetings grant the moderator special powers that can have unintended side effects.

3.3.3 Text Chat and Visual Indicators

In addition to voice and video, digital meeting software often provides a text chat, a reaction bar, an option to raise a hand, and further visual indicators such as small icons that show whether someone has unmuted their microphone. These do not have clear equivalents in physical meetings but nevertheless play a role in communication.

In the two digital "forestry" meetings, participants usually use the text chat for questions or additions to the verbal part of the meetings. Sometimes, there are comments about technicalities. For example, participants ask for the presentation files, or the moderator announces the break durations. Rarely, participants respond directly to chat messages, producing short discussions. However, none of these contains clear disagreement markers. Notably, pure text cannot express nonverbal clues or heated language. Therefore, disagreement would need to be expressed explicitly.

The verbal discussion often does not acknowledge text chats (Houtti et al. 2023). This can dissatisfy participants, becoming visible in the following statement by a participant who had asked a question in the chat about half an hour earlier. Selma still refers to her text message when introducing her criticism:

- 4 ja (.) ä: (.) nämen jag tänkte på den här frågan ja
yes (.) uh: (.) PRT i thought on that here question-DEF i
Yes. Oh, I thought about that question I've
- 5 hade i chatten då.=som ja förstår de så: har
had in chat-DEF PRT.=as i understand it so: has
had in the chat. As I understand it,

- 6 man inte gjort {den här milju- miljöbedömningen}
one not done {that here enviru- environmentalassessment-DEF}
no {environmental assessment} has been conducted
- 7 för: (.) nationellt fridlysta arter;
for: (.) nationally protected species;
for nationally protected species.
- (AO2-1)

Her original text message had not received an answer, neither in the chat nor from a presenter. Participants need to speak up to make their voices heard. While that text message might have been read and sparked thoughts, it did not directly enter the oral discussion as a verbal utterance does. This is not a strict assessment. For example, the speaker in the opening quote of this thesis picks up a chat message immediately. But still, when participants use the chat, they might experience that their voices are not heard, potentially reducing their trust in the overall process (Senecah 2024). Likewise, the use of virtual gestures is limited. Sometimes, participants set the thumb up to support a statement (line 67):

- 65 BE: å de är dä:r vi behöver sätta fo:kus på
and it is the:re we need set fo:cus on
And it's there that we need to set the focus
- 66 {organisation#2} för arbeten.
{organisation#2} for work-DEF.
for {organisation#2}'s work.
- 67 BA: ((puts virtual thumb up))
- (AO1-2)

This gives Bartolomeus the opportunity to side with Bernhard's statement while remaining muted. While participants can react by facial expressions and gestures, the virtual reactions are visible regardless of resolution and tile placement. However, disagreement is impossible using virtual reactions only. In Microsoft Teams, reactions are limited to like, love, applause, laugh, and surprise emojis, complemented by a separate button for raising the hand (Microsoft Support n.d.). In essence, this restricts participants to express disagreements exclusively verbally. This makes every expression of disagreement subject to the moderation and the technical limitations of digital meetings as discussed in this chapter.

4. Discussion

In this concluding chapter, I recall the main results of this master's thesis. Based on this, I discuss the implications of the findings on environmental governance meetings in Sweden. As any generalisation requires care, I complement this discussion with suggestions for phenomena that need further investigation. This chapter concludes with a concise take-home message.

4.1 Differences in the Details

This thesis aimed to study the expression of disagreements in physical and digital environmental governance meetings. Using conversation-analytical methods, I have analysed and interpreted expressions of disagreements in three environmental governance processes in Sweden. The material for this study consisted of video recordings of physical meetings in meeting venues and digital meetings on Microsoft Teams. Drawing on a detailed examination of disagreements in both physical and digital meetings, I interpret how the medium influences how participants express disagreements and, with this, deliberate complex environmental questions.

Disagreements are expressed in both digital and physical meetings. But other than the word “disagreement” might suggest, they are usually not bursting with energy, as the norm in this material is to express disagreements in a formal and bureaucratic language, especially in digital meetings. However, zooming in on the concrete interactions exposes that their capacity to disagree constructively varies. This study identified several phenomena in digital meetings that might harm free and constructive deliberation, compared with physical meetings.

First, the coordination of turn-taking becomes a concern. In the digital meetings, I observed that especially a weak network connection and missing cameras might distort time information and visual feedback. While technology has advanced massively (cf. Strandberg & Grönlund 2012), the technical hurdles still influence interactions. This phenomenon makes it harder for others to time interventions for expressing disagreements. But it also changes the implications of simultaneous talk, so it expresses dominance in digital interactions, compared to the co-production aspects in their physical counterparts.

Second, the verbal discussion struggles to include contributions from the text chat. Participants need to restate their arguments verbally to be heard. The reactions bar in Microsoft Teams, the software used in the examined digital meetings, does not include negative reactions, limiting its usability for expressing disagreements. The structures imposed by the software instead centre the power in the hands of the meeting moderator (Houtti et al. 2023). As a result, the participants express

disagreements only in the verbal discussion, under the common time and facilitation requirements set by the agenda.

Third, the meetings share an institutional character. Expressing disagreements seems possible in both physical and digital meetings, but is influenced by their character. Even more than physical meetings, digital meetings tend to streamline communication. This observation connects Baron (2023) and Mualam et al. (2024), who observed an information-oriented facilitation style in digital governance meetings. While the moderators in my material limited attempts to larger digital discussions in several instances, the participants also masked their attempts to express disagreements. In fact, it becomes hard to tell whether a speech act constitutes a disagreement or another, partially related speech action, such as humour, persuasion, or correction (cf. Osvaldsson 2004; Haakana & Kurhila 2009; Sidnell 2010; Humã et al. 2020). Likewise, speakers sometimes hide their disagreements in bureaucratic arguments, avoiding explicit markers such as negations. This relates to the agreement norm in human interactions observed in conversation analysis studies (Pomerantz 1984; Sacks 1987; Sidnell & Stivers 2014).

Here, it also proved to be rewarding to analyse the activities directly before and after expressions of disagreement. The institutional character of the meetings is frequently reflected in the long statements and questions that provide the context for expressing disagreement. Especially the digital interactions I analysed contain a high level of detail that could carry fine nuances and details, potentially creating a calm and constructive discussion.

However, the digital meetings in my material might also discourage or obstruct aspects of speech that might be desirable for constructive disagreements. As a result of the software design, the moderator is directly involved in the turn-taking process (Houtti et al. 2023). In the material of this thesis, the moderator blocked attempts to intervene or did not give the word to a participant who had clearly indicated the intention to speak. In comparable situations in the physical meetings, these participants had the opportunity to comment on their reasons for withdrawal. In line with the limits for meta-comments, digital meetings seem to make it more difficult to laugh together than physical meetings. While humour seems to be available as a constructive element for dealing with disagreements, jokes become less effective in digital meetings where the norm is to mute microphones when not speaking.

The expression of disagreement differs in the analysed digital and physical meetings on environmental governance in Sweden. Technical structures and differences in participant behaviour shape the extent to which these meetings can host constructive disagreements. While disagreement can be expressed regardless of the medium, the observed differences ask for awareness and care when moving deliberations online.

4.2 Reflections and Future Research

In this master's thesis project, I have studied interaction phenomena around the expression of disagreement. My method was descriptive. I described and interpreted spoken interactions. As implied by the method of conversation analysis, I neither focus on the causes nor assess what the participants intended to do. If this had been of interest, I would have needed to collect additional material, for example by interviewing participants about their perception of the situations I describe. But this would be outside the scope of this thesis and divert the focus from the observational study of interactions. Furthermore, the anonymisation limits the details of my presentation here. I cannot discuss the specific topics of the disagreements. Thus, my description might sound generalised in some situations, seemingly relevant beyond a deliberation about environmental issues. Thus, I would like to emphasise that my results are connected to specific cases of environmental governance in Sweden and should be interpreted in this context. Furthermore, my results draw on a limited selection of this specific material. While I carefully selected comparable material from digital and physical meetings, this should not invite a broad generalisation far beyond my specific scope.

Throughout my thesis process, I noticed some phenomena that lie beyond the scope of this work. I would like to present two of them here as inspirations for further research.

Who pays attention? Are there differences between digital and physical meetings in whether spectators follow the discussion or engage in other activities? Deliberation is supposed to be a group activity. Maybe just two or three individuals and the moderator discuss their matters without an engaged audience, followed by the next section where another two or three participants follow this pattern. This way, stakeholders would give their inputs. But they would fail to listen to others and engage in a group discussion. In that case, not the group but the moderator will own the process, potentially harming the ideals of deliberation (e.g. Senecah 2024).

The second open question relates to the agency of individuals. My study mainly discusses the impact of the medium on collective behaviour (interactions). The meeting participants might have their individual ways of expressing disagreements, and their strategies might differ between digital and physical meetings. For example, they might need the safety of participating from their private homes to raise disagreements. While I have not tracked participants across meetings, such a longitudinal study could produce further insights. This question can be extended to what, for example, the meeting roles or gender contribute to different behaviours. Whose voice is marginalised, who is empowered by digital and physical meetings, respectively?

On a general note, I appeal to investigate the differences in communication between physical and digital meetings of all kinds. While there is a growing body of research, this specific subject of comparing interactions in digital and physical

meetings was surprisingly rare. I see my thesis as a small contribution to closing this gap. As a result, assumptions and vague ideas guide decisions on how and where to communicate. The assessment of risks and benefits of digital meetings compared to their physical counterparts goes beyond individual decisions, including aspects such as travel times, emissions, and contributions from faraway places or from busy participants.

4.3 Concluding Remarks

This thesis investigated the expression of disagreement in digital and physical environmental governance meetings. I approached the research problem with a conversation analysis of discussions in three digital and two physical stakeholder meetings on moose management and forestry in Sweden. My results indicate that the meeting participants express disagreements regardless of the meeting medium. However, their strategies vary, and the discussions vary in constructiveness. Expressing disagreements in digital meetings might require additional efforts, connected to technical issues, software structures, and differences in moderation style. The latter is apparent in the opening quote, when the speaker assesses that “[p]hysical meetings can be easier for discussing.” (AO1) However, when meeting facilitators and participants do not acknowledge the possibility that disagreements can also appear and be expressed in digital meetings, having better discussions in physical meetings could become a self-fulfilling prophecy.

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Finally, I want to thank my classmates, friends, and family, who supported me along this way with motivation and valuable external input.

Lay Summary

As an alternative to text, I present a poster – which itself has taken a creative form:

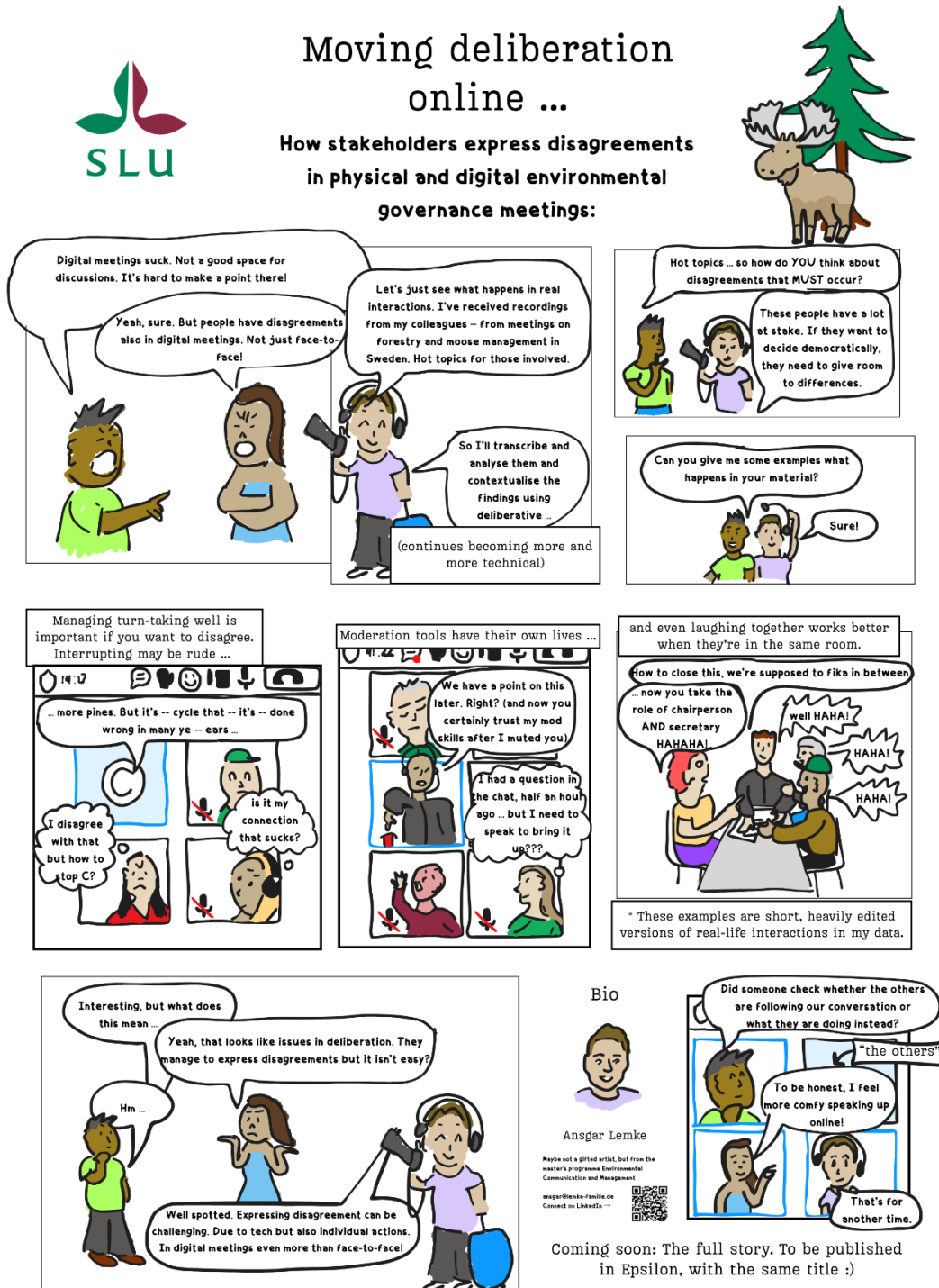


Figure 1. Poster summary, source: author

AI Disclosure

No AI tools have been used in the conceptualisation or preparation of this document.

Appendix A Transcription and Translation

Transcription Symbols

Symbol	Definition
[hi] [yes]	Overlapping talk. [marks the start,] the end. Where an endpoint is clearly audible or sometimes when the overlap is short, only the start is marked.
=	No pause between turns. Or to indicate that a turn continues in a new line (I often use it with overlaps of speakers or nonverbal actions).
(0.8s)	Timed silence, corresponding to real time and not speaking time, in my case as I used a stopwatch approach.
(.)	Brief silence (audible but <0.2s).
.,¿?	Pitch markers at transition relevance places: . = falling intonation , = slightly rising intonation (or on level) ¿ = rising intonation ? = sharply rising intonation
coo:::::l	Colons indicate a prolonged vowel/consonant.
eveni-	Cut-off, often accompanied with a glottal stop.
<u>hello</u>	Indicates talk that is a bit louder than surrounding talk or emphasised.
YES	Talk that is significantly louder than surrounding talk. Note that neither names nor sentence starts are capitalised to avoid ambiguity.
°no°	Talk that is significantly quieter than surrounding talk.
↑↓	Significant pitch changes beyond “usual” speech melody.
<slow>	Less than/greater than signs mark sections with significantly different speed compared to surrounding talk.
>fast<	
.hhh	Audible inbreath. Number of h’s indicates duration whereas .hhh denotes a “normal” length. An initial dot also notes other utterances under inbreath, such as .ja.
hhh	Audible outbreath. Within words audible aspiration, breathiness. Number of h’s indicates duration where hhh denotes a “normal length.”
l(h)aughte(h)r	Laughter pulses while talking.
huh hah hi	Laughter itself is usually transcribed trying to resemble the sounds involved.

(sure) ()	Hard to understand, best guess. Or empty if no chance. Can also indicate that I did not manage to identify the speaker (“(): hi”).
(())	Descriptions of nonverbal activities and general comments.
{word}	Replacement of a term or name for anonymisation reasons.
→	Highlighting a line for discussion.
dom, de	Instead of orthographical conventions, the transcript follows the real pronunciation as close as possible.

Table A1. Transcription symbols, adopted from Sidnell (2010) with small additions

For those that are new to Jeffersonian transcription, I present a short example with explanations here, starting from line 6 in one of my transcriptions (BF1-1):

→ 6 (1.9s)

For 1.9 seconds, no one speaks. In addition, this line is highlighted and discussed in the analysis text in greater detail. “Line 7” in the transcript consists of three lines, the Swedish original and two different translations:

7 B: just de [var fyr-ti-

B starts speaking but after the second word (“de”), another activity (another speaker or a nonverbal activity by B or someone else) starts, at the same time as B. The last word, fyr-tio, is cut off, often realised with a glottal stop.

just it [was forty-

A morpheme translation of the above to English words so that those who do not understand Swedish can still follow the timing and intonation of the original utterance. Often, it is hard to capture the same meaning with individual words, sometimes I make use of additional symbols to mark utterances I could not translate this way.

Oh, that was forty-

A third line provides with a translation to standard English, trying to capture the meaning of the Swedish original.

Translation symbols

The second line of my transcripts contains a morpheme (“word-by-word”) translation. While I tried to avoid including too many grammatical details, some

phenomena in the Swedish language proved difficult for this direct translation attempt. In addition to comments in the text, I made use of the following symbols:

Symbol	meaning	Swedish examples
<i>PRT-</i>	particle without direct translation	ju
<i>-DEF</i>	definite form of a noun	frågan (“the question”) familjeskogsbruket (“the family forestry”)
<i>-PAS</i>	passive form of a verb	finns (“is found”)
<i>FIL</i>	filler word	alltså, asså

Table A2. Symbols used for morpheme translation, source: author

Appendix B Descriptions of Material

In this appendix, I describe the structure and discussion points for the cited transcripts. These short descriptions are structured by “forestry” and “moose management.” Each transcript has a unique code. The first letter (A or B) denotes the process (A for forestry, B for moose management). The second letter (O or F) clarifies the medium (O=digital meeting, F=physical meeting). The first digit differentiates between different meetings in the same medium and process. Finally, the second digit differentiates between different transcripts in the same meeting, but not necessarily in a chronological order.

Digital Meetings on “Forestry”

This section contains the meetings AO1 and AO2. The opening citation at the start of the introduction belongs to the conclusion of meeting AO1, where the dates, topics, and locations for the next meetings are discussed and set.

AO1-1 “You don’t have them”



Figure B1. Tile arrangement in AO1-1, source: author

As part of the questions after a presentation, Bartolomeus describes a tool and argues that Organisation #2 should use it. Susanna volunteers to respond and states that Organisation #2 uses the tool among others. Bartolomeus rejects this claim and

underlines the importance of the tool. Susanna then cites financial reasons, which results in Bartolomeus offering the tool for free. Paulina tries to join this discussion, but Olaus, the moderator, blocks her. After this, Susanna offers a more general discussion of digital tools, on which Bartolomeus quickly comments, followed by Hermine, who responds to another part of Bartolomeus's question.

AO1-2 "Other urgent tasks"

In the same setting as AO1-1, Bernhard argues that Organisation #2 should prioritise a task. Bernhard supports this claim by citing the statistics of court wins depending on how the task has been prioritised. The moderator Olaus asks Susanna to comment on this. She justifies Organisation #2's prioritisation bureaucratically. During this comment, Gisela shows an intention to respond but does not speak up.

AO1-3 "We take that later"

The moderator Olaus allows Bartolomeus to ask a quick, last question before the break. When Bartolomeus brings up a larger topic, Olaus interrupts, stating that a later point on the agenda covers that concern. Bartolomeus continues with other aspects of his argument, which Olaus interrupts and mutes after Bartolomeus struggles for words. After a short comment, Olaus announces a break.

AO2-1 "Political decisions"

After a presentation, the participants ask questions. As her chat question has not received any response, Selma uses this opportunity to comment on the politics behind the prioritisation of Organisation #1. Kenneth states that one part of the question would be addressed later and invites Edith to respond, as she has indicated interest. She cautiously disagrees with Selma's statement, who in turn insists on her assessment. While Edith withdraws from the discussion, Sigmund adds a broader comment.

Physical Meeting on “Forestry”

AF1-2 “There is no such template”



Figure B2. The camera views of the plenary in AF1-2, source: author

This sequence in a face-to-face plenary is characterised by the number of speakers, six in total. Anders raises his hand. When selected by the moderator, he describes a template and asks about it. Elisabeth intervenes, stating that there is no such template. Gunnar supports Elisabeth on this. However, Anders argues further that it would be good if such a template were created together with the group. On this, Gunnar tries to interrupt. But instead, Hans comes in and describes his view, joined by Ingrid, who adds clarifications. Elisabeth also declares that creating such a template is not on the agenda. Anders moves the point a third time, now claiming that a template might be promising but problematic if it caused more confusion. Elisabeth firmly restates that there is no template. Gunnar adds further arguments to this, and Anders finally stops adding new points.

AF1-3 “But that’s not really true”

After listening, and discussing several presentations in the plenary, the participants have been divided into groups of about four each. They sit around a table, facing each other. Christina presents a planning process with some details and examples on which David comments. Bo jokes that Elisabeth could explain that point. Then, Elisabeth rejects Bo’s description. As a member of the facilitation team, Elisabeth was supposed to listen and not intervene. Therefore, David stops Elisabeth with a gesture, followed by laughter and joking. After the laughter has ebbed, Elisabeth sets out to continue. But as Bo starts simultaneously, Elisabeth gives the word back to Bo.

AF1-5 “Just a paper tiger”



Figure B3: Seating arrangement in AF1-5, source: author

This discussion takes place in the same group and session as AF1-3. However, the facilitator Elisabeth has left the group. Anders describes to Bo how Anders’s organisation develops a tool for nature conservation. Christina suddenly interrupts, bringing up a tool that Anders’s organisation had created much earlier. Anders argues that the existing tool is “just a paper tiger.” He then continues with the explanation. David, who has left the table during this episode, returns to state that they should not forget the Fika break, while Bo continues by commenting on Anders’s tool development. As David insists on discussing when to take the break, Anders leaves a humorous comment that David would be overstepping the secretary’s role and would act like a chairperson. This is followed by collective laughter, a joke by David, and further laughter.

Digital Meeting on Moose Management

BO1-1 “You can’t say that”



Figure B4. Tile arrangement in BO1-1, source: author

The disagreement unfolds between Sylvia and Fritz, whose camera is turned off. Fritz presents a theory around biting damage and attributes the problems to changes in forestry practices. Sylvia disagrees with this collective description. However, Fritz insists that there were changes. At this point, Arnold talks, but he is not audible in the recording and mutes soon after. Again, Sylvia rejects Fritz’s assessment and states that this was not valid for family owners. Fritz then notes that he was referring to the large forestry areas and continues discussing the changes. Sylvia responds to this by bringing up climate adaptations as a factor, and is supported by Alfons, the meeting’s chairperson. On the other hand, Alfons adds that Fritz was on the right track with his ideas, with Fritz confirming that Alfons’s summary is accurate.

BO12 “Radical small increase”

Deviating from the norms of this meeting, almost all participants engage in the discussion. At the end of the meeting, the moderator Alfons leaves room for adding deviating suggestions, as a formality. However, Fritz uses the chance to suggest increasing the population numbers a bit. First, Alfons responds diplomatically, asking for respect for the owners’ perspective, whereas Fritz restates that it would be a minor change. Arnold unmutes briefly to state his agreement with Fritz. Then,

Fritz, Alfons, and Sylvia engage in a discussion of the impacts of such a measure, until Alfons suggests revising this in the next year. Fritz, however, restates the suggestion of increasing the number. Alfons and Sylvia repeat that they can approach this with new data. The discussion concludes with some meta-statements: Fritz explains why he has raised the topic, and Alfons assures that this kind of discussion is why they meet.

Physical Meeting on Moose Management

BF1-1 “Change the goal”

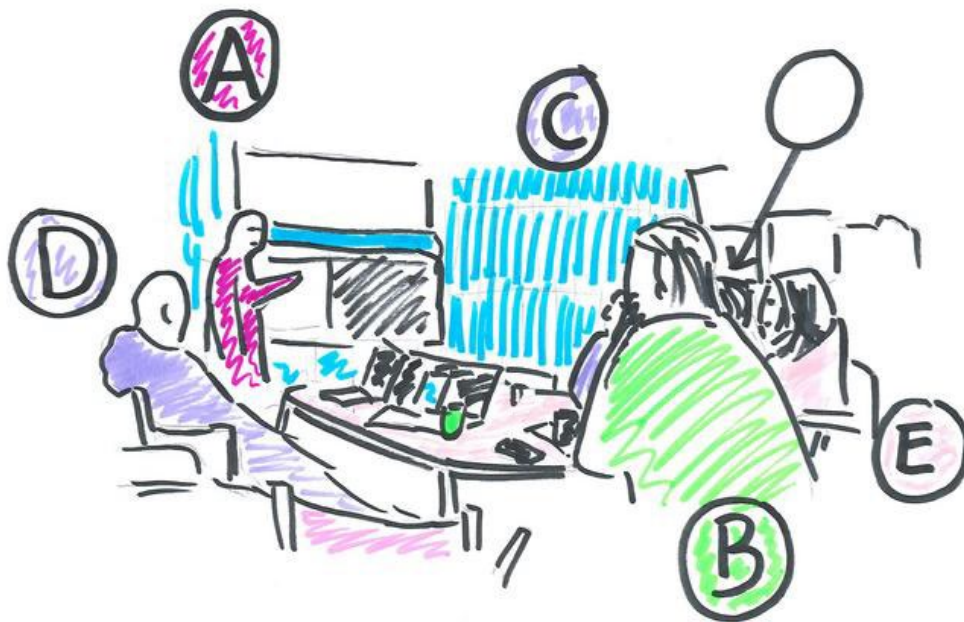


Figure B5. Meeting room arrangement of BF1-1, source: author

The group is facing unexpected numbers for the moose populations. The resulting conflict around the hunting goals dominates the rest of the meeting. In this episode, the meeting chairperson Anna presents a proposal that some participants question and reject. While Anna insists that the goal needs to stay and that they are forced to keep it, Carl questions this, and Birgitta and Erik propose a change.

BF1-2 “The droppings inventory was included”

The sequence is embedded in a larger discussion around unexpected population figures. Incoherent utterances reflect the uncertainty that makes summarising a challenging task. What I can comprehend is that the meeting chair Anna describes a diagram stating that with the current information, the past numbers would have

been different. Erik then states that the droppings inventory (“spillningsinventering”) had been included back then. But now the calculation had changed massively. Anna, Carl, and Daniel comment on this assessment. The transcript continues with Carl describing that the figures change all the time, followed by Daniel and Erik assessing that the figure from 2022 was voluntary to use.

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