

The Media Maze: are experts telling us what to do or giving us information?

A critical discourse analysis of the Norwegian medias presentation of climate experts

MARIANN JOHANSEN

SUPERVISOR

Amanda Margaret Machin

University of Agder, [2023]

Faculty of [Social Sciences]

Department of [Sociology and Social Work]

FOREWORD

After much joy and a dash of frustration, I am finally done!

As the work on my master's thesis has come to an end, I would like to start by properly thanking all the people who have supported and rotted for me over the course of this year.

There are many people to thank: First I would like to give the biggest of thankyou's to the best advisor I could have, Amanda Machin, which has with great patience given me invaluable help.

Thank you to friends and family, who have supported me throughout the work on this master's thesis. Especially, my parents, who are the reason I began my studies in social science. Since it was our discussions around the dinner table that lit my curiosity for the big societal questions in the first place. Thank you for teaching me the importance of working hard and the joy of learning something new.

Finally, a special thank you to my studymates: Silje, EmmaL, and EmmaG, you are the reason my time in Kristiansand has been the best. Thank you for the endless coffee dates and the best conversations.

Kristiansand, May 2023

Mariann Johansen

SUMMARY

The aim of this thesis is to get insight into the media discourse on climate change experts in the Norwegian media. The goal is to investigate how these experts are being presented in the media: rather than what experts are being presented. There is seemingly not much research on the media's presentation of climate change experts in a Norwegian context. Hence, I would like to argue that this thesis can provide a small contribution and insight, into how some Norwegian newspapers portray climate experts in their articles. On the other hand, I don't claim that this thesis can give two lines under the answer, but rather, as said, give a little insight into how the Norwegian media present climate change experts, by indicating trends that are showing up in the data material. The research question for this thesis is:

How do the Norwegian media present experts on climate change issues?

I have researched this question by conducting a critical discourse analysis while accounting for relevant theories on both discourse and expertise. The data material consists of four of the biggest national newspapers in Norway, collected strategically from the four latest time periods when an IPCC report was released while using the search words climate and expert.

My analysis indicates that there has been an increasing trend to reference experts on climate change issues in the chosen newspapers, as well as an overall increasing trend in the number of articles published where these experts are presented. It also indicates that multiple different types of experts are referenced in articles discussing climate change. Seemingly, there has been a shift from referencing more natural science experts at the beginning of the century to referencing more political experts and social science experts in recent years. Further that the experts are presented as people who give information that either advocates actions or reasons or not. And the majority of the experts presented in this data material were presented as advocating either a specific action or reason for why something was occurring. Further, there seemingly were no local experts presented and the IPCC was often not included in these articles.

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Introduction

In society, we are dependent on expertise, a multitude of situations require expert knowledge and evaluations (Grundmann, 2017, p.30). Ranging everywhere from when we need medical assistance, legal help, or financial advice to when needing help or advice from experienced relatives on a cooking recipe or when we travel and contact the local population for destination tips and many more. There are many experts around us in society, but what is our relationship to them? And what does the normal person in the street know about the experts we as a society are so dependent on? Most of the information we daily consume is through the media (Grundmann, 2017, p.32), and our relationships with experts are also largely formed in the media (Grundmann, 2017, p.32). From this perspective, most of what we know about experts in our society is from the media's presentation of them. But what do we really know about the experts presented in the media, and are the media's representation of the experts always accurate? Fowler (1991) argues that it is not, he states that the world the media present society with is not the real world but rather “a world skewed and judged” (Fowler, 1991, p. 11). Then, how does the media, present experts? Are they presented as giving society information and just that, or are they presented as advising us on what to do and how to act, or are they presented as something else? And how does the media's presentation of experts affect the discourse of experts in society?_These are questions I in this thesis will try to get some insight on.

1.1. Background

From my understanding through countless searches, there is very little research on how experts are presented in the Norwegian media. There is, however, similar research conducted in other parts of the world. A study conducted on American newspapers by Merkley (2020), found that newspapers typically focus on arguments where experts are agreeing with the content of the article. Similarly, a study by Boykoff (2007), found that there is typically a lack of balanced reporting in newspaper coverage from the UK and the USA. Meaning that there was found that there was a lack of objective reporting from contradicting perspectives in the media discourse (Boykoff, 2007, p.479). Boykoff (2007), however where not accounting for expertise, but rather climate change. This is the case with Carvalho (2007) as well, she has conducted a critical discourse analysis on how climate change is being presented in British newspapers. She found that the media's presentation of climate change is strongly affected by

different ideological standpoints (Carvalho, 2007, p. 223). Further, she states that: “(...) the role of ideology in media representations of science is still blatantly under-researched” (Carvalho, & Burgess, 2005, p. 225). With this in mind, this study focuses on how the Norwegian media presents climate change experts and how their presentation affects the discourse on climate experts in society. This thesis examines four of the biggest Norwegian newspapers, which is: *Norsk RikskringKasting (NRK)*, *Verdens Gang (VG)*, *Dagbladet*, and *Aftenposten* (Mediebedriftene, 2021), in the years 2001, 2007, 2013-2014, and 2021-2022. I searched the newspapers by using the words: *ekspert* (expert) and *klima* (climate).

1.2. Research question & purpose

The aim of this thesis is to investigate the discourse surrounding the Norwegian media's presentation of experts on climate change issues. As I shortly will discuss the goal is not to prove how the Norwegian media present experts on climate change issues, but rather to get insight into trends one could see from the newspapers. I would argue that this thesis could contribute to the field of the representation of climate experts in the media by giving insight into how some Norwegian newspapers present experts in some time periods. Based on this, I have formulated the following research question:

How do the Norwegian media present experts on climate change issues?

Critical discourse analysis provides the opportunity to investigate the general media discourse of climate experts in society (Carvalho & Burgess, 2005, p. 1461). By using a critical discourse analysis approach, I want to examine the general media discourse on climate experts that is apparent in the newspapers. The focus is to get insight into how these experts are presented or referred to by the newspapers, and not who the newspapers present as climate experts. Therefore, I don't consider what the experts actually have expertise in, but rather how they are presenting. I am investigating how the experts are presented, for instance, if the newspapers present the experts as natural science experts or political/policy experts. If they present their experts as giving information or advocating an action. Further, how these presentations can contribute to society's discourse of who climate experts are.

1.3. The Findings

In my material, I found that there has been an overall increase from 2001 to 2022 in newspaper articles published that present an expert on a climate change issue. Further, I found that there were two categories of experts evident in the newspapers, On the one hand, some experts were presented as providing information, whereas on the other hand, some experts were presented as advocating, either an action or a reasoning for why something was happening. I created two roles to use in my analysis: *the information giver* and *the advocating expert*, these are based on Roger Pielke Jr.'s (2007) four roles an expert can have in relation to decision-makers (p. 1 & 2). However, as I will discuss thoroughly in the analysis chapter, I deemed it necessary to create my own terminology, hence the *information giver* and *the advocating expert*. I also found that there seems to have been a shift in what the newspapers call the experts that they presented. The main finding here was that from 2001 to 2013-2014, the majority were presented as natural science experts, whereas in 2021-2022 the majority were presented as political/policy experts or as social science experts. Another finding was that even though recent literature has expressed the importance of including laypeople in our perception of experts (Turnhout & Neves, 2019) this is not evident in the newspaper's presentation of climate experts. The last finding of this thesis was that the IPCC was not often discussed or mentioned in these articles where experts on climate change-related issues were presented.

1.4. Limitations of this project

Firstly, I want to acknowledge that because I am conducting a critical discourse analysis, it is important to address that I myself am a part of the social world and I cannot step outside the discourses of society (Fairclough et al, 2004, p.1). According to Fairclough (2004), one can however reflect on the social discourses and suggest how these affect us, further how the discourses are being presented (p.1). Another important aspect to acknowledge, perhaps the greatest limitation of this thesis, is that the findings cannot prove anything, based on this data material. This is because, I have used four national newspapers, six years (divided over a 21-time period), and two main search words. However, the data material could contribute to suggesting trends in how Norwegian newspapers present experts on climate change and raise a few questions that would be interesting in future research.

In regard to the data material, there are a few distinctions to make. All the choices that I briefly present here will be reflected on in the methodology chapter. First, since I have chosen the specific search words *expert* and *climate change* (and the *IPCC* in one part of the thesis), the data material can only speak for these topics. For instance, it would be very likely that other words like 'scientist' and 'researcher', would retrieve different newspaper articles, and therefore other perspectives may be relevant. However, since the aim of this thesis was to look at how experts on climate change issues are presented in the newspapers, I chose to only use these search words. Second, I have chosen specific time periods when retrieving the data material, therefore this project cannot speak for other years than the ones that are included. However, since I have chosen time periods strategically, to retrieve the most relevant data, it could suggest a trend, but as said it cannot prove anything. Third, It is also important to acknowledge that the data material used in this thesis, could not speak for the media in general and the rest of society, only the specific newspapers in the timeframes I have chosen. On the other side, it can contribute to the discussion surrounding the specific newspapers I chose. To sum up, considering I chose the time periods where experts' perspectives on climate issues would likely be the biggest in the media and chose four of the biggest newspapers in Norway and included the search words: expert and climate change. As said, I would argue that the data material could suggest trends in how the media discourse surrounding experts on climate change issues is being presented or referred to.

1.5. Contextualization

In this part of the introduction, I will present an overview of the context of the theme for this thesis. The two main contexts that are necessary to present are the case I have chosen which is climate change and an introduction to the IPCC, since it will be very apparent in this thesis.

1.5.1. Climate Change as a Case

In this thesis, I wanted to investigate how experts in the Norwegian media are being presented, in order to do so it was necessary to choose a case. Further, a case where a lot of experts on that topic would be represented in the media. Therefore, it was important to choose a case that was well-discussed in the media. This was also important since I was going to retrieve the data material from newspapers. Since the climate change debate is one of the biggest debates to this date (Grundmann & Stehr, 2012, p.120), I wanted to use climate change as the case for this thesis. Moreover, the climate change debate is well discussed in the

media (Grundmann, 2017, p.32), and is perhaps one of the most discussed topics in the media in recent years (Grundmann & Stehr, 2012, p.120).

Roger Pielke Jr. (2010) states that the debate on climate change and its relationship to the public and the media can be traced back to 1988 (p. 2 & 3). In 1988 there was a congressional hearing in the United States of America, with the aim to bring attention to the effects of climate change (ibid, p.1). A scientist here, who had been studying these effects since the 1960s, presented that the effects of the greenhouse effect were here (ibid, p. 1). Further, he stated that the world was at the warmest point than ever before that year and that the effects were big enough that one could with confidence state that a consequence of the greenhouse effect was extreme weather (ibid, p.2). The aftermath of this hearing is argued to be significant (Ibid, p. 2), and “(...) most research agrees is the year climate change becomes a public issue” (Russill, 2008, p. 134). In the following year, 1989, the political debate around climate change in Norway, resulted in a goal being set to tackle greenhouse gas emissions, in an attempt to stabilize the CO₂ emissions (Hovden & Lindseth, 2004, p. 63 & 64) In the following decade the political climate change debate was surfacing in Norway (ibid), and since then climate change has become one of the biggest political and public debates (Grundmann & Stehr, 2012, p.120). For this reason, climate change became the case for this thesis.

1.5.2. Intergovernmental Panel of Climate Change

The intergovernmental panel on climate change (often shortened to IPCC) is an organization working with climate-related issues within the United Nations (IPCCa, 2023). The IPCC consists of members from all over the world with 195 member countries, it is an intergovernmental organization, meaning that their work consists of international collaborations across country borders (ibid). Their goal is to provide governments all over the world with scientific research on climate change. They do so by publishing assessment reports every 6-7 years, as well as publishing other reports on specific issues more frequently (ibid). Their reports are intended to provide legitimate and well-tested scientific research for governments to develop climate policies based on the most accurate information (ibid). The first assessment report was published in 1990, followed by new ones published in 1995, 2001, 2007, 2014 (2013), and the most recent one to this date in 2022 (2021) (Olerud, Fuglestedt & Kalbekken, 2022). The years in parentages; 2013 and 2021, are considered a part of the following report year.

The IPCC states that the “IPCC reports are neutral, policy-relevant but not policy-prescriptive” (IPCCb, 2023). This entails that the IPCC reports give important contributions as to how to tackle climate change problems, however, they are neutral and prescriptive in the sense that they don’t enforce actions to be made (ibid). However, there are many different perspectives on the IPCC and its role in the climate change debate. Some people also distinguish that human-made climate changes are greater than the IPCC suggests (Pielke, 2010, p.20). Moreover, most of the critique on the IPCC, involves that it should be obvious that the IPCC is a political institution, and it should be acknowledged (Pielke, 2004, p. 414). This is because the IPCC is a political institution where “(...) its institutional organization, selection of participants, and even scientific foci necessarily reflect a non-neutral policy orientation, and hence it is in fact very political” (Pielke, 2004, p. 414).

However, in a way, climate research must become politized for it to become actionable (Machin, 2013). This is because climate change research cannot itself let us know that we must act, more less what actions to take (Pielke, 2010, p. 32). In other words, “Science can give us data, but it cannot tell us what to do with it” (Machin, 2013). Further, the IPCC is not conducting climate research itself, they are an institution that collects research from countless scientist across the world (Machin, 2013). In this way, the IPCC is a political institution, but a well-needed one if the aim is to take global actions against climate change (ibid).

As I will discuss in the methodology chapter, the IPCC is relevant to this thesis since I have collected data strategically from the years the IPCC reports were released. This choice was made since The IPCC is a key happening on published experts' perspectives on climate change (Newman, 2017, p. 815).

“Consider the issue of climate change. TSE’s chapter on climate change recognizes the authority of the Intergovernmental Panel on Climate Change as the leading body of expertise on climate science” (Pielke, 2004, p. 410).

To summarize, the IPCC is the largest institution for climate research in the world, and its influence on political actions as well as public opinion, through the media is large (Newman, 2017, p.816). With this in mind, I chose to investigate my research question in the years when IPCC reports were released.

1.6. The structure of the thesis:

In Chapter 2, I present the theoretical framework for the analysis. I will here present different aspects and theories of expertise. Further, what expertise traditionally has been viewed as, and how researchers in recent years suggest that we should view it. Moreover, I will present a theory on the different roles experts in society can exhibit, as well as the political aspects of expertise in society.

In Chapter 3, I will present the theories of discourse, from a Foucauldian perspective. Followed by a presentation of the methodology of discourse analysis. Moreover, how I am going to conduct a critical discourse analysis.

In Chapter 4, I will present the methodology of this thesis. I will present what data are included as well as why the specific data was chosen. Thereafter, I will present a step-by-step guide through how I conducted the sorting and coding of the data.

In Chapter 5, I give a presentation of the data while analyzing and discussing it together with the theories on both discourse and expertise, as well as the research question.

In Chapter 6, I summarize the findings from the analysis in light of the theories used and the researched question. Thereafter, I discuss the strengths and weaknesses of this project as well as discussing the implications of the findings, with suggestions for further research.

Theoretical Framework; Expertise

Experts and expertise are becoming more important in modern societies (Ruser, 2018b, p. 179). There are many different theories and perspectives surrounding expertise and many researchers in the field explore different aspects and implications of the term. In this chapter, I will present the theories of expertise that I will be applying in this project. In particular, the theories of Reiner Grundmann, Sheila Jasanoff, and Nico Stehr perspectives who offer different perspectives on what expertise is and how they operate in society. This is followed by a description of Harry Collins's three-dimensional diagram of expertise. Thereafter, I will go through the concept of lay expertise based on Turnhout & Neves, Collins & Evens, Stilgoe, Irwin & Jones perspectives. Further, I will present Roger Pielke Jr's four roles an expert can have in reactions to policy. This is followed by a presentation of the political aspect with experts, based on Roger Pielke, Alexander Ruser, Sheila Jasanoff, Reiner Grundmann, and Nico Stehr's perspectives. Lastly, I will relate this to the case of climate experts, since the case in this thesis is climate change. The theories and perspectives presented in this chapter will, later on, be applied to the analysis and discussion in an attempt to understand and discuss how the media's presentation of experts on climate change issues.

2.1 Perspectives on Expertise

Jasanoff (2003) argues that expertise historically has been defined in the "thinnest of terms" (p. 159). Meaning that typically expertise is defined with little detail resulting in people understanding expertise based on not all the information, creating a thin description of expertise circulating through society (Jasanoff, 2003, p. 159). Similarly, Grundmann (2017) argues that traditionally expertise has been defined and viewed in limiting terms: he explains that expertise has usually been seen as something a person *possesses*, such as a specialized skill or knowledge a few people in society have (p.26). He describes this as: "A body of knowledge that can be attributed" (Grundmann, 2017, p.26). Meaning that expertise is a thing to be collected. This view of expertise which has been very common has some limitations (ibid). As Jasanoff (2003) describes it, it leads to a thin description of expertise, not accounting for all the aspects (p. 159), and as Grundmann (2017) states it limits the perception of expertise when one defines expertise as a possession (p. 26 & 27). He argues that this is problematic since it leaves out other important aspects of expertise, such as the relational

aspect (p. 26) and lay expertise (p. 40), as I will discuss further in this chapter. Therefore, it is important to think about the meaning of expertise before it is possible to study it.

Grundmann & Stehr (2017) state that the debates around expertise should first and foremost revolve around what expertise is and how they operate in society, in other words, what it means to be an expert. (Grundmann, 2017, p.25). They argue that the discussions around expertise and how it should operate in a democratic society often neglect to present on a deeper level what expertise is (ibid). That expertise, and more broadly knowledge, also includes relational aspects such as what there is a need for expertise in by different clients such as decision-makers (ibid, p.26), as well as interpretation, presentation, action, and experience.

“Experts combine knowledge with its interpretation, and most crucially with an action orientation, making abstract knowledge actionable, or advising clients on how to act in the absence of certain knowledge” (Grundmann, 2017, p.31).

In other words, expertise can be understood as a process (ibid). A process where the knowledge first must be interpreted for it to be knowledge one can present, and thereafter to be knowledge one can act upon. Meaning that expertise is not simply a thing someone possesses, but rather a knowledge to be interpreted, presented, and thereafter can be acted upon (Grundmann, 2017, p.31). Further, experts are characterized not only by their skills and attribution to their field but also by how they present their knowledge and advise other people to act. In this way, Grundmann and Stehr argue that “knowledge becomes a capacity to act” (Grundmann, 2017, p.27). Meaning that the information the experts have must be acted upon to become expertise. For instance, when experts present their information to decision-makers or the news.

2.2 Three Dimensions of Expertise

Collins (2013) argues that there is a need to expand our perception of what an expert is (p. 253). To further the understanding of expertise Collins (2013) created a periodic table called the “Expertise-Space-Diagram (ESD)” (p. 256). Here, Collins (2013) presents how his view on expertise differs from others. He presents three dimensions of expertise that can be used to understand how we perceive expertise and how we should perceive it (ibid). He refers to them

as the one-dimensional, vertical dimension, and horizontal dimension, these visualize his contributions through a diagram. He argues that the first dimension is what society traditionally has perceived experts as, while this dimension should be included, it should not be the whole picture of who experts in society are (Collins, 2013, p. 253). Hence, he created two other dimensions, these being: the vertical and the horizontal dimension (ibid).

2.2.1 One Dimension

Collins (2013) argues that expertise is commonly defined in one dimension, hence the one-dimensional view (p. 253). He explains this dimension to be a group of people or individuals who have spent a great deal of time and effort on a specific topic or skill. Leading them to become more familiar with said topic or skill compared to the rest of society (Collins, 2013, p. 253). He explains that this view of expertise as a small community has some limitations, as it excludes other important aspects of expertise (Collins, 2013, p.253), such as the two other dimensions.

2.2.2 Vertical Dimension

The second dimension he describes at the: *The vertical dimension*, the idea behind this dimension is that expertise is also found in ordinary things such as reading ability and understanding languages (Collins, 2018, p. 67). Here, he argues that there is a factor called “esotericity” that should be seen as a characteristic of expertise (Collins, 2018, p. 67). He proposes that there are many different “forms of life” meaning different ways of living depending on the social and cultural world around you and if one is fluent in the way of life in one, one is an expert in that form of life (Collins, 2018, p. 68 & 69). Esotericity is here associated with a small group of people having/understanding something, in this case, expertise (ibid). This dimension proposes to go beyond the small group of people already acknowledged for their expertise, and proposes to also consider expertise in ordinary skillsets, such as reading (Collins, 2013, p. 256). Moreover, everyday people’s knowledge should also be considered expertise. Since one must have a level of expert knowledge to do everyday tasks as well, from this perspective (ibid).

2.2.3 Horizontal Dimension

The third one he calls *the horizontal dimension*, he describes this dimension to be the: “exposure to tactic knowledge” (Collins, 2013, p. 256). Meaning the knowledge, one gets

through experience-based work. Collins (2013) here states that the potential for expertise increases alongside experience, in other words, exposure to knowledge leads to more expertise (p. 257). This dimension could be argued to have some similarities to the term “lay expertise”. This is because the theory of lay expertise attempts to bring light to different working people's knowledge and how they also exhibit expertise (Turnhout & Neves), and this experience-based work appears to be what Collins (2013) is highlighting in his horizontal dimension: both the theory of lay expertise and the horizontal dimension attempts to include working or ‘lay’ people in our understanding of expertise (Turnhout & Neves), (Collins, 2013, p. 256 & 257).

Based on Collins's (2013) diagram one could be an expert without one or two of the dimensions if one has the other one. This could for example be, if one could speak fluently in multiple languages, one would be an expert under the vertical dimension, or if one is a successful farmer, one would be an expert in the horizontal dimension, however, neither of these people would be considered expert under the one-dimensional term (ibid, p. 253). According to Collins (2013), if one were to perceive experts as a one-dimensional view, one likely was to think that experts only are typical professions like doctors for example, leading one to think that experts are rare people (p. 257). Therefore, Collins (2013) argues that when only accounting for one aspect of expertise, one excludes a big aspect of expertise. This is important because when accounting for all three dimensions, one gets a more precise picture of who the experts in society are. Further, he states that it is important because the level of expertise in society gets bigger when accounting for all three dimensions (Collins, 2013, p.253).

2.3 Lay expertise:

As stated, expertise has traditionally been viewed as a skill to be possessed by a small group of people (Grundmann, 2017, p.26). Common examples of these experts are typically professionals like doctors, law workers, and advisors in different scientific areas. However as stated, researchers in the field have been discussing that there is a need to deepen the consensus and understanding of expertise, as new aspects have been debated (Collins, 2013) (Grundmann, 2017). One of the theories of expertise that have been presented is lay expertise:

“Lay expertise is often defined as the opposite of scientific knowledge because

it is considered to be: contextual and localised rather than universal; culturally embedded rather than objective; tacit and informal rather than explicit and formalized” (Turnhout & Neves, 2019 p. 184).

In other words, a person exhibiting lay expertise could have a deep understanding on a specific topic, that they have developed through practical local experiences (ibid) (Grundmann, 2017, p. 27). For instance, farmers (Irwin, 1995, p. 113). Stilgoe, Irwin & Jones (2006) explain that “lay members” or “lay experts” can contribute to improving the quality of advice experts can give to decision-makers (p.61). “(...) ‘lay experts’ might be able to help scientists situate their advice in a policy context” (Stilgoe, Irwin & Jones, 2006, p. 62). This is because lay experts can help situate the discussion back to the practical world. Since lay experts have much practical expertise on a specific topic, rather than scientific experience (ibid). Leading them to have other perspectives, moreover, perspectives rooted in the practical world. In this sense, lay experts can bring value to scientific advice, by offering alternative perspectives rooted in the “real world” (Stilgoe, Irwin & Jones p. 62). Furthermore, lay experts have in recent years become more discussed and considered more important than before (Grundmann, 2017, p.27).

However, for people exhibiting lay expertise, gaining recognition for their expertise is according to Irwin (1995) often very difficult (p.132). Irwin (1995) further explains that one reason for this is that politics and decision-makers, often don’t consider lay groups in their understating of expertise (p.133). Another criticism of the term by Collins and Evans (2002) is that the name could be different to prevent confusion as to what the name entails, they suggest “experience-based experts” (Collins & Evans, 2002, p.238). However, since the majority of the literature I have used refers to them as lay experts or local experts, this is what I will be calling them in this thesis.

2.4 Four roles the expert can have:

Roger Pielke (2007) has developed four different roles experts can have in relation to politics (p. 1). Each role describes different approaches experts make in relating their science to politics and policy (ibid). By characterizing the different alternatives in how experts relate to policy, Pielke (2007) attempts to highlight that experts face different choices when presenting and relating their expertise to policy and politics (p.10). The roles of experts that Pielke

(2007) presents are therefore related to policy and decision-makers. However, I found it relevant to use them in my thesis, since they can give us insight into the different ways the media can portray the experts that they are presenting. However, since Pielke (2007) meant for his roles to be used in relation to policies (p.1), I needed to adjust them to make them more relevant to my thesis. I will explain this further in the analysis chapter.

2.4.1 The pure scientist

The first one he describes as the *pure scientist*. This role includes the expert serving as an information resource, where one presents the decision-makers with all the necessary information without further suggestions (Pielke, 2007, p. 1 & 3). Pielke (2007) describes that the pure scientist has no contact with decision-makers themselves, but rather makes all their research findings available to all decision-makers, for instance, through their publications (p.15). In this way, the pure scientist only focuses on the research.

2.4.2 The science arbiter

The second one he describes as the *science arbiter*. This role includes the expert working as a resource for the decision-makers, acting as a helper and information source that the decision-makers can turn to when needed (Pielke, 2007, p.2). Similarly, to the pure scientist, the science arbiter doesn't advocate for a specific course of action. However, the science arbiter seeks to help the decision-makers, by acting as an information resource that they can turn to when they have questions, that require expert knowledge (Pielke, 2007, p.16). In this way the science arbiter doesn't give his preference unless he is specifically asked for his perspective (Pielke, 2007, p.2).

2.4.3 The issue advocate

The third one he calls the *issue advocate*. This role includes advocating for a specific option of options, here the experts guide the decision-makers into taking their preferred path (Pielke, 2007, p.2). In this way, the Issue advocates participate in the decision-making process, by advocating for a specific course of action. Moreover, the issue advocate “focuses on the implications of research for a particular political agenda” (Pielke, 2007, p.15).

2.4.4 The honest broker

The fourth and last one he calls the *honest broker of policy alternatives*. This role involves the experts providing the decision-makers with all the necessary information, and thereafter, presenting the different choices of action possible, based on all the information (Pielke, 2007, p 2 &3). Pielke (2007) argues that in relation to climate change, there is a need for experts to act as honest brokers:

“What is needed in climate policy is a greater role for Honest Brokers of Policy Alternatives. Instead, the climate debate can be characterized largely in terms of stealth issue advocacy in which debates about values are thinly veiled by various competing claims about science” (Pielke, 2007, p. 139).

In other words, in relation to climate policy, experts should act by presenting all the information alongside various options for action (Pielke, 2007, p. 139). Furthermore, leaving policymakers, with all the information, while they have multiple different options for action. However, the data material used in this thesis, suggests that this is not what happens in the newspaper's presentation of experts on climate change issues. In my analysis, I will present and discuss how the newspapers present experts based on Pielke's (2007) typology of roles experts can have.

2.5 Political Aspects of Expertise

Multiple researchers in the field, have expressed the importance of recognizing the political aspects of experts. In this part, I will present Pielke, Ruser, Jasanoff, and Grundmann's perspectives on the connection between experts and politics and how it relates to the research question.

Pielke (2007) explains that in a democracy the people of society participate in the decision-making and policy processes by choosing which of the multiple different alternatives accessible on the matter they agree with (p. 11 & 12). These alternatives that they can choose between are created by different experts. Further, it is the experts who measure the different courses of action in political issues and therefore create multiple different courses of action while accounting for the different outcomes and consequences to set a course of action (Grundmann, 2017, p.42). One could here argue that since the experts create the different

alternatives, they also have the power to include and exclude information/alternatives, either subconsciously or consciously (ibid).

Further, Pielke Jr. (2007) argues that science has to some degree become a servant for policymakers and scientists when they discuss their interests in a field (p.10). In other words, people seek out specific scientific information that aligns with their arguments, instead of discussing the scientific information, and thereafter forming one's argument. With this Pielke (2007) argues that science and its language have, in some ways, become a political battle, where different people look for science to advance and legitimate their political standpoint (p.10). Science and policy in this sense are closely connected, and science is often used to justify political actions by decision-makers (Pielke, 2007, p.137).

Ruser (2018a) argues that it is important to reflect on and acknowledge the way experts relate to political decision-making (p.767). He argues that (2018b) argues that science can also be used in justifying political worldviews: "Scientific evidence has become a strategic resource capable of justifying world-views and political positions" (Ruser, 2018b, p. 179). In this way, it must be acknowledged that scientific evidence is not solely neutral information but can also be used to justify or advocate for a particular understanding of that information. Further, when investigating and analyzing the different roles the experts can have, one must always include the political setting the experts are a part of (Ruser, 2018a, p.775). One of the reasons why this is important is because society now are becoming more and more dependent on expertise, since the issues that the decision-makers face are becoming more complex with the globalist and modern world (Ruser, 2018b, p.179). In other words, there is a growing need for expertise from the decision makers, leading to a growing dependence on expertise (Ruser, 2018b, p.179). Further that while this is happening it is important to reflect on the political role experts in society have (Ruser, 2018a, p.767). In relation to Pielke's Jr (2007) roles, the pure scientist is described as a role an expert has when they present all the necessary information, without proposing further actions. Here Ruser (2018a) states that even the pure scientist is affected by political settings (p.775). This is because the pure scientist as well as the other roles are also a part of the political world, both her/his working institution, and the political culture around her/him (Ruser, 2018, p.775).

Jasanoff (2003) also argues that expertise should be seen in relation to politics. She argues that experts act as professional middlemen between knowledge and decision-making. The

practice that experts perform is according to Jasanoff: “A hybrid activity that combines elements of scientific evidence and reasoning with large doses of social and political judgment” (Grundmann, 2017, p.37). In the sense that the experts provide scientific information based on their findings through their research. However, when they present the information, they are themselves also affected by the societal and political setting surrounding them. This includes political viewpoints. Therefore, experts must also be seen as political, rather than solely scientific sources for information (Grundmann, 2017, p. 37). Furthermore, if the experts are also political, Jasanoff (2003) argues that it should be transparent to the public: “Experts exercise a form of delegated authority and should thus be held to norms of transparency and deliberative adequacy that are central to democratic governance” (Jasanoff, 2003, p. 157). In other words, the public gives experts the power to speak for them on matters that involve situations that need knowledge, understanding, and specialized conclusions (ibid, p. 158). Therefore, it should be transparent to the public that the experts are in this way also affected by politics (ibid). In relation to my thesis, I will in the analysis discuss if the political aspects of the experts that the newspapers refer to or present are apparent to the readers. Moreover, if the newspapers present experts as politically affected.

In cases where there is a shared consensus amongst experts, there is also a need for public involvement (Jasanoff, 2003, p.161). The reasoning is that even if many experts have a shared perspective, there may be one or multiple perspectives that have not been considered if the public is unable to be involved (Jasanoff, 2003, p.161). Another reason may be that the experts form their knowledge based on what information they find relevant and when the public cannot contribute, the experts have little information on what the public find relevant, and therefore the experts form their shared perspectives based on only the information they find relevant (Jasanoff, 2003, p.160). Jasanoff (2003) further states that another reason for this might be that important information and perspectives from affected parties could be left out, when not involving the public (p.161). This could be why the media is important because it mediates in some way between experts and the public. Grundmann (2017) argues that society’s movement towards Individualization has led people to seek out expert knowledge for themselves, in the form that it is available to them (p.30). Further that if the media is the sole presenter of expert knowledge, the media will become the main source for information to the people (ibid, p. 32). And if the media only presents a shared consensus amongst experts, the public may only be presented with an understanding of the information.

In relation to the research question, I will here investigate if the media solely presents experts that have a shared understanding on climate change issues.

2.6 Climate Expertise

When discussing topics such as expertise and its implication for society, real-life cases regarding how experts operate in society could be both interesting and significant to have a look at. As discussed in the introduction, the chosen case in this thesis is climate change. This case was chosen since I wanted a topic that would be represented on a large scale in the media, in order to retrieve more data that could suggest and exemplify how experts operate. The case of the media more specifically newspapers was chosen since I wanted to investigate how they share information on experts to society. Climate experts have in recent years had a huge role in the public and decision-makers' awareness of climate change (Grundmann & Stehr, 2012, p. 119). Grundmann & Stehr (2012) states that experts have made climate change a topic worldwide (p.119). Today there are articles discussing climate change very frequently. "Climate change is one of the most complicated scientific and hottest political debates in recent history" (Grundmann & Stehr, 2012, p.120). The information available on climate change through the media is huge, and the narratives are many.

The arena where the citizens and the experts of society meet is the media (Grundmann, 2017, p.32). Unless one actively chooses to seek out research from scientific sources, the information one is left with to read is often through different media platforms. In this sense, the media holds a very important role in society as the main provider of information on events and information (ibid). In the case of climate change, society's information on the topic lies through the media. Hence it could possibly be argued that the media is, therefore, the most important factor in forming the public's perception of climate change (Grundmann & Stehr, 2012, p.120). In the next chapter of this thesis, I will look at how the media presents experts on climate change to the public.

Discourse

The word discourse can be used in multiple ways. In this chapter, I will clarify the way that I understand and use the word discourse and how it is relevant to my thesis. Firstly, I will go through Foucault's understanding of discourse, as well as that of other theorists who have been influenced by Foucault. Secondly, I will present what a discourse analysis consists of, before explaining more specifically what a critical discourse analysis involves. Next, I will go through some of the common contributions of critical discourse analysis, leading into why a discourse analysis can be important. Thereafter, I will discuss how discourse relates to the media, and how the media can contribute to the discourses in society. Lastly, I will present how I am going to be using critical discourse analysis in this thesis. The intended goal for this chapter is to give a framework of what perspectives on discourse I will be using throughout my thesis, including theories of discourse and previous research on discourse.

3.1. What is discourse?

Discourse is a frequently discussed term in many scientific fields, but it is difficult to define. Michel Foucault (1969) was perhaps the first philosopher to use discourse in his writing. His work on discourse helps to show how power and knowledge circulate in society (Mills, 2003, p. 55). For Foucault (1969), discourse is a practice, he describes these practices as “Practices that systematically form the object of which they speak” (Foucault, 1969, p. 54). In other words, the practices of society shape the way things are perceived, which then again shapes how one perceives and talks about society (Foucault, 1969, p. 54). One could here interpret this as society's many practices (like daily social situations on the one hand and institutions on the other) shaping all things surrounding us and therefore shaping how our perceptions, furthering our opinions and attitudes towards them. In this way, discourses socially construct our understanding and views of reality (Mills, 2003 p. 5.) Upon reading about discourse through Foucault's work, I recognize that discourses produce the taken-for-granted conditions of the world. For example, the discourse of climate experts works to define certain people as experts and gives them a certain role - and this becomes taken for granted.

Ball (1990) offers a helpful approach to understanding discourse. He explains that discourse concerns the social structure apprehended when we communicate, and further to understand the discourses in society one must understand how discourse is affected by the social setting

and historical setting of society. (Ball, 1990, p.3). Moreover, how we formulate and express ourselves is never isolated from how society and its functions affect us (ibid). Meaning that our chosen words and actions used in our daily lives are in some ways a result of the society around us. Ball (1990) goes on to further state that:

“The world is perceived differently within different discourses. Discourse is structured by assumptions within which any speaker must operate to be heard as meaningful. Thus, the concept of discourse emphasizes the social processes that produce meaning” (Ball, 1990, p. 3).

Here Ball (1990) argues that it is important to consider that there are multiple discourses within societies and that the discourses are dependent on many factors (p. 3 & 4). These factors affect what discourses one is exposed to (ibid). Hence, one's perception of the world will differ depending on the discourses surrounding you (ibid). Various factors like who you are, your upbringing, and your country of residents contribute to how you perceive the world, and to which discourses you are confronted with and therefore contribute to carry on. For example, as a resident of Norway, one most likely reads Norwegian newspapers, which affects the narrative of information one consumes, which affects what discourses are presented to you. Therefore, different discourses construct reality in different ways (Ball, 1990, p. 3).

Through Foucault's work Mills argues the following: “Discourse does not simply translate reality into language; rather discourse should be seen as a system which structures the way that we perceive reality” (Mills, 2003, p. 55). Here one could say that the world as we perceive it through different communication and information sources is not the sole reality of how the world works. It is important to acknowledge that discourses are affected by social, historical, and political institutions. “Instead of considering that language simply reflects an underlying reality, (...) he asserts that discourse determines the reality that we perceive” (Mills, 2003 p. 5). The world as we see it, is not the objective truth about how the world is. We see the world through a lens, which is affected by the discourses around us (ibid). Further, the discourses around us are affected by the social, political, and historical setting of society (Teo, 2000, p.12). From my understanding, Foucault (1969) strives to give people some tools to understand these aspects. For instance, rather than representing the only truth on a subject, a news article presents one way of understanding information, through the lens of different

discourses. For example, the discourse of the political and social viewpoint the journalist and the newspaper institution represent. Understanding that discourse does not equal reality is one of Foucault's (1977) arguments in his work on discourse (p. 226). Relating this to my thesis, I will in the analysis discuss how the newspapers present experts on climate issues and how the newspaper's presentation of experts could affect the discourse of experts represented to society.

Further, power and exclusion are important aspects of discourse (Foucault, 1981, p. 52 & 53). Foucault (1981) argues that discourses always hold power (p. 52). From my understanding, Foucault (1977) argues that power in discourse should not just be seen as a repressive influence some people hold over other people, but it should include that power is embedded into society, all the way from the core of the structures to how different institutions act (p. 202 & 208). He argues that power operates through discourses and that the discourses circulating in society have power over the members of society. Meaning that discourses in society have the power to shape society members from everyday situations to bigger institutions.

“Discourse is a central concept in Foucault's analytical framework. Discourses are about what can be said and thought, but also about who can speak, when, and with what authority” (Ball, 1990, p. 2). In regards to exclusion, Foucault here states that discourses can hold a power over what and whom that can speak (ibid). Foucault argues that the person who has authorization to speak matters more than the content communicated. (Power, 2011, s. 38). Taking this further one could argue this to include discourse also holds the power to exclude certain things from our perspective of whether something is acceptable or not (Ball, 1990, p.3). Overall, Foucault argues that power lies within discourse in all aspects, both the language that we use, what we perceive to be normal, and our social interactions in society (Ball, 1990, p.3-5). Relating this to the topic of expertise the question would be how discourses of expertise categorize some people as “experts” and others not. For example, in some societies, traditional medicine is seen as the most reliable and trusted form of knowledge, for instance, elder women, whereas in other societies doctors trained in certain systems are the medical experts. In this way, different discourses empower certain types of experts. In my analysis, I will investigate how the newspapers present experts, moreover, what discourses of experts on climate issues are apparent in the newspapers.

over what is valid knowledge and acceptable actions and what practices are considered normal, therefore they also hold power over what is not considered valid knowledge, good actions, as well as what is considered not normal.

3.2. What is discourse analysis?

Discourse analysis consists of studying different discourses presented in different forms of texts, images, practices, institutions, and people (Jacobs, 2021, p.152). The origins of discourse analysis are found in linguistic and social studies, where the focus varies from a linguistic perspective to a societal perspective, where many discourse analyses include aspects of both (ibid). A societal understanding considers that a discourse analysis should include the societal aspects of language (Jacobs, 2021, p.152 & 153). Language should not only be seen as a form of communication but also that it is: “shaped by wider societal configurations that enable communication to take place” (Jacobs, 2021, p.153). There are multiple different approaches to discourse analyses: two very common: Foucauldian and critical discourse analyses. Typically, a Foucauldian discourse analysis focuses on the historical aspect of discourses and why they have come to be, while a critical approach focuses on critically examining the discourses found (ibid, p.155). But in general, all discourse analyses aim to: “uncover and provide insight on the way that language is developed to maintain and exercise power” (Jacobs, 2021, p.151). In my thesis, I will be doing critical discourse analysis, because I want to investigate the discourse of expertise that appears in national Norwegian newspapers, which I believe influences society.

3.3. What is critical discourse analysis?

Critical discourse analysis, often referred to as CDA, has roots in critical linguistics. Critical linguistics examines how and why particular discourses are produced (Teo, 2000, p.11). This term was first used by the linguist's Roger Fowler and Bob Hodge in their book on language and control, published in 1979. They believed that in addition to reflecting social processes and structures, discourses also uphold and strengthen these social structures, and therefore contribute to reproducing them further (Teo, 2000, p.11). Critical discourse analysis began as a mixture of critical linguistics and social theory. Where one started to combine the study of language with the study of the social world (ibid). The critical discourse analysis method was first created by Norman Fairclough and Ruth Wodak and has later been frequently used by many social scientists (Jacobs, 2021, p. 169).

Critical discourse analysis is a form of discourse analysis where the keyword is critical. “The word signals the need for analysts to unpack the ideological underpinnings of discourse that have become so naturalized over time that we begin to treat them as common, acceptable, and natural features of discourse” (Teo, 2000, p.12). The focus of critical discourse analysis is on the relationship between social life and discourses (Fairclough & Fairclough, 2018, p. 169). When conducting a critical discourse analysis, one’s focus is therefore to examine the different discourses presented in the text and analyze the underlining meanings of the text. “Discourse analysis aims to show how language is carefully used to advance ideological claims” (Jacobs, 2021, p.169). It is a method used when analyzing data, consistent with texts of some sort. Ruth Wodak is an authority of critical discourse analysis; she states the importance of analyzing the broader political and social context through the use of language, for example in texts (Wodak, 2006).

According to Fairclough (1985), operating with critical goals in one’s discourse analysis opens the possibility to illuminate discourses that don’t appear transparent usually, but rather are perceived as natural (p. 739). Social structures when not critically examined will likely be seen simply as part of the natural world, rather than socially constructed through different discourses (Fairclough, 1985, p. 739). Meaning that social structures and norms come to be seen as ‘natural’ when they are constructed and presented through powerful discourses and a critical discourse analysis tries to show that.

Teo (2000) explains that studies that involve examining newspapers, political interviews, etc., are typically studies that use a critical approach to discourse analysis (p.12). He claims that these are information sources that seem natural to most people, rather than socially created (Teo, 2000, p.12). A critical approach to the study of newspapers would be effective when one tries to uncover discourses and ideologies that lie underneath the information presented to society in the news. In other words, Critical discourse analysis normally analyses ‘naturally occurring language.

3.4. Limitations on critical discourse analysis

“CDA practitioners are bound by an obligation to address ethical evaluations that are critical of their work” (Fairclough & Fairclough, 2018, p,171). In an article on critical social research,

Fairclough et al (2004) argue that discourse is very much relevant in social research, they also acknowledge that exists a great deal of suspicion and critique surrounding discourse and how it often has been used (p.3). Some of the critiques they present are that discourses are often presented as vague and/or ill-defined. Here they draw the example to Foucault's work as he is often recognized as describing discourses and their practices abstractly and in vague terms, making it more difficult to understand by the reader (ibid). Further, they argue that many researchers present the discourses they find in their material often without clarifying what characterizes said discourse (Fairclough et al, 2004, p.3). In other words, not describing discourse detailed and precise enough for the average reader to comprehend.

Another critical standpoint Fairclough et al (2004) makes is that: "Critical social scientists are a part of the social world; thus, they cannot be seen as independent thinkers reflecting critically on a social world, they are not a part of" (Fairclough et al, 2004, p.1). Meaning that the social scientist researching the social world is also affected by the social world and the discourses around them (ibid). We as a part of the social world, can't "step outside" society's discourses, so how do we then analyze them? This is a complicated aspect of social research, which stresses the importance of acknowledging this problem and why we as social scientists shouldn't pretend that we can approach the social world objectively as if we are not affected by discourses. It is therefore crucial that this is stated and discussed in the study to strengthen the validation.

3.5. Why is discourse analysis important?

Conducting a discourse analysis allows us to study the underlying meaning of texts and language, therefore looking at how society (both political and historical) has affected and is affected by discourses (Jacobs, 2021, p.152). Discourse analysis can help to show how certain ideas (e.g., about experts) influence society. For instance, how language can be used to persuade others of their argument and to push through ideologies to the readers or what perspectives the media are presenting. Looking at the discourses behind the text is important when seeking transparency in society (ibid, p.169). The implications of never discussing discourses in different forms of texts could be that the text and its implications go unchecked, in the worst case leaving the reader and society to interpret the text as the sole truth (Fairclough, 1985, p.739). This could result in false information or politically colored information spreading while perceived as facts (ibid). To analyze different texts in society

could therefore be important to shed light on different discourses (based on political views) circulating in the social world.

Peter Teo states that “Discourse both shapes and is shaped by society” (Teo, 2000, P.12), meaning that the political, historical, and social perspectives on different topics (in other words the discourses) that circulate through society are shaped by the political, historical, and social viewpoints that exist in society (ibid). In other words, discourses exist in a circular motion, it is both shaped by societal conditions and it shapes societal conditions. Another important factor when looking at why discourse analysis matters is the fact that discourses can be used by people and institutions who hold the power to present their views of the world and how things should be. Here Teo (2000) states that at the heart of Critical Discourse Analyses, there exists a common consensus within the research community that: “The discursive strategies are used by the elites to enact, sustain, legitimate and reproduce social inequality, in the media as well as other domains.” (Teo, 2000, p. 43). It can thereafter be argued that these discursive practices (meaning the practices where discourse is presented) must be examined to shed light on this issue, that can be problematic when overlooked. It is, therefore, an important distinction to emphasize how discourse, that appears in a newspaper, reflects powerful interests.

CDA has also been criticized for using only a certain and sometimes small number of texts in the analysis, and therefore by the selection of texts giving the readers a partial view (Sriwimon & Zilli, 2017, p.136). In my data have chosen certain time periods, as well as certain newspapers and search words. I have chosen as representative time periods and newspapers as possible to reduce the possibility that I am giving a partial view. In the next chapter: the methodology, I will discuss how I chose the time periods, newspapers, and search words that became the data used in this thesis.

3.6. Why is it important to look at discourses in the media?

Fowler (1991) states that: “The world of the press is not the real world, but a world skewed and judged” (Fowler, 1991, p.11). Meaning that the news presentation of the world is not the natural world as it is, but rather one way to present it. “Because the institutions of news reporting and presentations are socially, economically, and politically situated, all news is reported from a particular angle” (Fowler, 1991, p.10). In other words, the information the

news presents to society is always reported from a specific angle, whether this is made clear or not. Therefore, it can be very meaningful to analyze the news presentation of a topic, since one then gets the opportunity to investigate what discourses are appearing to readers. However, this is not only accurate in news reporting but rather all representational discourses. Representational discourses are discourses that are represented through various domains, for instance, the media, literature, politics, or in conversations. In other words, different ways people use language and images, etc. to shape our understanding of things through communication. (Fowler, 1991, p.10). To summarize, every text one reads is at different levels affected by an ideological viewpoint, however, it is not always so apparent.

The media has a power, that often for the majority goes unrecognized. In the sense that: “The media play a part in shaping public opinion and political opinions” (Carvalho, 2007, p.223). For example, the information newspaper publishes, and the ideology and political views that underlie the information reach out to the reader, often recognized as the sole truth. Peter Teo (2000) writes that the ideology behind the text, therefore, becomes a common belief (Teo, (p.12). This could have huge implications for the knowledge circulating through society. Both in the sense of fake news, but also in the form of politically biased information being presented and perceived as the sole truth. To prevent this from happening analyzing newspapers with a critical point of view can be very important. “What is written in the media influences public perceptions and thence policy: it matters” (Doulton & Brown, 2009, p.191). As a reader, you consume the values and ideology that lie within the text you’re reading. As a result of this interaction with the text, the values portrayed in the text are reproduced and continue to circulate through society. In the sense that what you read about the world, shapes how you view the world, and therefore shapes how you interact with the world (Fowler, 1991, p. 46 & 47). However, Fowler (1991, p. 46) states that if the reader remains aware of the values and ideology that are portrayed in the text and actively searches for it, as well as familiarizes oneself with the process and structure of news producing, the reader has some power over how one interprets the text.

Another aspect of looking at the media's presentation of news is that the information one gets through the media has been carefully selected. The media have been selected amongst all the other events in the world.

“Real events are subject to conventional processes of selection: they are not intrinsically newsworthy, but only become ‘news’ when selected for inclusion in news reports. The vast majority of events are not mentioned, and so selection immediately gives us a partial view of the world” (Fowler, 1991, p.11).

When the news selects what events they present, they are automatically giving society a partial view of how we perceive the world (Fowler, 1991, p.11). For instance, if the media only write about or refer to, a certain group of experts, they are giving the audience an understanding of experts, based on one group of experts. Moreover, the media are also a form of entertainment, and therefore they may evaluate that some topics are more interesting to read than others. Hence there is also a form of selection based on what information is interesting to society. “Newspapers have to be lively because they offer themselves as a brand of entertainment, and because they must disguise the fact that they are actually a form of institutional discourse” (Fowler, 1991, p.47).

3.7. How I am using Critical Discourse Analysis

I chose a critical approach to discourse analysis because I wanted to study how newspaper articles present experts on climate change. As well as look into what discourses about experts circulate in society, through newspapers, that the majority may not be aware of (Teo, 2000, p.12). As discussed in this chapter, the newspaper's presentation on experts contributes to the discourse of experts that are in society. Meaning that how society perceives experts on climate issues is affected by what experts the newspaper presents or refers to. By using the methodology of critical discourse analysis, I will get the opportunity to investigate how the newspapers present or refer to experts on climate issues as well as what experts on climate issues are evident in the newspapers. For these reasons, I decided to conduct a critical discourse analysis.

There are many different aspects of critical discourse analysis. Examining the language used is one aspect of it and looking beyond the text for a social and political influence is one part. Anabela Carvalho is a researcher in the field of environmental studies and critical discourse analysis (2000) (2007). Her work is relevant to my thesis because she uses critical discourse analysis to analyze newspapers to understand climate politics. She explains that: «CDA often involves a search for aspects or dimensions of reality that are obscured by an apparently

natural and transparent use of language» (Carvalho, 2008, p. 162). In a newspaper study, this could mean to use of a critical discourse analysis approach to investigate if the language used, which appears natural to the readers, is representing one aspect of reality. Or to use this approach to investigate the broader media discourse on a topic, in this way that one can conduct it in many ways (ibid). However, Carvalho (2008) states it is “unmanageable for a sole researcher to analyze each unit of analysis” (p.173). In other words, within the scope of this thesis, it would be too big a task to conduct all aspects that a critical discourse analysis typically entails.

Therefore, since the aim of this thesis is to investigate the general media's discourse patterns in their presentation of experts on climate change issues, I decided to conduct a critical discourse analysis in a general term. Regarding this Carvalho says that “Instead of analyzing texts per se, CDA attempts to understand the links between texts and social relations, distribution of power, and dominant values and ideas” (Carvalho & Burgess, 2005, p. 1461). Further: “CDA has set itself the goal of looking beyond texts and taking into account institutional and sociocultural contexts” (Carvalho, 2008, p.161). In my case, this involves to examines the broader perspective of how the media represent experts on climate change. With this said, I have included some linguistic aspects. For instance, what the newspapers chose to call the experts, and moreover what words they use to describe their expertise. In the next chapter, I will go through how I have conducted this critical discourse analysis.

Methodology

I am conducting a critical discourse analysis to investigate the general discourse of experts on climate change issues in the media. In this methodology chapter, I will go through how I collected the data material, as well as why I made certain choices. Followed by a step-by-step through the sorting and coding process.

4.1. Data collection

When conducting the data sampling of the newspapers, I decided to use the search monitor called Retriever (or, ATEKST). In Retriever, one can search for all Norwegian newspapers in one database and there is access to every newspaper published in Norway going back over 50 years. Retriever, therefore, provided a useful tool to find the relevant material for my thesis. However, since 46,202 articles in Norwegian newspapers mention climate just for the year 2022 for example, it was essential to limit my search in Retriever in terms of the number of newspapers, relevant time periods, and relevant terms.

4.1.1. Selection of material: choice of publications

The research question involves identifying the discourse patterns in Norwegian newspapers in general terms. Therefore, I deemed it valuable to only include mainstream newspapers, that are also national. If I would have retrieved regional newspapers or smaller published newspapers, the chance to analyze the discourse patterns in mainstream Norwegian news would be smaller, since I then would not have the data of mainstream Norwegian newspapers. The newspapers I chose to include are the biggest national newspapers in Norway; “NRK”, “VG”, “Dagbladet” and “Aftenposten”. I chose the newspapers for two reasons, the first one being that they are national newspapers. That they present and write news for the whole country of Norway, instead of regional newspapers limited to a specific part of the country. This would allow me to investigate the general discourses in the Norwegian news and what reality the general media presents (Mills, 2003, p. 5). The second condition was the number of readers the newspapers have. Overall, the three biggest media houses in Norway are “VG”, “NRK” and “Dagbladet”. *VG* is Norway’s largest media house, including both paper newspapers and online, with an overall coverage of 2,2 million people. *NRK* is the second biggest with 1,5 million and *Dagbladet* the third with 1,3 million. “Aftenposten” is at number five in total readers, right after “TV2”, I still choose to incorporate Aftenposten since they are

the biggest printed paper in Norway, with 282 000 readers daily. Here Aftenposten has more readers than the other newspapers I choose (Mediebedriftene, 2021). In short, I chose these four newspapers because they are national news sites and have the greatest readership, leading them to be more representative of the mainstream discourse.

I chose to include both printed newspapers and online newspapers to achieve broad coverage of the newspapers the Norwegian population reads. In 2020, 74 % of residents in Norway read online newspapers daily and 34 % of people in Norway use paper newspapers daily (Mediebedriftene, 2021). Whereas in 2001, 78 % of residents in Norway read paper newspapers daily and 10 % of people in Norway read online newspapers daily (Vaage, 2013). These statistics show that the reading number of paper news has decreased while the reading number of online news has increased. Mediebedriftene further states that it decreased by almost 12 % in Norway in 2020 (Mediebedriftene, 2021). However recent numbers from 2021 show that a third of the Norwegian population still read printed newspapers daily (Mediebedriftene, 2021). Since I want to investigate the changes over time, I deemed it important to include printed papers as well as online papers. Further, in the first time period printed newspapers were the trend, and in the latest time period, online newspapers were the trend, which indicated that it would be valuable to include both.

I took these choices about what newspapers to include because I wanted to look at how the Norwegian news from a national perspective presents experts on the topic of climate change. I therefore sought out the biggest national newspapers, that the majority of the Norwegian population reads. As I will discuss later in the methodology most of the printed newspapers in the two most recent time periods (2021-2022 and 2013-2014) are a printed version of an online paper also included in this project. However, since this didn't include all the printed papers, I still chose to include the printed newspapers for all time periods and rather sort out the ones repeated both in print and online later in the sorting round. Lastly, because I wanted to look at how the newspaper's presentation of experts in general, I included all types of journalistic text from the newspapers, these included: articles, columns, and debate posts. All these types of texts are relevant since they are all part of the discourse appearing in the newspapers read by the public.

Lastly, an important aspect to make clear here, since I am writing this thesis in English is that the newspaper articles are in Norwegian. When I am quoting the articles, I have taken the

direct quote, this means that the quote is written in Norwegian. I have included an English translation in the footnotes, there the translation is written by me. I have tried to translate it as directly as possible while still making it understandable. However, there is always a risk that when I am translating between languages that some of the meanings get lost in translation. This is the reason why I decided to leave the references and quotes in the text in Norwegian. By doing the quotes in this thesis are exactly as the newspapers write them.

4.1.2. Selection of material: time periods

The other restriction I made in my data search was to limit my search to specific periods of time. Fairclough & Halskov (2008) state that when selecting the time period for one's research one should take a starting point in a social event that has occurred. Anabela Carvalho (2000) calls such events "critical discourse moments" (p.5). With this in mind, I chose to look for social events/ critical discourse moments that involved the presentation of experts' knowledge on climate change. The event that made the most sense to choose was the release of the reports by the UN's climate panel, called the Intergovernmental Panel of Climate Change (see the introduction for more information on the IPCC). Carvalho (2007) has also stated that the IPCC is a critical discourse moment regarding climate change (p. 237). In the years where the IPCC reports have been published the media's coverage of climate debates surrounding experts' knowledge will likely be greater and denser in these years than in other years. In the public debate on climate change, the IPCC report releases are definitely key events (Newman, 2017, p. 815). Therefore, I conducted my analysis of newspapers in the years in which the IPCC reports were published.

This approach was also helpful because I am interested in tracking the changes in discourses and shifts in the way experts are presented in the media over time and comparing the present time to previous years. The IPCC reports are released regularly, around every 7 years. I chose to research the four most recent time periods when an IPCC report was released. The most recent report was released in 2022 (2021). However, although the main report was released in 2022, in the year before various parts of the report were released as well as multiple articles by the IPCC. Therefore, I chose to search for articles during the 24 months from January 1st 2021, to December 31st 2022. The second most recent report was released in 2014, again however in 2013, parts of the report were released as well as multiple articles by the IPCC, so I searched for articles between January 1st 2013, and December 31st 2014. The third most recent report was released in its entirety in 2007 and the fourth most recent was released in its

entirety in 2001 so I searched for articles for those years. In total: six years, divided over four different periods of time.

Summary of time periods:

- January 1st, 2021 - December 31st, 2022 (2021-2022).
- January 1st, 2013 - December 31st, 2014 (2013-2014).
- January 1st, 2007 - December 31st, 2007 (2007).
- January 1st, 2001 - December 31st, 2001 (2001).

4.1.3. Selection of material: search words

To narrow down the articles published in the chosen time periods, I needed to apply specific words to the search. The search words I applied to this data collection are “Klima” (Climate) and “Ekspert” (Expert). Here I have translated them directly from Norwegian to English since they have the same meaning in both languages. The data collection aimed to uncover articles where experts were being talked about in relation to climate change. These search words helped me collect the most relevant data, as the search words included both relevant aspects of the research question. This search in retriever resulted in 116 hits in 2021-2022, 56 hits in 2013-2014, 26 hits in 2007, and 7 hits in 2001. Overall: with 182 hits.

I considered reformulating the search words, since many of the articles were considered irrelevant. For example, some articles reference climate differently, not in relation to the natural climate, and others only mention climate once to further another story on an unrelated topic. An example where this occurs is an article from Dagbladet that references climate only to further another point talking about international politics on the military. The only time the word climate is used in this article is here: «Det skaper helt nye rammebetingelser for absolutt alt i verden. Fra militær opprusting til klima, økonomi - alt.»¹ (Wiersen, 2022). After observing that “climate” as a keyword may be too large, I narrowed my search terms down, and tried using “climate change” and “climate crisis”, but here only a handful of articles showed up. I, therefore, decided to stick to searching with the word “climate” and to check individually through the collected articles to sort them manually to find the ones talking about climate in the sense of the environment and excluding those only referencing climate in a

¹ Translated: It creates a whole new set of conditions for absolutely everything in the world. From military rearmament to climate, economy – everything.

sentence to further another point and those referencing climate in other senses (such as “work climate” or “economic climate”).

With this said, for the last part of the analysis, I saw it necessary to conduct another search in Retriever. Here I search the word “IPCC” in all four newspapers in all the time periods. This was done for comparison purposes since I wanted to investigate and compare how often the IPCC was mentioned without the word expert and with the word expert. However, I don’t include this word as part of my search words, since I did not code the articles, this search resulted in. This search was only used to see the frequency of how often the IPCC was mentioned overall, without the other search words.

4.2. A step-by-step of the sorting and coding of the data

At this point, I had retrieved all the newspaper articles that I was going to use. Now I started to sort through the articles, for relevance. Thereafter I started to code the articles. In an attempt to clarify this process and the choices I made along the way; I have created a step-by-step of this process.

Step 1: First sorting round

When going through and reading the articles for the first time I began sorting the articles after relevance to the research project. As previously said, I did this because, during the search for articles, I noticed that many of them didn’t reference climate and experts. Therefore, I created a criterion as to which articles, I would include. During the sorting, I wanted to ensure that I sorted the articles as ‘objectively’ as I could. Fairclough et al. (2004) state that when one is seeking to analyze aspects of the social world, for instance with critical discourse analysis, it is important to recognize that one is also a part of the social world (p. 1). Hence, since I myself am a part of the social world this could likely affect the sorting. Therefore, I created a criterium to sort after to ensure the best level of objectivity during the sorting. The criteria I created were rooted in the research question, to retrieve the data that was the most relevant for my project. The criteria I created are the following: *To collect all the articles where climate change is the main agenda in the paper or one of two main agendas.* During this step, I went through all the articles to retrieve the articles where climate change was the main or one of two main agendas in the texts. I went through the articles and sorted out the irrelevant articles.

I noticed that the articles were irrelevant for one of two reasons. They either referenced climate in an irrelevant way or climate was not one of the main topics in the articles.

The first reason for irrelevance was that the article referenced climate in an irrelevant way. I excluded articles that was referencing climate in all other aspects than climate regarding climate change. In the Norwegian language, the word climate (klima) is used in different ways and one common way of using it is to describe how the environment is in different social places, such as at the workplace or in a sports club, etc. This was reflected in the articles since many of them referenced climate regarding “work climate”, “sports climate” and “music climate” (Jobbmiljø, sportsmiljø, musikkmiljø). I excluded these articles because the article wasn’t about climate relating to topics such as climate change, but rather as climate in a linguistic was to describe the environment that was within a workplace or in a sports club.

The second reason for irrelevance was that climate was not one of the main agendas in the text. I excluded the articles that didn’t reference climate as one of the main topics of the article. Many of the articles were articles on political topics, discussing and presenting political news. These articles had experts’ knowledge in them but on political issues. Climate here was only being referenced one or two times, and often to exemplify another topic or in a list to name examples. An example of this is an article from VG published in 2022. In this article, the journalist discusses the presidential election in the United States of America, and the only time climate is written is in this sentence: «USA har også valgt en av historiens yngste til Representantenes hus. 25 år gamle Maxwell Alejandro Frost (D) kjemper for strengere våpenlover, abortrettigheter, klima og helsetjenester for alle» (Buggeland et al., 2022)².

After the first step of sorting, I had completed sorting out every article that was talking about climate in an irrelevant way for this project and was left with all the articles where climate was the main agenda (or one of two main agendas) in the articles.

Step2: Second sorting round

After sorting through the articles and searching for the most relevant newspapers, I noticed that not all the articles were referencing an expert and their perspective on a climate relating

² Translated: The USA has also chosen one of history’s youngest to the house of representations. 25-year-old Maxwell Alejandro Frost (D) is fighting for stricter weapon laws, abort rights, climate, and health services for everyone.

matter. Since the research aim is to get insight into how the media presented experts on climate-related topics, I considered it valuable to sort the articles one more time. This time looking for if the articles presented or referenced an expert's perspective on a climate issue. With this in mind, I conducted another round of sorting. Before starting the sorting, I created another criterion. As previously stated, this was because I wanted to ensure that I would retrieve the most relevant articles, as objectively as possible. The criterium I created was the following: *To collect all the articles where there is presented a minimum of one expert and their perspective and/or experts' opinion on a climate-related issue.* (the experts could be experts in anything as long as they had something to say about a climate-related issue. Because the goal of the project is to get insight into how experts are presented). Since all the articles before this round had a climate relating issue at minimum one of two main agendas. The articles I was now seeking to exclude were articles discussing a climate-related issue, but not referencing an expert's opinion and/or knowledge. An example of this is an article from NRK (2014). This article is about Leonardo DiCaprio, who is an actor and activist for climate, and his speech at a UN convention. The only time the word expert is used in this article is in this sentence: "Jeg er ikke her som ekspert, men en som bryr seg" (Torjusen, 2014)³. The topic of the article is climate change, but there is no reference to an expert, hence I sorted it out.

After sorting the articles two times, I was left with the final data that I was going to analyze. I would argue that conducting these two sorting rounds helped retrieve the best material grounds for the project. Because the aim was to be left with articles in which the main topic of the article was climate change, and that there somewhere in the article was presented an expert or an expert's perspective and/or knowledge and by conducting these two sorting rounds I was left with all the articles relevant by the two criteria presented during the sorting.

Step 3: Third sorting round

At this point, I had all the articles that were going to be the data for this project. However, I still had one last sorting to conduct. This time I sorted out articles that were repeated both in the print newspaper and in the online newspaper. I did this because I noticed that some of the articles published both in print papers and online newspapers were quite similar. Here I read through them to see if they differed in any way, most of them did not, hence I considered

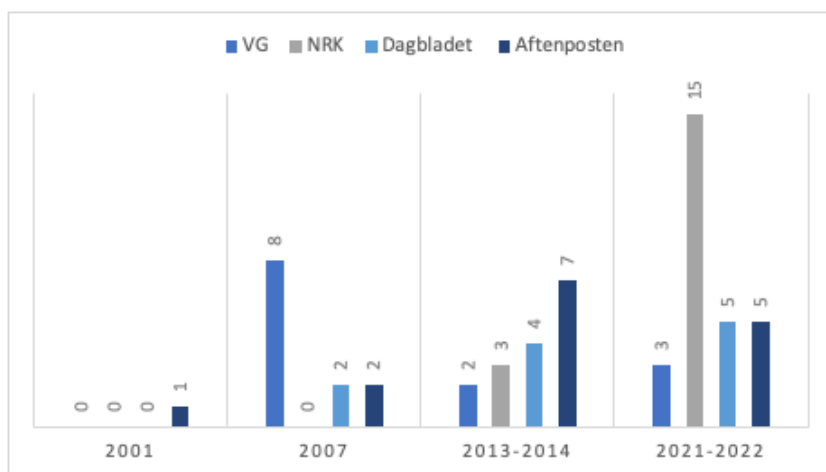
³ Translated: I am not here as an expert, but as someone who cares

them the same article. This was the case with three articles from 2021/2022, five articles from 2013/2014, and two articles from 2007. Therefore, ten articles were repeated, and I excluded them.

The final data

The total articles were now 57 articles (see Table 2 for an overview). 28 articles from 2021-2022, 16 articles from 2013-2014, 12 from 2007, and 1 from 2001. In this final collection of data, I was left with all the articles that fell into the two criteria. In all of them, climate was the main agenda or one of two main agendas. There was presented a minimum of one expert and their perspective and/or opinion on a climate-related issue. The experts however could be experts in anything if they had something to say about a climate-related issue. In all the newspaper articles, one or more expert was referenced. In the total of 57 articles, 61 experts were referenced (see Table 3 for an overview of the experts referenced). An important note here is that some of the articles referenced other people as well, but in this project, I have only included the one who was called an expert by the journalist in the articles. Some people however were referenced in other professional and academic terms, such as historian, researcher etc. I only included the people who were referenced as experts because in my project the aim is to get insight into how the word expert circulates through the media and to see how the newspapers present these experts.

Figure 1: An overview of the number of articles after sorting for relevance.



Source: Authors' data set, collected from Retriever.

Step 4: First coding round

After retrieving all the data material, I started to code the articles. Since I previously had read the articles two times, I had an overview of what the articles were discussing. Since I had the

overview, I started coding them upon the first reading, however, I would categorize this first coding process as pre-coding. A pre-coding process entails reading the material while taking notes and underlying things one might find interesting or relevant (Rapley, 2021, p. 346). While I was pre-coding, I took notes of what the experts were called in all the articles. As previously mentioned, Ball (1990, p. 4 & 5) describes that the words one chooses to use are always in some way influenced by the social world. Therefore, by coding the words used by the newspapers to reference the experts, I could explore how the language used by the newspapers are reflecting discourses in the social world. Hence, I coded the articles after what types of experts they referred to or presented, based on what they called the experts. In the analysis chapter, I refer to these as typologies of experts, this is also the part of the analysis where the linguistic part of a discourse analysis was used. Since I here examined what types of experts the newspaper presented, based on what words they used to describe them.

Based on this coding I created super categories. Here I categorized the types of experts the newspapers presented. Since most of the articles called their experts different things, the choice to make super categories was taken. This was helpful in order to make a chart to get a clearer overview. Here I made the super categories in broad terms, based on the wording used by the newspapers. For instance, if an article called their experts a biology expert, I coded them to the super category of natural scientists. In Table 1 in the appendix, there is a full overview of the wording the newspapers used (in the form of direct quotes) in referencing the experts, together with what super categories I put them in. As I will present and discuss in the analysis, the super categories became; natural science experts, political/policy experts, social science experts, organizational experts, other experts, and undefined experts. The difference between other experts and undefined experts is that in the undefined category, the expert's area of expertise wasn't mentioned in the articles. Whereas in the other expert's category, there were experts that are defined in the article but don't belong in any of the other super-categories.

Step 6: Second coding round

Further, the aim was to get insight into the general discourse of experts on climate change issues in these newspapers. Therefore, I coded the way the experts were presented, moreover how the expert was presenting information in the articles. As presented in the theory chapter, I wanted to see if Pielke's (2007) theory of the four roles an expert can have, would be evident in this data material. Therefore, I coded the articles after these four roles. However, as I will

discuss in the analysis, I found that I needed to adjust his roles to better work with this data material. Therefore, I coded them one more time, but this time coding for the new roles that I created, which were: the information giver and the advocating expert.

Step 7: Third coding round

I had now coded for both the typologies of experts and different categories of experts; I now started another coding round this time coding for local experts and mentions of the IPCC. When I was coding for the IPCC, I found it relevant to conduct a new search in a retriever. Since, as previously stated, I wanted to compare how often the IPCC was mentioned with the word expert and without. However, I didn't code the articles this search resulted in, because I only considered it relevant to retrieve the frequency. Further, when coding for local experts, I searched for experts presented as non-professionals, but experts in the sense that they had a lot of practical experience, in this sense a local form of expertise.

In the next chapter, I will present the findings from my analysis, as well as discuss them in regard to the relevant theories and the research question. Based on the collection of data material and coding I have five main findings that I will present and discuss in that chapter.

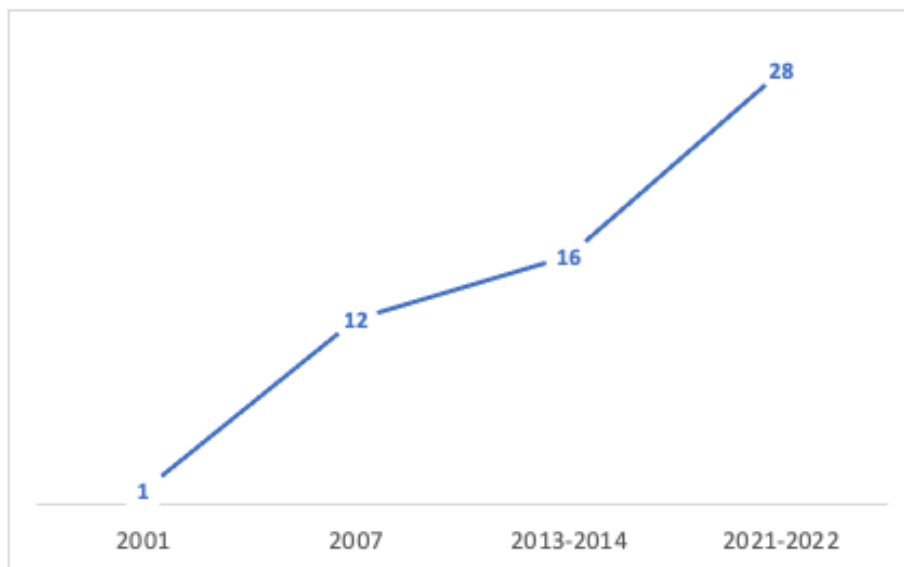
Analysis and Discussion

In this chapter, I will present the findings from the data as well as analyze and discuss them, with relevant literature and the research question. I have separated this chapter into five parts, based on the five main findings. First, I will discuss the increase in the frequency that experts appear in newspapers in relation to climate change from 2001 till 2022, Second, I will discuss the different types of experts that appear. Third, I will present and discuss the different categories of experts found in this data material. Fourth is the local experts, more specifically the exclusion of them in the newspapers. Lastly, the fifth one is the discourse surrounding the IPCC in the newspaper articles.

5.1 Quantity of references to experts

The first and most apparent finding in this project is that there has been an increase in newspaper articles that reference an expert's perspective on a climate change issue. As one can see in Figure 2, the number of articles that reference expertise in relation to climate change has increased from 2001 to 2022.

Figure 2: An overview of the number of articles in the different time periods



Source: The newspaper articles in the data material

As previously discussed, Grundmann (2017) argues that societies in recent times have become more dependent on expertise due to the growth of education and knowledge throughout society (p.31). This finding supports this claim, indicating that there has been a

consistent increase in articles discussing climate relating issues while presenting expert knowledge aligns with Grundmann's (2017, p. 31) statement. Moreover, society has become more dependent on expertise according to Grundmann (2017), and while there has been an increase of dependence on expertise, it makes sense that there has also been a growth in discussions surrounding expertise. This also aligns with Ruser's (2018b) argument that expert's dependence in society is rising (p.179) Furthermore, Stehr (2001) states there is a consistent increase in the knowledge available every five years (p.89). Since the media is the main source of information to the public (Grundmann, 2017, p.32), it also makes sense that expertise is increasingly discussed in the media. Hence, this finding of a rising trend of newspaper coverage of experts on climate matters makes sense according to multiple perspectives of an increase of expert dependence in society.

This data suggests that the newspaper coverage of expertise has increased from 2001-2022, indicating that there has been a growth in public exposure to experts on climate issues in the newspapers. Based on Ruser's (2018b) argument that expert dependency in society is increasing, it is also important to look at the political aspect these experts are a part of (p.179). Further, he states that looking at the political aspect of expertise is maybe now more important than ever before (Ruser, 2018a, p.767). I would here argue that based on the increasing trend to reference experts on climate matters in the newspapers, there could also be an increasing need to look at and analyze the political aspects of experts in society. Since, based on Ruser's (2018a) argument it is important to look at the political aspects of experts in society, and when experts in society are rising, this need also increases from this perspective (p.775).

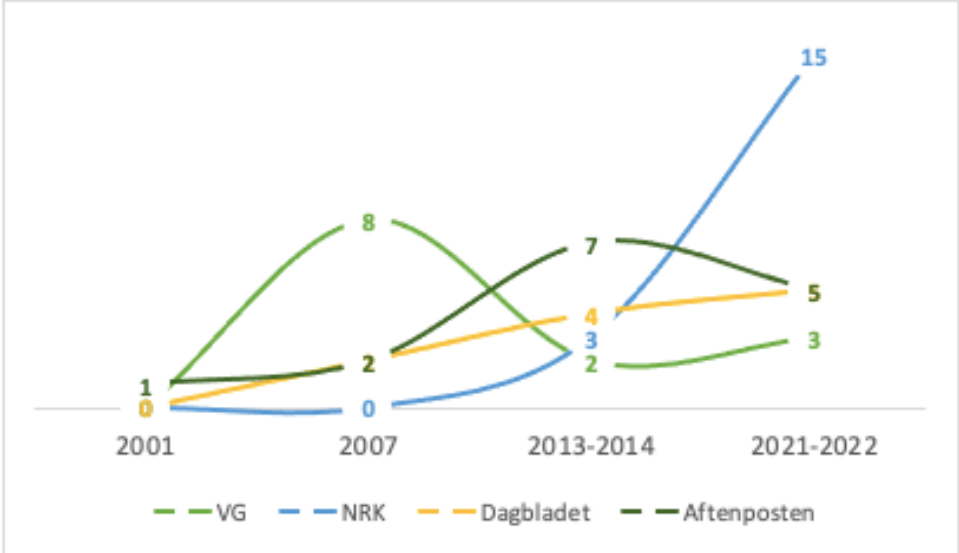
The increasing trend of coverage is true with the overall coverage from the four newspapers. However, looking at the newspaper's coverage separating the different newspapers the trend of increasing coverage over time is not accurate for all of them (see Figure 3 for an overview). The trend of consistent increase is apparent in both NRK and Dagbladet, whereas decreases could be found in VG and Aftenposten. This is an important acknowledgment since the different newspapers differ in increase and decrease, the general trend could be different if there were different newspapers in the data material.

This suggests that some newspapers more than others publish more articles covering climate issues while presenting an expert's perspective. This variation implies that the reader's

exposure to experts on climate issues is dependent on what newspaper one chooses to read. As presented in the theory chapter, Fowler (1991) states that as the reader of the newspapers, one consumes the values and ideology underlying in the text one reads and that this shapes one's view of the social world (p. 46 & 47). Taking this into account as well as the variation of coverage between the different newspapers, one could argue that the newspaper one chooses to read affect what discourse of experts on climate issues one is exposed to depending on what newspaper one read. This also aligns with Carvalho's (2007) argument that newspapers have a role in forming the opinion of the public (p. 223).

For example, if a reader solely read NRK during the time period of 2021-2022 one would arguably get a bigger exposure to experts' opinions on climate issues, than if one were to solely read one of the other three newspapers. Ball (1990) argues that people's perception of the world differs conditional on what discourses are around them (p.3). In this way, the variation from the different newspapers could implicate that what perception of experts on climate matters one has, depends on what the newspapers one tends to read.

Figure 3: An overview of the number of articles sorted by the newspapers



Source: The newspaper articles in the data material

However, as previously stated since there is a significant variation in the number of articles presenting an expert's opinion or perspective on climate matters. This could indicate that if I were to include different newspapers, the numbers would likely vary. It is, therefore, important to acknowledge the limitations of this data material. Since there are only four

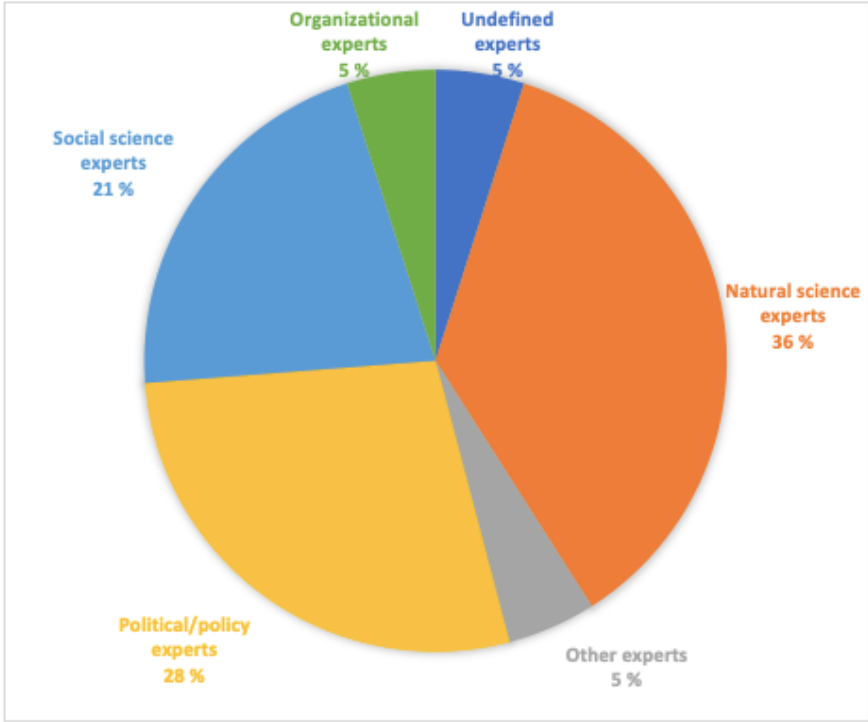
newspapers included in this data material, the number provided by it cannot prove how often the general Norwegian media present experts on climate matters to the population. With this said, it could however suggest or indicate that there has been an increasing trend. Since, I chose the three biggest newspapers in Norway, according to online reading numbers (VG, NRK, Dagbladet), and the biggest according to paper reading numbers (Aftenposten). Therefore, based on the fact that four of the biggest newspapers in Norway are included in this project, I would argue that the data material could help identify the discourses that are presented in the general Norwegian media surrounding experts on climate relating issues (Teo, 2000, p.12).

Therefore, based on the overall increasing trend to present or refer to experts on climate matters in the chosen newspaper articles, I would argue that there has been a growth in the Norwegian population's exposure to experts on climate matters from Norwegian newspapers.

5.2 Typologies of Experts

The second finding was that there was a big variety in what the newspaper articles chose to call the expert they referenced. Overall, there are 61 experts referenced in the 57 articles. In the time period 2021/2022, 30 experts were referenced in 28 articles (31 if we include the one repeated in print). In the time period 2013/2014, 17 experts were referenced in 16 articles. (21 if we include the five repeated in print). In 2007, 13 experts were referenced and lastly, in 2001, one expert was referenced. One can here see that the overall trend to reference experts on climate matters in the selected newspaper has increased alongside the increase of the number of articles published by the four newspapers over the periods of time. At the same time, the data suggest that over time, there has been a shift in what the newspaper calls the experts they are presenting or referring to.

Figure 4: An overview of the percentages of experts in the super categories

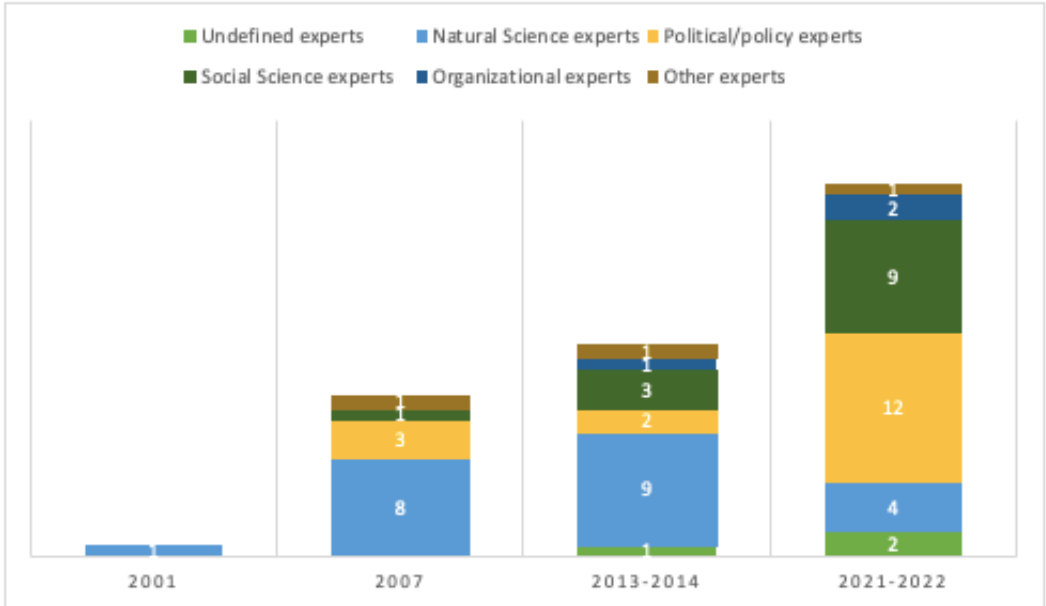


Source: Super categories created by author based on the newspaper articles in the data material

In the pie chart above, there is an overview of the super categories created based on what the newspapers chose to call the expert they referred to (see the appendix for an overview of what the newspapers called their experts). The super categories are the following: *Natural science experts*, *Political/Policy experts*, *Social science experts*, *Organizational experts*, *Other experts*, and *Undefined experts*. As stated in the methodology chapter, the other category contains experts that are defined in the article, but don't belong in any of the other super

categories. Whereas, in the undefined category the expert’s area of expertise wasn’t mentioned in the articles. Out of the 61 experts referenced, 22 went into the natural science expert’s category, 17 into the political/policy expert's category, 13 into the social science experts’ category, 3 into the organizational experts’ category, and 3 into the other category, and 3 into undefined experts. As stated in the introduction the experts referenced may have academic or professional relevancy in other fields than what they are placed under, since I categorized them from how they were referenced as an expert in the newspaper, and not for their actual qualifications from their background. This is because I was seeking to find out how the experts that they referenced were presented by the media discourse. It was irrelevant to analyze what people the journalist called experts; what was relevant to my analysis was rather how they represented the people they called experts. However, it is important to clarify that the experts’ backgrounds may differ from what the journalist chose to call them an expert in, in many of the articles the expert's background is not accounted for. In other words, their field of work and academic background may differ from the field of expertise the newspapers included them in by referring to them as an expert in that field.

Figure 5: An overview of the number of experts in the super categories, sorted by year.



Source: Super categories created by author based on the newspaper articles in the data material

5.2.1 Natural Science Experts

The newspapers in total reference 22 natural science experts. From these statistics, one can see that the majority of the natural science experts that were referenced were in the time

period 2013-2014, indicating that from 2001 up until 2013-2014 there was an increasing trend of referencing natural science experts, while this trend from 2013-2014 till 2021-2022 decreased. Overall, the numbers suggest that referencing natural science experts on climate issues in the newspapers was more common before, whereas in recent times the trend is to reference experts in other fields.

Therefore, based on this data material one could argue that there has been an increasing trend of referencing experts on climate issues that are not natural scientists. Considering that every article had climate as a main topic, or one of two main topics, the reference to natural science experts could be argued to be limited in the last time period: 2021-2022. Although the number of experts referenced as natural science experts increases between several time periods, the proportion of natural scientists of the total of experts referenced *decreases* over time. Put differently, the references to other types of experts on climate matters than natural science experts have increased. However, it is likely that some of the experts that are not presented as natural science experts by the newspapers have a background that gives them weight in climate issues. Therefore, it could be argued that several experts from various other super categories could have expertise in climate change-related issues. However, it is not made apparent by the newspapers since they don't suggest it.

As discussed in the chapter on the theories of expertise, Collins (2013) states that a Three-dimensional view of expertise is crucial in the pursuit of a full understanding of experts and expertise (p.257 & 258). With this in mind, one could argue that all the experts referenced that are not natural scientists would still be experts on climate-related issues in some ways. For example, the rhetoric expert mentioned in 2021/2022. This person is presented by the journalist as a rhetoric expert, while he states his opinion on how the IPCC researchers that presented the new UN climate report did so in a "boring" manner. He is not categorized as a natural science expert, since this is not the impression one gets from the words chosen by the newspaper journalist. However, accounting for Collins's (2013) theory of a three-dimensional understanding of expertise, it could be argued that the rhetoric expert holds expertise in for example climate communication, etc. Though, it would be difficult to state for sure since the background of the expert is not accounted for. At the same time, it would be a reasonable assumption that he holds some expertise in climate communication and the rhetoric used by the researchers of IPCC since he is a rhetoric expert brought on by the newspaper to state his perspective on a climate matter.

5.2.2 Political/Policy Experts

In total, political/policy experts were referenced 17 times in all the time periods. These numbers suggest that there has been an increasing trend to reference political/policy experts on climate issues in the newspapers. One interesting aspect of the political/policy experts referenced was that ten out of seventeen experts in this category referenced the experts as an expert of a geographic place. Nine of these are of a country, and one of them of in a grouping of multiple countries (see table in the appendix for an overview). The majority of these were found in articles from 2021/2022. Nine of these references were found in articles in the 2021/2022 time period, and one of them in 2007. There was none of them in the time periods of 2013/2014 and 2001. With this size of increase, it could indicate that there has been an increasing trend to reference experts as experts in a geographic area. An important note here is that this data cannot prove anything, but they could possibly indicate a trend. The geographic areas included in the data were the following: The United States of America, The United Kingdom, Russia, India, Brazil, Finland, and Latin America. However, the articles that referred to experts as geographic experts often stated that persons working title and/or their workplace. By presenting the expert's current workplace and/or title, the legitimacy of the expert could be argued to be strengthened to the reader. This is because as a reader one gets insight into what field of work, they currently are employed in. While it often was presented the expert's current workplace or work title in the article, the expert's backgrounds were not. Both the professional and academic background of the experts the articles were refereeing to, were rarely inclined and accounted for in the articles.

For example, in an article discussing the challenges President Joe Biden face on climate issues (Røssland, 2021). The expert is called a USA expert: «USA ekspert og forsker ved Norce forskingsinstitutt, Hilmar Mjelde er ikke helt enig i Kerrys dramatiske sammenligning» (Røssland, 2021)⁴. Here the newspaper presents the expert as a geographic expert and states the expert's current working position. However, at no point in the article was it accounted for what background the expert had. By not accounting for the background of the experts, parts of the credentials of the experts are left out, creating uncertainty as to what grounds the experts have in their opinion/perspective. In the case of geographic experts, the lack of presentation of what field the expert has a background in results in uncertainty as to what the newspapers put

⁴ Translated: USA expert and researcher at Norce Research institution, Hilmar Mjelde, don't completely agree in Kerry's dramatic comparison"

in the term “USA expert”. By leaving out the expert’s background, exactly what within that country they have expertise in is left unsaid by the newspapers.

An important acknowledgment of this finding is that when the newspapers referred to people as an expert in a geographic area, they often did so without referencing what area or field within that country they had expertise in. It then could be somewhat unclear as to what within that country they have expertise in. It could be argued that by doing this the news leaves it up to the reader to themselves conclude about what their expertise entails. A consequence of this may be that the reader overestimate or underestimated the field of expertise the expert has within the geographic area, this process could also be an unconscious one that the reader doesn’t reflect over, then again leading it to become an unconscious part of their understanding of experts.

5.2.3 Social Science Experts

In total the newspapers reference 13 social science experts. In 2021/2022 nine social science expert was referenced, in 2013/2014 there were three social science experts mentioned, in 2007 there was one social science expert while in 2001 there was none. This indicates that there has been an increasing trend of referencing social science experts from 2001 up until 2021-2022. Overall, there were a minority of experts referenced as social science experts, however, experts likely called geographic experts and organizational experts have a background of expertise in different social sciences. For instance, the expert called: “EU expert” could likely have a background in political science, but this is not stated in the article. However as mentioned the analysis aims to investigate how the expert is presented, not what they actually have expertise in.

5.2.4 Organizational Experts

Organizational experts are referenced three times overall in all the articles. One time in 2013-2014 and two times in 2021-2022. The three experts in this category were called: an EU expert, a UN expert, and an expert in the directorate for the environment expert. These experts could have, and likely has expertise in various and/or multiple of the other super categories, such as political/policy experts and social science experts. However, this is not stated in the article. The only words the journalist used to describe these experts are as an organizational expert.

5.2.5 Undefined Experts

In the super category of undefined experts, there were three experts. This category includes every time an article mentioned or referenced an expert, without stating either who the expert or experts were nor what they were experts in. For example one article says that: “Eksperter er bekymret for hva som skjer når neste krise treffer. For eksempel klimakrisen” (Kagge & Skjeggstad, 2021)⁵. Here the article doesn't mention who the experts they are talking about are. This was the case three times throughout all the periods. Once in 2013-2014, and twice in 2021-2022.

5.2.6 Other Experts

The super category “other experts” was created since there were a couple of experts that were not compatible to fall under the same categories as each other or the others. In these cases, it was not presented by the newspapers in what field their expertise lay within, other than what they described them as. In this category, there were three experts. Once in 2007, once in 2013-2014, and once in 2021-2022. The three experts in this category are a coffee expert, a statistics expert at the wine monopoly, and a traffic expert.

5.2.7 Discussion of Typologies of Experts

In the time periods up until 2013-2014, the majority of the experts that were presented or referred to in the newspaper article were natural science experts. While in the most recent time period, the majority were political/policy experts and social science experts. This indicates that experts on climate change issues presented in the newspapers are not solely perceived as natural scientists, as one might possibly assume. However, the experts presented have previously also been political/policy experts and social science experts as well. The difference is that in the most recent time period, they have significantly outnumbered the natural science experts that are presented. However, this data suggests that the experts that the newspaper refers to on climate matters are not always natural scientists. Moreover, before the majority were natural scientists, whereas in recent years the majority are other types of experts, such as social science experts and political/policy experts. An implication of this could be argued to be that the discourse of whom climate experts are based on the newspaper's presentation of them has shifted.

⁵ Translated: experts are worried about what happens when the next crisis comes, For example, the climate crisis.

The media have power over what information most of society receives. Since the majority of the Norwegian population reads newspapers daily (Mediebedriftene, 2021), and a large proportion solely read Norwegian newspapers (Mediebedriftene, 2021), it could be said that Norwegian newspapers have a big influence over what the Norwegian people read. Moreover, have a big influence over the discourse surrounding who the climate experts in society are. Foucault (1981) argues that discourses always hold power (p. 52). In this way, it could be argued that the discourse of who the climate experts in society are based on the newspaper's presentation of them, has power over who we perceive climate experts to be. Further, Since, most of the experts referenced from 2013-2014 and down were natural scientists and in 2021-2022 there were other experts, such as political/policy experts and social science experts, this could indicate that the discourse one perceives through the newspapers were that climate experts were largely natural scientist before, whereas in recent years, that climate experts are mainly other types of experts, such as political/policy experts.

Another aspect is that there is power in exclusion (Ball, 1990, p. 2 & 3). Since, the people the newspapers present or refer to as experts on climate matters, likely affect the discourse of climate experts in society. The people the newspapers don't refer to or present as experts, either by excluding them or by presenting them as nonexperts, will arguably be less associated with climate expertise. Furthermore, the newspapers have power over what the discourse in society is when they call some people experts and others not (Foucault, 1969). Because who is "allowed" to speak affects the discourse in society (Power, 2011, s. 38). For instance, based on this understanding of power and exclusion in discourse (Ball, 1990, p. 2) and that natural science experts are the minority in 2021-2022, it could be argued that their exclusion can contribute to a discourse in a society where climate experts are not mainly natural scientists. Whereas political/policy experts are a bigger part of the discourse of climate experts in society, in the most recent time period.

This also aligns with Fowler's (1991) argument that when the news selects what events and perspectives they publish, they are presenting a partial view of the world to the public (p. 11). In the way that when the newspapers mainly present one group of climate experts, they are in some way giving the reader a partial view of who climate experts in society are. In this case when the newspapers in 2021-2022 mainly present climate experts as political/policy experts, it could be argued that the reader is presented with the discourse that political/policy experts

are the majority of climate experts in society. However, as stated the limitations of this data material cannot prove this to be a fact, but it raises the question as to is the media discourse of climate experts presented to the readers are a partial view of climate experts (Fowler, 1991, p.11).

On the other hand, as discussed in the theory chapter, recent literature has argued to broaden our understating of expertise. For instance, Collins (2013) argues that expertise should be seen as a three-dimensional concept (p. 253). One of his dimensions, as he describes as the horizontal dimension, including that expertise, could also be knowledge one gets through experienced-based work (Collins, 2013, p. 257). As well as the term lay expertise, which indicates that people with much practical experience on a topic can be experts as well (Turnhout & Neves, 2019 p. 184). When the newspapers present or refer to political/policy experts or social science experts as experts on climate issues, these experts could and likely have an experience that gives them weight on these issues. In this sense, when the newspapers present other experts as well as natural scientists, as they largely do in 2021-2022, they are in one way broadening our perception of who experts on climate issues are. Based on this one could argue that in recent years society's perception of who the climate experts are more diverse in the recent time period 2021-2022, whereas in 2001, 2007, and 2013-2014, there were a much smaller proportion of other experts on climate-related issues than natural scientists.

In relation to the research question, I would argue that the types of experts Norwegian newspapers present or refer to regarding climate change, have from 2001 to 2022 shifted, based on this data material. Before, the newspapers presented experts on climate-related issues mainly as natural scientists, whereas in recent years they are presented mainly as political/policy experts and social science experts. Concluding all of this, the two main findings from the typologies of experts are:

1. There has been a decreasing trend of referencing natural science experts on climate issues in the newspapers.
2. There has been an increasing trend to reference other experts, such as political/policy and social science experts on climate issues in the newspapers.

5.3 Categories of Experts

In the theory chapter, I referred to Roger Pielke (2007), who emphasizes four different roles experts can portray in society regarding knowledge production and policy (p.1-3). He relates these roles specifically to how experts can be seen concerning policy and decision-makers (Pielke, 2007, p.10). As previously discussed, the four roles Pielke (2007) presents are the *pure scientist* (p.1 & 3), the *issue advocate* (p.2), the *science arbiter* (p. 2), and the *honest broker* (2 & 3). Since the aim of my analysis is to look at how the experts are presented in the media, rather than how experts present information to decision-makers as Pielke's (2007) roles describe, I found it relevant to create my own terminology, based on three roles: the pure scientist, the science arbiter, and the issue advocate. The fourth role that Pielke (2007) describes is the honest broker. According to him, the honest broker presents all the information on a topic, but this role also presents multiple different choices of actions (p. 2 & 3). This role was not evident in the data material. Since in none of the articles did experts present multiple different choices of actions. Therefore, I excluded this role. The roles I created and have used in this analysis are called: The information giver and the advocating expert.

5.3.1 The Information Giver

The information giver is created based on Pielke's (2007) role of the pure scientist and the science arbiter. Pielke (2007) explains that the pure scientist is when an expert presents the decision-makers with all the information, while the science arbiter is when experts act as an information resource and can be seen as a helper to provide information, without proposing further actions. Both these roles include the expert's role to present information, but they vary in how the experts work with decision-makers. For instance, the science arbiter work as an information resource, a sort of helper to decision-makers. While the pure scientist solely presents all the information to the decision-makers. Since my analysis aims to look at how the experts are presented in the newspapers and not how experts work alongside decision-makers, I decided to combine the pure scientist and the science arbiter.

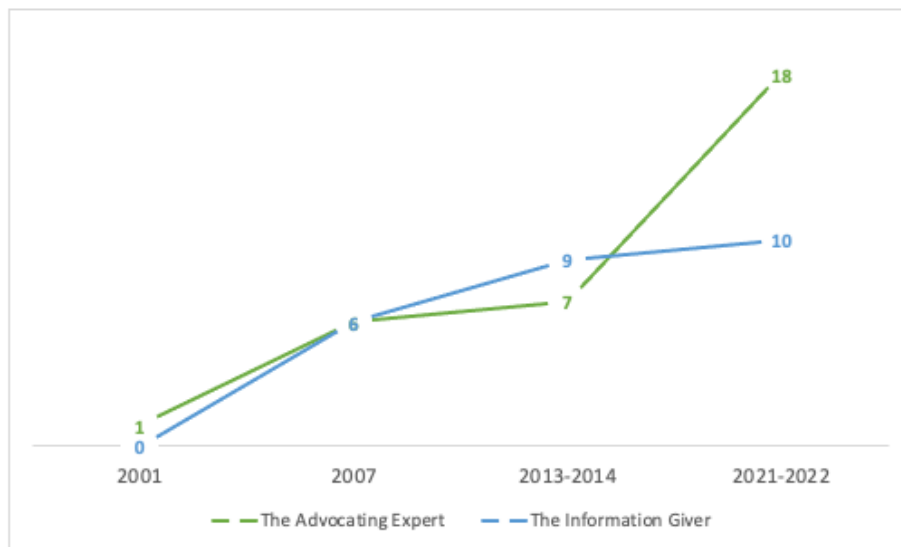
- The Information Giver: When an expert presents information, without advocating a specific course of action or reasoning.

5.3.2 The advocating expert

The advocating expert is created largely based on Pielke's (2007) role of the issue advocate. Pielke (2007) explains the issue advocate to be when an experts advocate for a specific course of action. The role of the issue advocate is very evident in the data material, the reason for creating a new term, was to add another aspect to it as well. The issue advocate, as Pielke (2007) explains, is when the experts specifically are advocating for a specific action, however, I found it relevant to add when experts are advocating for a specific reason to this category as well. This was done because although some of the articles presented experts that were advocating for action, some also presented experts that were advocating specifically for a reason something was happening. Therefore, to include when an expert was advocating for a specific reason as well as an action, I created the role of the advocating expert.

- The advocating expert: When an expert is advocating for a specific reason and/or course of action.

Figure 6: An overview of the number of experts within the two roles



Source: Two roles created by author (based on Pielke Jr. roles). Created based on how the newspaper articles presented the experts.

5.3.3 Examples of the Information Giver and the Advocating Expert

The advocating expert was found in 32 articles. In one article from 2001, six in 2007, seven in 2013/2014, and eighteen in 2021-2022. The information giver was found in 25 articles. In none from 2001, six in 2007, nine in 2013-2014, and ten in 2021-2022. See the figure 6 below for an overview. A point to make here is when I was coding for the different roles of experts

in the data material, I noticed that in the articles where multiple experts were mentioned, all the experts mentioned within the same article fell into the same expert category. Therefore, I coded the articles in this part and not the singular experts. Overall, these numbers suggest that there is an increasing trend of these roles in the articles aligning with the increasing trend of the number of articles referencing an expert on a climate matter. The numbers also suggest that there is a slight difference in how often the two roles could be found in the articles, however, it is not a colossal difference. The total difference is six articles, with the advocating expert in total could be found in five more papers than the information giver.

An example of an article categorized as an advocating expert is an article discussing the use of the oil fund on climate issues. In this article, the expert could be said to argue for a specific option. The article says: “Derfor må Oljefondet tenke klima for å sikre de fremtidige pensjonene, mener Vollsæter” (Aale, 2007, p. 4)⁶. Here, the referenced expert advocates for the action to use the oil fund on climate issues to save future pensions. An example of an advocating expert, where the expert is advocating a reason, is from an article discussing the USA's climate actions, specifically the Biden administration's actions on climate issues. Here the article describes that the experts have stated this: «Det er forskjell på å ikke lykkes, og å direkte motsette seg. Problemet for Biden-administrasjonen er at det er ikke politisk vilje i USA til å iverksette store, virkningsfulle tiltak, sier Mjelde» (Røssland, 2021)⁷. Here the expert argues his perspective on what the issue of climate matters for the Biden administration is.

Another example of an advocating expert is an article where there is proposed both an action and a reason by an expert. This is from an article discussing the presentation of the IPCC report release (Nord & Fagerbakke, 2021). Here the expert mentioned is called a “rhetoric expert” and he advocates that the “poor” presentation by the IPCC researchers was a lost opportunity for the IPCC. “TAPT MULIGHET: Retorikk-ekspert Jens E. Kjeldsen mener klimarapporten ble skremmende dårlig presentert» (Nord & Fagerbakke, 2021)⁸. He argues that if the presentation from the IPCC was better presented, the message that they were

⁶ Translated: Therefore, the oil fund must think climate to ensure the future pensions, Vollsæter means.

⁷ Translated: There is a difference in that to not succeed, and to directly contradict oneself. The problem for the Biden administration is that there is not political will in the USA to implement big, effective measures.

⁸ Translated: LOST OPPORTUNITY: Rhetoric-expert Jens E. Kjeldsen means the climate report were frighteningly bad presented

portraying would get more public attention. «Kjeldsen kaller øyeblikket «en tapt mulighet» for FNs klimapanel. Han tror de kunne fått enda mer fart på den globale oppmerksomheten med proffere formidling» (Nord & Fagerbakke, 2021)⁹. Hence, he proposes a reason for why the IPCCs presentation were poorly presented and continues to argue what they should have done:

“De burde med en gang fortalt oss hva som skiller funnet i denne nye rapporten fra det de vet fra før. Betydningen for oss. Hvilke endringer vi alle står ovenfor. Og at vi nå vet med mye større sikkerhet. For jo sikrere du vet noe, jo større grunn til å handle” (Nord & Fagerbakke, 2021)¹⁰.

The expert here stated what the IPCC researchers should have done to best get their message across. By doing so it can be argued that he acted as an advocating expert. All these articles are examples from the 31 articles where Pielke's (2007) description of the advocating expert role can be found.

An example of an article categorized as an information giver is an article discussing a concert and how environmentally friendly it was (VG, 2007b). «*Moritz Lehmkuhl, ekspert på klimagassutslipp i tyske ClimatePartner, har på oppdrag for Der Spiegel regnet ut at konsertene kan ha ført til at opptil 110 000 tonn unødvendig CO2 ble sluppet ut i atmosfæren*» (VG, 2007b)¹¹. Here the experts give information about how large the CO₂ emissions were. Another article where one can see the expert presenting information is an article discussing ants and their implications and importance on the world as well as climate (Slotten, 2022). The expert who is referenced is quoted as saying: “De holder på med jordbruk ved å dyrke sopp, og de holder husdyr, de er bønder» (Slotten, 2022. p.7)¹², and that «vi mister mellom 1000 og 10.000 forskjellige arter av insekter i året på grunn av ødeleggelse av natur» (Slotten,

⁹ Translated: Kjeldsen called the moment “a lost opportunity” for the UNs climate panel. He thinks they could have gained even more momentum for the global attention with more professional communication/mediation.

¹⁰ Translated: They should have right away told us what separates the finding in this new report from what we know from before. The meaning for us. What changes we all face. And that we now know with much bigger certainty. Because with the more certainty you know something, the bigger the reason is to act.

¹¹ Translated: Moritz Lehmkuhl, expert on climate gas emissions in the German ClimatePartner, has on assignment for Der Spiegel Calculated that the concerts may have led to up until 110 000 unnecessary CO₂ were released into the atmosphere.

¹² Translated: They do agriculture by growing mushrooms and they keep livestock, they are farmers

2022. p.8)¹³. In this description, the expert gives information about ants and how they are important to the world, and how climate can implicate their livelihood. It can here be argued that the expert here acts as an information resource for the article.

- According to these two roles, I would argue that the newspapers present experts on climate-related issues as either advocating experts or information givers.

5.3.4 Discussion of the Categories of Experts

The first finding when implicating these roles in the data material where that one may perceive experts as natural or as information givers. However, this data suggests that a little over half of the experts portrayed in the newspapers are in some way advocates, whether it would be that they are advocating a specific reason or a specific course of action. When they are advocating a specific action or reasoning, that reason or action is according to Ball's (1990) understanding of Foucault's work on discourse, affected by the social world (p. 4 & 5). More precisely, the social world as the world expert is a part of. This means that the recommended actions or reasoning of the expert should be seen together with the social world they are part of. For instance, in an article coded as an advocating expert, the experts says: "føler nok at det er lite de som enkeltpersoner kan gjøre for å forbedre klimaet" (VG, 2007a)¹⁴. Here the experts express their opinion on the effort of climate actions by individuals. When examining this statement tighter with the argument to never see things isolated from the social world. One could speculate that the expert's statement that there is not a lot individuals can do to improve climate, can have connections to his perception of what valuable contributions to climate change are. From his statement, it could be argued his opinion may be rooted in a collective view of climate change, and that climate change should be faced on a bigger level than individual effort. From Ball's (1990) perspective one could argue that the expert's understanding of valuable effort is linked to his statement. In this way, though society may perceive experts as only a person presenting information, they are as well people coming from and affected by the social and political world.

Another aspect is that experts could in some ways present information aligning with their own political and social standpoint, and/or that the newspapers could present experts that are

¹³ Translated: We lose between 1,000 and 10,000 different species of insects a year due to the destruction of nature.

¹⁴ Translated: Probably feel that there is little that they as individuals can do to improve climate.

aligning with their political and social standpoint. As stated in the theory chapter, Ruser (2018b) argues that: “Scientific evidence has become a strategic resource capable of justifying world-views and political positions” (p. 179). In the case of the experts, one could argue that both the information giver, who presents information and the advocating expert who presents information and actions or reasons, are presenting information that could be based on or used to justify their own political and social standpoint. Ruser (2018a) states that one must always include the political settings the experts are a part of when analyzing the role, the experts have. Further, Ruser (2018a) argues that even the pure scientist role that Pielke Jr. describes as a presenter of information is affected by political settings (p.775). In the case of the newspapers, they present experts aligning with their standpoint, I would argue that this is apparent in some of the newspaper’s presentation of experts. That the experts have corresponding views with what the article is discussing. This entails that the newspaper's narrative of a topic corresponds with the perspective of the expert they refer to. In other words, the journalist chooses to legitimate their story, by refereeing to an expert’s opinion that agrees with their narrative. In this way, it could be argued that both the newspapers and the experts present information based on their perception of the social world. This was interesting considering it aligned with Merkley's (2020) findings from his study on the media in the United States of America. As mentioned in the introduction, he found that the media often presented experts that agreed with the story of the article.

Jasanoff (2003) expresses that expertise is intertwined with political settings. Further, the expert’s presentation of information is based on their findings, which again would likely be affected by their own social and political judgment (Grundmann, 2017, p.37). Much like Ruser (2018b) argument one could also from this viewpoint, argue that both the advocating expert and the information giver are affected by the social and political world around them. However, In the role of the advocating expert, this is somewhat clear since they propose a specific action and/or reason. While in the role of information giver, it is somewhat more unclear, since they are presented in the newspapers as experts that add information to the article without proposing a specific action or reason. However, from this standpoint, the information giver, as well as the advocating expert should be seen as in some ways presenting political, rather than solely a neutral information source. Since they both are, according to Jasanoff (2003) and Grundmann (2017) combining their information with their judgment (Grundmann, 2017, p.37). Another aspect aligning with this view of experts is that the

scientist and expert cannot be seen as separated from the social world since they also are a part of it.

This view could also be found in Fowler's (1991) arguments. He argues that ideological viewpoints can be found in every text, but how apparent it is may be varying (p.10). In this way, different political, ideological, and social viewpoints could be found in all the articles, but how obvious it is are fluctuating. I would argue that in the articles where an advocating expert is this is more apparent than in the articles where there is presented an information giver. This is because in the case of the advocating experts, the experts are presenting their perspective on a preferred action or a specific reason. As previously discussed, these actions or reasons could be argued to be rooted in the social world of the expert (Ball, 1990, p.4 & 5). Hence, their perspective of what the appropriate action are rooted in their ideological, political, and social perception of the world. In the case of the information giver, this could be less apparent, since they don't suggest a specific action or reason. By not advocating a preferred action, their presentation of information gives the audience the ability to think of actions and/or reasons. Further, the reader then gets a bigger opportunity to form their own opinion.

Carvalho (2007) argues that the media partake in forming public opinions (p.223). From this perspective, the advocating expert is in a bigger sense than the information giver forming people's opinions on the actions one should take or the reasons something may be happening. Here, Doultan & Brown (2009) also argues that the media have a role in forming people's perception of society and policy (p.191). Hence, they also partake in forming people's opinions on policy. When the advocating expert is presenting a specific action, the reader becomes familiar with that option. However, if the media fails to present another perspective, the reader is left to seek out the information the media is not presenting. Therefore, if the readers only read these newspapers and the media solely presents actions from one perspective, they have power over the discourse in society about that topic. One example of this is an article, coded as an advocating expert. In this article, the expert says that: "tang kan være en løsning på både plast- og klimakrisen. I fremtiden kan du kanskje spise både grønnsakene og emballasjen rundt dem" (Skifjeld, 2022)¹⁵. Here the expert proposes that

¹⁵ Translated: Seaweed can be the solution on both the plastic- and the climate crisis. In the future, you can eat both the vegetables and the packaging around them.

seaweed would be a good solution to the climate crisis and further goes on to state all the positive effect this could have on the climate. The article doesn't present an alternative or a contradicting view. In this way the reader becomes familiar with this option, but not with opposing or alternative views. Further, this could contribute to forming public opinions on seaweed in regard to climate.

Teo (2000) states that if the text is left unchecked the text becomes a common belief (p.12). In other words, if the newspapers are solely presenting one perspective of the topic, that side could become a common belief (ibid). Moreover, about the newspaper's presentation of experts on climate issues, the data suggest that half of the articles present the expert's perspective of the appropriate course of action on different climate relating topics. This big presentation of experts' preferred actions, could potentially lead society to be influenced by the experts' opinions of preferred action, however, considering the limitations of the data material this could not be answered based on this data material. However, it could raise the question, as to if experts' opinion is in the media presented without contesting views. At the same time, some of the articles did include other perspectives on different topics, they were contacting the expert's perspective, however, the people presenting these perspectives were not referred to as experts in the newspapers. For instance, articles where the expert opinion was different from another person's opinion, while the article only referred to one of them as an expert.

However, Grundmann (2017) argues that experts should give guidance (p. 31). Grundmann (2017) argues that when one is looking at the expert's role in society one should always include how the experts operate in society (ibid., p.25). Further, that expertise includes the ability the make actions based on knowledge or more specifically to give guidance based on knowledge (ibid., p. 31). From this perspective, the advocating expert opinions of actions and reasons could be seen as guidance from people who have expertise in a field related to the topic of discussion. Furthermore, one way they operate in society is to give guidance and advice to society, and since the main source of information to people in society is the media, they give guidance through the media. A point here is that since experts' knowledge and politics are closely connected, which I will discuss shortly, it should be transparent that the expertise is also political (Jasanoff, 2003, p. 157). The sense is that it should be transparent that the experts are also affected by political factors. If experts are also seen as a political form of information as well as scientific, they are transparent (Grundmann, 2017).

According to Mills (2003), one may think that the world presented by the newspaper is the real world, but it is not the sole reality, the newspapers present one way of understanding information (p. 55). The newspaper's presentation of experts on climate issues is by this perspective not the sole reality of experts on climate issues, but rather the newspaper's way of understanding experts on climate issues. Fowler (1991) states that the world the media presents is not the real world, but rather “a world skewed and judged” (p. 11). However, as discussed this is not always apparent to the reader. Therefore, society may not always be aware that the presentation is not the sole reality. Further, the discourse in the newspaper's presentation of experts could likely become the general discourse of experts in society, since the media is the main source of information to the public (Grundmann, 2017). Considering the roles of the advocating expert and the information giver, the advocating expert was the majority in this data material, and one could therefore argue that the news presents experts that most of the time present a preferred action or specific reasoning for why something is occurring.

Lastly, as I now have presented and discussed the majority of experts are presented as advocating experts. Also, from the typologies of experts, one can see that the majority of experts in the most recent years are presented as political/policy experts. This could indicate that the majority of experts on climate change issues that are presented in the newspapers are presented as political/policy experts that are advocating an action or reason. The implications of this, if this is the case, could be argued to be large. As said, Ruser (2018b) argues science has become a tool for justifying one's political perspective (p.179). From this perspective, If the political/policy experts are also advocating experts, their political position could arguably influence the action that they are advocating. Since they are referenced as a political person by the media, it would possibly be a reasonable assumption that they have political opinions, that they could possibly want to advocate. If this is the case, the media discourse of who climate experts are, could possibly be that these experts are political experts that are advocating. However, I cannot state this for sure, because I have not coded for a correlation between the political/policy experts and the advocating experts. Therefore, it is also likely that the majority of the political experts are presented as information givers and that the natural science experts are presented as advocating experts.

5.4 Local experts

As discussed in the theory chapter, both Collins (2013) and Turnhout & Neves (2019) argue, in different ways, that it is important to expand our perception of expertise. Collins (2013) also argues that it is important if one wants to achieve a three-dimensional view of expertise in society (Collins, 2013, p. 256 & 257). With this in mind, I wanted to investigate if the newspaper's presentation of the experts included local experts. Therefore, I searched the data to see if lay experts/expertise appeared in the newspapers. To do this, I looked for appearances of experts presented as a person with a local form of expertise, people who were not presented as professional, in the sense of their work and education, but rather people who were “normal” but hold expertise in a specific topic. In other words, if the experts were presented as people who have professional backgrounds in the field of discussion, I didn't consider them local experts.

As previously stated, since I am solely interested in the newspaper's presentation of experts, the experts don't have to be lay experts in reality, but rather to investigate if they are presented as them. In other words, I was interested to see if the newspapers portray the experts as local experts. For example, this could be presenting farmers as experts in an article discussing something related to living in the countryside. A farmer would likely have lay expertise in understanding the local climate and weather and its impact on the farm (Irwin, 1995, p. 112). Therefore, when discussing how climate affects farmers, referencing a farmer as a lay expert would be beneficial. However, in my findings, there were no experts presented as lay experts. Moreover, the data in this project suggests that in articles presenting an expert's opinion on a climate-related issue, none of the experts presented are presented as local experts.

This was an interesting finding since there is a significant amount of literature in recent years discussing the importance of including local experts in our perception of expertise. Both Turnhout & Neves's (2019) perspective on lay experts and Collin's (2013) three-dimensional view of expertise address the importance of broadening the understanding of expertise in society. One could argue that there is not a three-dimensional presentation of the experts on climate-related issues in the newspapers in this project. It is an interesting finding since the literature on expertise discusses the importance of this, but it is not evident in the data. This suggests that the newspaper's presentation of experts on climate issues are not include lay expertise, therefore contradicting a three-dimensional view of expertise. However,

considering the limitations of this project, I cannot speak for newspapers or experts presented in general. To sum up, recent research is very clear that there is a need to expand the definition of the expert term by including another aspect of expertise, for instance, lay expertise. However, very few experts from this data material could be categorized as local experts from the newspaper's presentation of them.

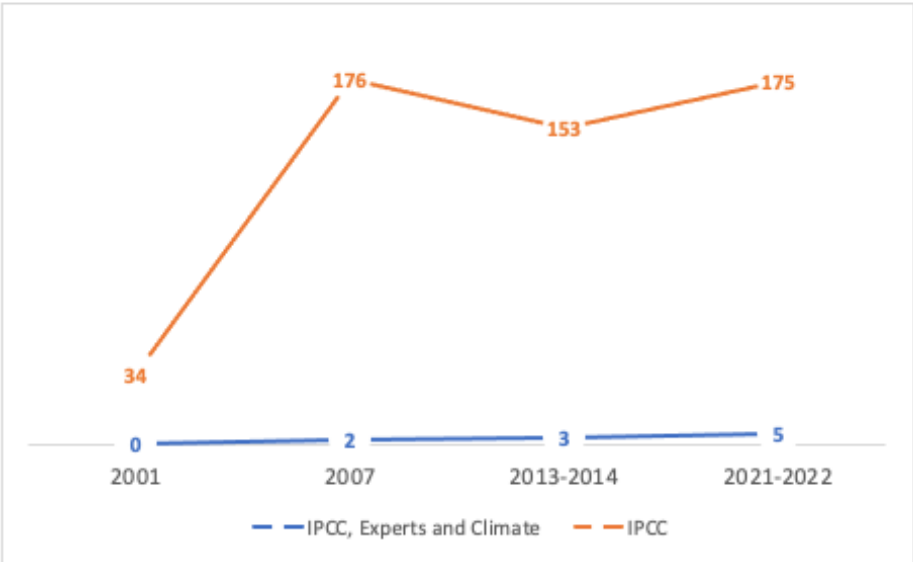
5.5 The Discourse of the IPCC in the Newspapers

As previously stated, the periods of time were statically chosen based on what years the IPCC reports were released. With that in mind, it would be interesting to investigate how the IPCC is being represented in the articles.

5.5.1 The Quantity of the IPCC

Beginning with the statistics, in the total data consisting of 61 newspapers, the IPCC was mentioned in some way in 10 articles. To compare how often the IPCC is mentioned in the chosen newspapers and time periods vs. how often it is mentioned in the articles where the word climate and expert are also mentioned in the chosen newspapers and time periods, I decided to search for the IPCC without the word climate and expert as well. The overview of the number of articles that mentions the IPCC can be seen in Figure 7 below. Here one can see that The IPCC is mentioned in 538 newspaper articles, without accounting for both search words: climate and experts. Whereas in the articles including the words climate and experts, there are 10 newspaper articles that mention the IPCC. When looking at the different time periods, it suggests that there has been an increasing trend for the newspapers to mention the IPCC in their articles. This can be seen in the articles including the IPCC, expert, and climate and in the articles only including IPCC.

Figure 7 An overview of how often the IPCC are mentioned.



Source: authors own data set and a search for the IPCC in the chosen newspapers in the time periods.

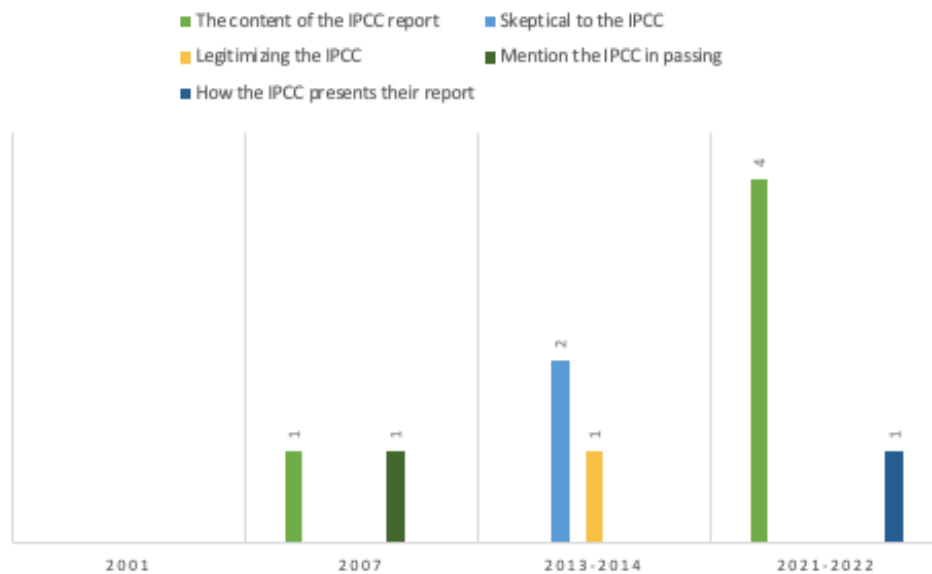
However, there is a significant difference in how often the IPCC is mentioned, and how often it is mentioned in articles where climate and expert is also mentioned. This could indicate that the IPCC is often mentioned in newspaper articles, without a reference to an expert. This suggests that newspaper articles discussing the IPCC are often doing so, without using both the words climate and expert. Further when the newspapers present or refer to an expert on a climate-related issue, they often do so, without referencing the IPCC. Meaning that in the newspaper's presentation of experts on climate issues, the IPCC is often left out of the article. To sum up, this indicates that the newspaper articles often reference experts on climate-related issues without referencing the IPCC, and in newspaper articles where the IPCC is mentioned, it is very frequently done so without referencing an expert.

Grundmann (2017) states that people today are increasingly seeking out information themselves, in the forms that are available to them (p.30). The main presenter of information of news to societies is the media and newspapers (Grundmann, 2017, p.32). If the people's main source for information regarding expertise on climate change is the media, the media has control over how people perceive experts on climate relating issues. Since there are ten out of 61 mentions of the IPCC in the newspapers collected in this project. It could be argued that people are not often presented with experts on climate issues in the same articles as the IPCC is mentioned. While there are 538 mentions of the IPCC without a reference to an expert. This indicates that in the newspaper's presentation of experts on climate-related issues, they are not often referencing the IPCC in the same article. Relating this to the research question, the newspapers often don't reference the IPCC when they present experts on climate-related issues. Meaning that while the newspapers present experts on climate-related issues, it is often not stated where the information on climate change issues is coming from. As stated in the introduction, the IPCC is the leading source of information on climate issues in the world (IPCC, 2023a). When the IPCC is left out of the newspaper's presentation of climate experts, there could be argued to be a contributing factor to uncertainty or confusion for the readers as to where the information is coming from.

5.5.2 The Contexts of the IPCC

In the ten articles where the IPCC was mentioned, it was mentioned in different ways. This can be seen below in Figure seven. There were five articles discussing the content of the IPCC report, one article discussing the legitimacy of the IPCC, two articles discussing

skeptical views of the IPCC, and one article discussing how the IPCC presents its report. While the last one only mentions the IPCC in passing.



5.5.2.1 The content of the IPCC report

There was one article from 2007 and 4 articles from 2021-2022 that mention the IPCC by presenting the information that could be found in the IPCC reports. The article from 2007 talks about the content of the UN's Climate report regarding greenhouse gasses (Vikøyr, 2007a). This article discusses the temperature rise in the world and how pollution has affected these climate changes regarding temperature risings in the world. The first article from 2021-2022, talks about the IPCC's climate report regarding the world's climate, the article presents the increasingly extreme weather as one of the findings published by the report (Elster, 2021). The second article from 2021-2022 discusses the politics surrounding greenhouse emissions. Here the IPCC is mentioned due to their climate report: "For å oppnå målet må globale co2 utslipp være netto-null rundt 2050, ifølge FNs klimapanel» (Voight, 2021)¹⁶. The third article mentions the UN's climate rapport while discussing the rise of eco-fascism in society (Aasmundsen, 2021). The fourth article references the IPCC by presenting the information from the report regarding Norwegian oil, nature, and climate politics, and how it should be taken more seriously (Nøkland, 2022). Furthermore, these 5 articles are referencing the IPCC regarding the content of their climate report.

¹⁶ Translated: To achieve the goal the global co2 emissions must be net-zero around 2050, according to the UN's climate panel.

5.5.2.2 Legitimizing the IPCC

There is one article discussing the IPCC to legitimize the IPCC, this article is from 2013-2014. In this article, the debate on if climate changes surrounding CO₂ emissions are human-made is addressed. The journalist addresses how climate research is clear on the fact that humanmade emissions affect the climate negatively, leading to for example more extreme weather across the world. The main topic in her article is to state that climate skepticism has gone too far, and she advocates for people to listen to the UN's climate panel and their reports. (Blindheim, 2014) It is in this article, argued that society should trust the IPCC, by legitimizing the institution with statements presenting how reliable the IPCC is.

5.5.2.3 Skeptical to the IPCC

There are two articles presenting skeptical views of the IPCC, both are from 2013-2014. One of them is an article discussing that when the IPCC's scientific starting point is on the wrong grounds the IPCC reports cannot comprehend the reality of climate change. Further in the article, it is stated that it is crucial to remember that the IPCC also is a political organ. The article discusses that it is not very credible when the politician collects the researchers involved in the IPCC reports. He further also argues that these perspectives on the IPCC are underrepresented in the Norwegian media, and states that the foreign press is more critical than the Norwegian press in climate issues (Borge, 2014). The other article that presents a critical view of the IPCC is an article discussing that skepticism of the climate reports from the IPCC can be found in scientists as well as other people (Greibrokk, 2013).

5.5.2.4 How the IPCC Presents their Reports

There is one article discussing how the IPCC researchers present the content of their reports, this article is from 2021-2022. This article discusses how the IPCC researchers present their findings while discussing the rhetoric used by these researchers. It is here also shown a video of the IPCC representation (Nord & Fagerbakke, 2021).

5.5.3 Discussion of The IPCC

Based on the data material in this thesis it appears that The IPCC is increasingly mentioned in the articles from 2001 up until 2021-2022. Therefore, it could be said that the trend to reference the IPCC in articles presenting experts on climate issues has increased. There has

also been an increasing trend in articles discussing the IPCC in articles that don't reference an expert. Another aspect is that the way in which the IPCC is mentioned differs. The main difference is that in 2013-2014 one could argue that the discourse in the media regarding the IPCC where experts were presented on climate issues, was the discussion if climate change is manmade or not. Since, in all the articles where the IPCC was mentioned, there was a discussion surrounding the legitimacy of the IPCC. Whereas, in 2007 and in 2021-2022 the newspaper articles that presented an expert on a climate matter while mentioning the IPCC, did so mainly by discussing the content of the climate report from the IPCC.

Jasanoff (2003) states that in cases where there is a shared consensus between experts, the need for public involvement is important (p.161). Because as stated in the theory chapter when experts have a shared perspective there may be things, they have left out of missed (Jasanoff, 2003, p. 160 & 161). One could here say that in 2013-2014 the data suggest that there are different perspectives on the IPCC presented in the media, both from a skeptical standpoint and from a legitimizing one. Whereas in 2021-2022 the discussion on the legitimacy of the IPCC is not evident. All the experts discussing the IPCC in 2021-2022 have argued from the same perspective, by presenting the content of the report, without discussing its methods. Based on Jasanoff's (2003) argument here one could say that the need for public involvement would be bigger in 2021-2022 since the public is only presented with one perspective. This could suggest that the discourse in the newspapers from 2021- 2022 would be based on the same perspective, concluding that the discourse is the content of the IPCC report. Whereas in 2013-2014 there was more discourse around the methods of the IPCC institution.

To conclude this part, the IPCC is a key event on information on climate issues (Newman, 2017, p. 815). Whereas, in the media discourse of climate experts, the IPCC is often left out. As discussed, This could indicate that readers are often presented with climate experts, without being presented with where the information is most likely coming from, since the IPCC is the main provider of knowledge on climate change issues (Pielke, 2004, p. 410).

Closing Arguments and Conclusion

In this chapter, I will summarize the five main findings from the analysis together with the research question. Thereafter, I will discuss the limitations of this thesis and present suggestions for further research. With this said, I have in this thesis, in light of the research question, conducted a critical discourse analysis from a selection of Norwegian newspapers. I formulated the following research question:

How do Norwegian newspapers present experts on climate change issues?

As Carvalho (2008) argues that critical discourse analysis can be conducted in different ways (p. 162). In my critical discourse analysis, I have chosen to focus on the general media discourse of how the media presents experts on climate change issues. Therefore, I have focused on the overview of how the media presents experts on climate change-related issues in their newspaper articles. I would argue that in my analysis of the retrieved data, I have found material that could give us insight into how the Norwegian newspapers present experts on climate change issues. The finding from my analysis that I have discussed in this thesis are the following:

6.1. Summary of the findings

The first finding was that there has been an overall increase in the number of newspaper articles published that reference an expert perspective on climate change-related issues from 2001-2022 in the newspapers. Looking at this in light of relevant literature one could argue that this corresponds with the argument that society has become more dependent on expertise (Grundmann, 2017, p.31) (Ruser, 2018b, p.179). Moreover, since the media is the biggest presenter of information to the public (Grundmann, 2017, p.32), it makes sense that when experts' dependency in society is rising, the media's coverage of experts is also increasing. An interesting aspect of this finding was that when one was looking at the four newspapers individually, the trend of increase was not the case for all of them. In both *VG* and *Dagbladet*, one can see a decreasing trend in the number of articles presenting an expert's perspective or opinion on a climate change issue. This indicates that the size of the reader's exposure to experts on climate change issues depends on what newspaper one reads. Further, that the discourse on climate experts one is exposed to could vary depending on what newspaper one

reads. Furthermore, based on this finding I have argued that there has been an increasing trend to present experts on climate issues in Norwegian newspapers.

The second finding was that there was a significant variety of types of experts the newspapers present or refer to. As discussed previously, in order to categorize the different experts, the choice to make super categories was made. The most prominent types of experts the newspaper presented were in the super categories of *natural science experts*, *political/policy experts*, and *social science experts*. Together these three super categories made up 85% of the total experts presented. Furthermore, there has been a shift in what types of experts the newspaper presents or refers to between the time periods. The main finding here was that there has been an increasing trend to reference political/policy experts, whereas there has been a decreasing trend to reference natural science experts from 2001 to 2022. Based on this, I have argued that Norwegian newspapers present experts on climate change issues as mainly natural science experts, political/policy experts, and social science experts. As well as how the newspapers present them has changed over time. Hence, I have argued that these three types of experts could contribute to the discourse in society on who climate experts are.

The third finding from the analysis, I have argued is that the newspapers present experts on climate change issues either as *information givers* or as *advocating experts*. Further, the majority of newspaper articles (32 articles) presented the expert they referred to as an advocating expert. Whereas newspaper articles that presented experts as information givers were evident in 25 articles. In the analysis, chapter I have discusses how this could affect the discourse of experts on climate change issues in society. For instance, I have discussed how the reader's views on different topics could be affected by how the experts are presented, especially when a large proportion of the experts are presented as advocating something. And that the political and social world the expert is a part of should be seen together with their statements. Further, that the media's presentation of experts on climate change issues could play a role in forming the public perception of who the climate experts in society are. To sum up this finding, I have argued that the newspapers present experts on climate change issues as either presenting information without proposing further action or as presenting information with proposing further action or reasoning.

The fourth finding was that none of the experts that were referenced or referred to by the newspapers were presented as local experts. This does not mean that none of them lay experts actually, rather that the newspapers don't present them as lay experts. This was a very interesting finding since much of the recent literature has argued that lay expertise is a prominent aspect of expertise (Turnhout & Neves, 2019). This could indicate that although recent literature often discusses and includes this as one of the aspects of expertise, it is seemingly not included in the newspaper's presentation of experts on climate change issues.

The fifth finding was that in the articles that presented experts on climate change issues, the IPCC was often not included. In fact, they were only included or mentioned in one out of six articles. In other terms, 16,4 % of the articles mentioned the IPCC. There was here also an increasing trend from 2001-2022 to mention the IPCC. Another finding here was that when the IPCC was mentioned, it was mentioned in various ways. The majority overall from all the time periods was considering the content of their report. At the same time in 2013-2014 every time the IPCC was mentioned it was in relation to the legitimization of the IPCC. However, both a skeptical and an affirming perspective were included, in that way, contradicting sides were represented. In other words, one could say there was here a level of balanced reporting (Boykoff, 2007). Whereas in the other time periods, the legitimacy of the IPCC was not mentioned. In relation to how the newspapers present experts on climate issues, I have argued that they often present them without a reference to the IPCC. In other words, climate experts are presented in articles where there is often left out where the information most likely is coming from. However, the IPCC is quite frequently mentioned in the four newspapers, without the word expert being included. To sum up, I have argued that this could indicate that Norwegian newspapers present experts on climate change issues while not presenting the IPCC and that when the newspaper article mentioned the IPCC is often done so without referencing or using the word expert.

So, with all this said, how does the Norwegian newspaper present experts on climate change issues? Based on my data material, I have in this thesis argued that the newspapers present the experts in different ways, both regarding what they chose to call them and how they present they present the information. Up until 2014, the newspaper trend was to reference natural science experts whereas in 2021-2022 the trend was to reference political/policy experts. And over half of the experts that the newspapers presented were presented as advocating an action or reasoning. Further that the IPCC was only mentioned in 16,4 % of the articles and local

experts were present in none of them. To conclude, the newspapers overall published more articles and presented more experts on climate change issues in recent years.

6.2. The limitations of this thesis

The first thing I would like to address is there are some limitations when conducting a critical discourse analysis. As I have discussed in the discourse chapter, critical discourse analysis is often criticized for being vague in its explanation of discourse (Fairclough et al, 2004, p.3). During the work on this thesis, I have kept this in mind and tried to be very clear in how I am using discourse as a part of this thesis. I have explained that in my thesis the goal is to get insight into the general media discourse on climate experts, rather than distinguishing multiple different discourses. I would argue that I have presented and discussed the general discourse in the media. Further as previously discussed I myself am a part of the social world, and I cannot step outside of society's discourses (Fairclough et al, 2004, p.1). However, I have in the methodology chapter argued for why I did certain choices, for instance coding the data material after specific criteria. This was done so that the coding would be as “objective” as possible.

The second thing I would like to address is the chosen theories. When I chose the different theories that I was going to be using in this thesis, I was looking for different perspectives on both expertise and discourse. However, there might and likely is relevant literature that I haven't included. This could be a limitation because there could possibly be relevant aspects that I haven't included. However, regarding discourse, I found it relevant to base the chapter on Foucault's perspective on discourse, and further other theorists that have interpreted him as well. I did so because Foucault's perspective of discourse comprehends multiple aspects of discourse such as power, exclusion, and its influence on society (Foucault 1981 & 1989 & 1977) (Mills, 2003) (Ball, 1990). When discussing discourse analysis, I found it relevant to include multiple perspectives on what a discourse analysis is, more specifically what a critical discourse analysis is. This is because I wanted to get a broad understanding of discourse analysis. I also included multiple different theories of expertise in order to get a broader perspective of the field of expertise. Multiple of the theories of expertise that I have applied in this project is arguing that there exists a need to broaden our understating of what expertise is, as well as the importance of not neglecting the pollical aspect of expertise. An important note to repeat here is that I largely based my analysis on Pielke's (2007) four different roles an

expert in society can have in relation to decision-makers. Since Pielke (2007) meant for his roles to be used in relation to policy, it could be a limitation that I have used them in regard to media discourse. However, I still chose to use them since I found them to be very relevant for this thesis when I created my own terminology based on his roles.

The third thing I would like to address here is the limitation of the data material. I included four national newspapers. However, If I were to include more newspaper articles, I could with more certainty state and argue the different findings, since a larger percentage of the Norwegian media would be included. However as discussed in the methodology chapter, I strategically chose the biggest newspapers in Norway, in order to get insight into the general media. Further, it would be an advantage if I were to include longer or/and more periods of time while retrieving my data. Then I would likely retrieve more articles, resulting in more data, while also converging more years. This would be true if I were to include other search words as well. However, In regard to the scope and extent of this thesis, it was necessary to narrow down the data material. Further, as I have discussed in the methodology chapter, I would argue that the chosen newspapers, time periods, and search words helped to retrieve the most relevant data. Another aspect here is that there are likely other things within the data that I collected, that would be interesting to look at and investigate. However, In regard to the scope and extent of this thesis, I could not include everything from the articles I chose.

Lastly, I want to acknowledge that the scope of this thesis cannot prove anything; however, it raises a few questions that I have discussed in this thesis.

6.4. Implications and further research

Perhaps the biggest finding from this thesis is that the media coverage of experts on climate change issues has significantly increased in recent years. And the majority of the experts they present are advocating something in the article. Hence, this suggests that people in society are through these newspapers exposed to climate experts that are advocating something specific. Based on this data, I would argue that the public is not often exposed to opposing sides from experts in these newspapers, in regard to what actions to take, or what is the reason for something happening. However as stated, this thesis cannot prove anything, but it raises a few questions. When discussing the implications this could have, it could possibly lead to public opinion being formed based on not all perspectives. Or as Boykoff (2007) calls it, perhaps a

lack of balanced reporting. As mentioned, Boykoff (2007) conducted a similar study in the British media, however, he was looking at climate change, whereas I have looked at experts on climate change. In Boykoff's study, he found that the British media were lacking balanced reporting. Perhaps this also could be found in a Norwegian setting. It would be interesting to further research this on a greater scale. To see if some other aspects would be found, as well as if the finding from this thesis could be true when including more newspapers over a bigger period of time.

Another interesting aspect is that both the theory of a three-dimensional view of expertise (Collins, 2013) and the perspectives on lay expertise (Turnhout & Neves, 2019) are well-discussed topics in the literature on expertise that states that it is important that we expand our perception of what an expert is. However, from my many searches, it seems to not be much research on this in a Norwegian setting. Further in my data material, lay experts were also not apparent in the newspaper's presentation of experts on climate change issues. Hence, It would be very interesting to further investigate the media discourse on lay experts in Norway, on a bigger scale. It would be very interesting to investigate if other Norwegian newspapers, time periods, or perhaps other search worlds, would result in more lay experts presented in the newspapers.

It would also, be very interesting to further research is the political aspects of climate change experts. It would be very interesting to investigate if there could be a correlation between political/policy experts and advocating experts, and if so, research how their political position is affecting the action they are advocating. Or perhaps if the natural science experts are advocating experts, and if so if they in some ways are proposing political actions and further what the implication this could have on public perception of climate experts. This would be an interesting aspect for further research.

To conclude, society depends on experts' knowledge (Grundmann, 2017, p.30). As said in the introduction, This range is everywhere from when we need legal help, or financial advice to when needing help or advice from experienced relatives on a broken-down car and many more. There are many experts around us in society and our relationship with them, is largely formed in the media (Grundmann, 2017, p. 32) From this perspective what we know about these experts and what they have to tell us are from different media sources. So, how do Norwegian newspapers, present experts? I can't give an absolute answer to this question

based on this thesis. But I can, however, state that this data suggests that in recent years the experts on climate change issues are often presented as political experts and experts that are advocating an action or reasoning, in other words, perhaps it could be said that experts are often presented as telling us what to do. It would certainly be an interesting thing to further research.

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Appendix

Attachment 1: An overview of the experts in the words used by the newspapers and super the categories.

The experts	2001	2007	2013/2014	2021/2022
Undefined experts			1	2
Natural science experts				
Biologist expert		1		1
Hubro expert				1
Insect expert				1
Nuclear physics expert			1	
Ecosystems expert			1	
Geology expert			2	
Sun expert			1	
Crevasse expert			1	
Paleoclimate expert			1	
Ice bear expert			1	
El Nino expert			1	
Co2 experts		3		
Global dimming expert		1		
Climate gas emissions expert		1		
North pole ice expert		1		
Ocean-ice expert	1			
Hay fever expert		1		
Work health expert				1
Political/policy experts		1		1
Food production emissions expert.				1
International expert		1		
USA climate policy expert.				1
Climate problems expert			1	
EØS experts			1	
USA expert.				3
UK expert				1
Russia expert.				2
Brazil expert.				1
Latin America expert				1
India expert				1
Finnish expert		1		

Social science experts				
Population development expert			1	
Ecofascism expert				1
International Aid expert			1	
Economic expert		1		
Environmental Law expert				2
Law expert				1
Climate communication expert.				1
Power market expert.			1	1
IT safety expert				1
Rhetoric expert				1
Project expert				1
Organizational experts				
EU expert				1
UN expert				1
The Directorate for the environment expert			1	
Other experts				
Coffee expert				1
Statistics expert at the Wine monopoly			1	
Traffic expert		1		

Attachment 2: An overview of the number of experts in the two categories I created, based on Pielke's (2007) roles.

	2001	2007	2013/2014	2021-2022	Total
The Advocating Expert	1	6	7	18	32
The Information Giver		6	9	10	25
Total:	1	12	16	28	57