MASTERARBEIT | MASTER'S THESIS

Titel | Title

Against Knowledge: Institutional Politics of Demarcation in Austria from 2022 to 2023

Demarcating Between Illegitimate and Legitimate Knowledges

verfasst von | submitted by

Laura Still BA BA

angestrebter akademischer Grad | in partial fulfilment of the requirements for the degree of

Master of Arts (MA)

Wien | Vienna, 2025

Studienkennzahl lt. Studienblatt | Degree programme code as it appears on the student record sheet:	UA 066 906
Studienrichtung lt. Studienblatt | Degree programme as it appears on the student record sheet:	Masterstudium Science-Technology-Society
Betreut von | Supervisor:	Assoz. Prof. Mag. Dr. Maximilian Fochler

Abstract (English)

This master thesis studies how illegitimate knowledges are demarcated from legitimate by institutional written materials such as policies, reports, didactic material and initiatives in Austria in the timeframe of March 2022 to December 2023. As such, the main research question structuring this thesis is: "How are illegitimate knowledges demarcated from legitimate ones by institutional *politics of demarcation* in Austria?". As illegitimate forms of knowledge such as disinformation, conspiracy theories, or anti-scientific sentiments have been identified as a threat to not only public discourse in general, but also to democratic societies more specifically, the way institutions should practice their knowledge politics has been a point of contention for institutions for several years now. As contemporary societies are understood as operating primarily on the production of knowledge (and are, therefore, *knowledge societies*), the adherence and production of legitimate knowledge and information by publics is essential for their maintenance and stability. Hence, the prevalence of illegitimate knowledges, as well as the rejection or disengagement with institutionalised knowledge politic by publics is understood to be harmful, particularly for democratic relations. Accordingly, this thesis aims to analyse how these interrelated issues are negotiated in the Austrian context, and how these negotiations constitute the publics which are implicated in these knowledge politics. The data corpus has been generated by employing the methodological tool of *following issues* (Asdal & Reinertsen, 2022), and primarily includes document data as well as three expert-interviews conducted with actants engaged in Austrian knowledge politics. The analysis of the data was approached with a focus on identifying argumentation clusters which constitute and disclose institutional politics of demarcation. The analysis of institutional politics of demarcation in Austria shows that the issues identified are structured into two main clusters: the first cluster of issues (constituting & strengthening democracy) raises issues which can become harmful to institutional knowledge politics in terms of their threat to democratic stability, whereas the second cluster of issues addresses how illegitimate knowledges threaten the constitution of engaged publics. Thus, this research shows that the demarcation of illegitimate knowledges from legitimate ones in a specific timeframe in Austria operates according to several issues, which are drawn on to constitute the *illegitimacy* of certain forms of knowledges. The identified issues are harmful to institutional knowledge politics, and *illegitimate* themselves, due to three rationales: they compromise the building of trust & interest in institutional, legitimate knowledge politics, the adherence to which leads publics to become self-empowered, which is a condition that is indispensable for ensuring stability and innovation of these politics, which is required to maintain and further the national economic conditions.

Abstract (Deutsch)

Diese Masterarbeit beschäftigt sich mit der Analyse von institutionellen Materialien wie Policies, Reports, didaktischen Unterlagen oder Initiativen, um zu eruieren, wie in Österreich illegitimes Wissen von legitimem Wissen abgegrenzt wird. Der Untersuchungszeitraum liegt zwischen März 2022 und Dezember 2023. Die Hauptforschungsfrage dieser Masterarbeit ist: „Wie wird illegitimes Wissen von legitimem Wissen durch institutionelle *Abgrenzungspolitik* abgegrenzt?“. Da illegitimes Wissen wie Desinformation, Verschwörungstheorien, oder anti-wissenschaftliche Einstellungen nicht nur als Bedrohung für den öffentlichen Diskurs, sondern auch für demokratische Gesellschaften im spezifischen identifiziert wurden, ist die Art und Weise, wie Institutionen ihre Wissenspolitik gestalten, seit Jahren ein strittiger Punkt. Da zeitgenössische Gesellschaften sich als auf die Produktion von Wissen angewiesen verstehen (und dadurch als *Wissenschaftsgesellschaften* gelten), ist die Beteiligung durch Öffentlichkeiten an eben jener Produktion von legitimem Wissen und Information essenziell für deren Aufrechterhaltung und Stabilität. Daher ist die Verbreitung von illegitimem Wissen, als auch die Ablehnung oder die Loslösung von institutionalisierter Wissenspolitik durch Öffentlichkeiten als schädlich anzusehen, besonders für demokratische Beziehungen. Diese Arbeit hat demnach das Ziel zu analysieren, wie diese zusammenhängenden Belangen im österreichischen Rahmen verhandelt werden, und wie diese Verhandlungen jene Öffentlichkeiten konstituieren, die in dieser Wissenspolitik involviert sind. Der Datenkorpus wurde durch das methodologische Werkzeug von *following issues* (Asdal & Reinertsen, 2022) generiert, und beinhaltetet hauptsächlich Dokumentendaten, sowie drei Expert*innen Interviews, welche mit Akteur*innen in der österreichischen Wissenspolitik geführt wurden. Die Analyse dieser *issues* fokussierte sich auf die Identifizierung von Argumentationsclustern, die die institutionelle *Abgrenzungspolitik* (Marres, 2018) konstituieren beziehungsweise preisgeben, und demnach dazu beitragen, illegitimes Wissen von legitimem Wissen abzugrenzen. Die Analyse jener institutionellen *Abgrenzungspolitik* in Österreich zeigt, dass die identifizierten *issues* in zwei Hauptgruppen eingeteilt werden können: Der erste Themenkomplex (*Demokratie konstituieren und stärken*) beinhaltet Themen, welche schädlich für eine institutionelle Wissenspolitik werden können, da sie die Demokratie destabilisieren können, wohingegen der zweite Themenkomplex *(Engagierte Öffentlichkeiten konstituieren)* jene Themen beinhaltet, die die Konstituierung von *engagierten* Öffentlichkeiten negativ beeinflussen können. Diese Forschung zeigt demnach, dass die Abgrenzung von illegitimem Wissen von legitimem in einem spezifischen Zeitrahmen in Österreich aufgrund von unterschiedlichen *issues* erfolgt, die in der institutionellen Argumentation für die Bestätigung von einer bestehenden Illegitimität von nicht-institutionalisiertem Wissen herangezogen wurden. Diesen

Themenkomplexen unterliegt eine stufenförmige Begründungslogik, welche diese diversen *issues* miteinander verbindet: 1) Diese *issues* gefährden die Aufrechterhaltung von Vertrauen und Interesse an institutionellem, legitimen Wissen, das notwendig ist, um Öffentlichkeiten engagiert zu halten, 2) Vertrauen und Interesse sind wiederum unentbehrlich für die Selbstermächtigung von Öffentlichkeiten, 3) was letztlich ausschlaggebend für die Gewährleistung von Stabilität und Innovation der Wissenspolitik ist, die für die Aufrechterhaltung und Weiterentwicklung der nationalen ökonomischen Verhältnisse erforderlich ist.

Acknowledgements

I owe my gratitude to the following people, without whom this thesis would not exist as it does today: Ulrike Schiesser, Arne Schrader and Klaus Taschwer for offering me their time as interviewees; Tash Sharma, for their constructive proofreading; and Maximilian Fochler, for his thoughtful supervision process, the helpful comments during the writing process, and for consistently showing empathy and patience.

For the moral support, I want to thank those friends who made going to the library rewarding and always enjoyable – in particular, Dani, Laura, and Daphne – your help and encouragement motivated me in several crucial moments, for which I am so grateful.

For the timely words of motivation and unwavering belief that this thesis would eventually find an end, my friends and parents, and my partner, for everything.

Table of Contents

List of Abbreviations

ACPP	Austrian Corona Panel Project
APA	Austrian Press Agency
Beratungsstelle	Beratungsstelle für Extremismus
BMBWF	Bundesministerium für Bildung, Wissenschaft und Forschung (Österreich) / Ministry of Education, Science and Research (Austria)
BMI	Bundesministerium für Inneres
Bundesstelle	Bundestelle für Sektenfragen Österreich
CDA	Critical Discourse Analysis
DA	Discourse Analysis
DHA	Discourse-Historical Approach
EDMO	European Digital Media Observatory
EFCSN	European Fact-Checking Standards Network
EU	European Union
Eurobarometer survey 2021	*European citizens' knowledge and attitudes towards science and technology* (European Commission, September 2021)
FWF	FWF – Österreichischer Wissenschaftsfonds
GADMO	German Austrian Digital Media Observatory
GDP	Gross Domestic Product
IFCN	International Fact-Checking Network
IHS	Institute of Advanced Studies
ÖAW	Österreichische Akademie der Wissenschaften / Austrian Academy of Sciences
PEST	Public Engagement with Science and Technology
PUS	Public Understanding of Science
R&D	Research & Development
RRI	Responsible Research and Innovation
RTI	Research and Development Index
SKAD	Sociology of Knowledge Approach to Discourse
SKK	Sociology of Scientific Knowledge

STEM	Science, Technology, Engineering, Mathematics
STI	Science, Technology, Innovation
STS	Science-Technology-Studies
TruSD	Trust in Science and Democracy, initiative by the BMBWF
WHO	World Health Organisation

"Information represents a positive value; inasmuch as it lacks interiority, it *can circulate independently, free from any and all context*. Accordingly, the circulation of information admits acceleration at will – for purely arbitrary reasons."

(Han, 2017, p. 16)

"Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?"

(Eliot, 1934, p. 7)

"I repeat: Life cannot be delegated."

(Mumford, 1964, p. 7)

1. Introduction

First part: Exposition

Knowledge and information structure the temporalities, procedures, and processes that shape contemporary societies. The ubiquitousness of knowledge and information in the twenty-first century means that in contrast to the age of industrialisation, the production of (scientific) knowledge and information has become the main driving force for economic stability and innovation. Institutions of knowledge production, such as research institutions or supranational unions like the European Union (EU) have cemented themselves as the arbiter of these knowledges. These institutions garner expertise and knowledge, and they legitimate knowledge by adhering to standards of logic, commensurability, falsifiability, and autonomy. Publics, which are typically not included in the production of these institutionalised knowledges, have traditionally encountered these knowledges after they had been 'black-boxed' and disseminated via political, social, or economic means.

In the twenty-first century, however, the consistent reliance on knowledge and information had begun to soften the distinctive boundaries between those who *produce* knowledge and those who merely *encounter* it. This was in part due to the marked shift in the way in which publics are involved in the production of knowledge; most notably, the rise of information and communications technologies in the latter half of the twentieth century had changed the speed that publics encounter knowledge as compared to non-digital eras, the role of publics in the dissemination of knowledge, as well as the necessary engagement in its production as prosumers (merging the *consumer* with the *producer*) (Chen, 2009; Johnson et al., 2014). This development prompted an ongoing reflection of what it means for publics to be *scientific citizens* in the twenty-first century, with policy-initiatives following shortly after (e.g. European Commission. Directorate-General for Research and innovation & Schomberg, 2011; Felt, 2003; Irwin, 2001). Simultaneously, a reckoning had started with the role that the sciences have in contemporary societies, triggering a re-negotiation of the involvement of publics on a local and trans-national level (e.g., in the form of Responsible Research and Innovation (RRI) (Owen et al., 2012)). By implementing strategies to digitise commonplace bureaucratic procedure, foster innovation and aid sustainable development, the impetus to navigate complex knowledge and information systems falls onto publics (Bundesministerium für Finanzen, 2023).

At the same time, however, some discussions had erupted which called into question how institutions – political, scientific, economic – had wielded their roles as experts, beginning to cause international headlines. In 2016, Michael Gove, then Lord Chancellor, declared: "I think the people of

this country have had enough of experts with organisations with acronyms saying that they know what is best and getting it consistently wrong" (Portes, n.p., 2017). The statement had come to illustrate the main argument made against the EU, which had driven the Brexit campaign: their inability to deliver knowledge and information, and thereby policies that are useful for 'the people'. This populist momentum in the Brexit campaign reflects what has been termed a 'populist movement' not only on a European-level, but also on a global-level (Tabellini, 2019; von Hippel, 2017). The resurgence of populist and authoritarian state figures challenged the idea of political progressivism, the spread of democracies as well as the ideals of (scientific) knowledge production which are associated with a democratic type of governance. At the end of the twentieth century, particularly after the fall of the Berlin Wall in 1989 and two years later when the Soviet Union collapsed, the understanding prevailed that the impressive victory lap of liberal democracies[1] would continue indefinitely on a global scale. In the popular essay by Francis Fukuyama in 1989, "The End of History?", Fukuyama argues that "the end of history" is equal to the victory of democracy as the dominant political system, and the progressive tendencies of knowledge-production in free market economics which are typically associated with such system (Fukuyama, 2012). However, this optimism came to a halt when – coinciding with the 2008 global financial crisis – populist parties and authoritarian figures started to be on the rise again after decades of regression (Mach, 2020).

In 2016, the term "post-truth" had been elected word of the year by the Oxford Dictionaries (BBC News, 2016), which is defined in the following manner: "Relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief" (Oxford English Dictionary, n.p., 2023). To declare a "post-truth-era", as Michael Lynch (2017) writes, implies several developments to the state of public conduct with knowledge and information:

> Designating a 'post-truth era' has become a despondent complaint about the widespread, blatant, unapologetic, and often-unsuccessful deceptiveness promoted by powerful agents. Importantly, the accusations in question are not only about matters of public concern in which scientists have prominent roles, such as climate change, but also about ordinary matters of fact, such as the size of the crowd and the timing of rainfall during Trump's inaugural address, and whether or not one of Trump's tweets distorted what the Mayor of London said following a terrorist attack in that city (Lynch, 2017, p. 594).

The above quote illustrates succinctly the conglomeration of distinctive yet intertwined issues in a knowledge society which entail: the necessity to ascertain the truth value of statements in an arena in which various actants frequently exploit appeals to legitimacy, the role of (scientific expertise) in

[1] Kaltwasser defines liberal democracies as follows: "[…] a complex institutional setting that not only gives power to the people by permitting the periodic holding of free and fair elections, but also limits people's power by building an array of unelected bodies, such as central banks, (constitutional) courts, and supranational institutions that are in charge of providing public goods" (Kaltwasser, 2017, p. 491)

public matters, as well as the perceived aversion to 'Tatsachenwahrheit' (eng. truth of fact) (see 2.2.2). As the frequency of these developments increase under the rise of populism, institutions of knowledge production are adamant to demarcate illegitimate from legitimate knowledges to curb the effects of populism and anti-democratic tendencies (Rummens, 2017 ; Foley, 2017). Due to this, it is necessary to discuss how institutions practice demarcation and to expand on the meaning of *institutional politics of demarcation* – a concept which I use throughout this thesis.

Second part: Institutional Politics of Demarcation

The concept of politics of demarcation by Noortje Marres offers a lens to critically examine institutional practices of demarcating between illegitimate and legitimate knowledges. In her essay "Why We Can't Have Our Facts Back" (2018), Noortje Marres problematises what she sees as a reinstatement of normative principles in the pursuit of a knowledge democracy. By addressing the hypothesis that the knowledge democracy is in crisis – a claim which inspires calls to *reaffirm* the importance of *facts* - Marres discusses what she terms the practices of a "politics of demarcation": the pursuit of rigorous boundaries between knowledge and anti-knowledge, as well as a focus on normative notions of expertise. Marres emphasises that by re-erecting these boundaries, primarily done by institutions, the problems which are at the base of the difficulties to realise an *equalitarian* knowledge society are not adequately addressed (2018, p. 424). Marres clarifies that she does not want to abolish initiatives such as fact-checking, or the demarcation of *true* from *false* claims. However, she argues that it would be necessary to highlight that the initial set-up of digital environments "encourage[s] disregard for knowledge on the Internet" (2018, p. 437) in favour of the *engagement of users.* In a time of diverse knowledge and information landscapes, to understand publics as *prosumers* of information complicates the expected function of knowledge, information and facts. The pursuit of knowledge for knowledge sake is no longer the most salient aim in contemporary knowledge and information systems, but the production of knowledge becomes vital as an economic tool for knowledge politics. The focus on an *institutional politics of demarcation* highlights the imbalance of the realities of contemporary knowledge-production, information-production, and the demands placed on publics who navigate this knowledge landscape. Adopting the terminology of an "institutional politics of demarcation" as a guiding principle allows me to consider, among other issues, the following question: "If disinformation connects to matters of **public concern**, how well do current efforts to combat disinformation address this connection?" (Marres, 2018, p. 428; own emphasis). Thereby, I introduce a concept which is sensitive towards considering the issues of publics and their roles in the practices of the Austrian knowledge society.

Third part: Case Study

By the beginning of the global COVID-19 pandemic, the discourses relating to the perceived challenges to the legitimate production of knowledge, the dissemination of information and the maintenance of knowledge societies had reached the national level. In Austria, public debates about the rejection of 'facts' and the utilisation of scientific knowledges in politics reached its peak after the COVID-19 pandemic had started to take effect: Alongside debates about the obligation of adults to get vaccinated, a protest movement (termed "Schwurbler*innen" or Corona-Leugner*innen) had erupted which united diverse publics who protested against government measures, rejection of certain scientific knowledges and groups which utilised the moment to further their populist agendas (Frei et al., 2021; Kleffner & Meisner, 2021). Most crucially, this movement included not only a rejection of those actants which are perceived to be at the forefront of institutions, such as politicians, but also of the knowledges and the expertise that are associated with the institutions themselves. In turn, some public debates lamented a lack of trust in institutions of scientific knowledge production (Czepel, 2022; science.ORF.at/Agenturen, 2023; Taschwer, 2021). This presents a problem for the conduct of knowledge politics: Austria, as a nation state situated within the supranational EU, navigates transnational challenges by implementing policies and approaches for a national approach to diverse questions of knowledge politics. Within the bounds of Austria, several institutions are engaged in these knowledge politics, and thereby constitute which knowledges are legitimate and which are illegitimate. The act of constituting legitimate knowledges reflects these transnational challenges, yet it is also illustrative of nation-contingent situations, events and discourses. The global COVID-19 pandemic, which had reached Austria officially with the start of the first nation-wide lockdown in March 2020, further stressed the public negotiation of these knowledge politics (Schrenk et al., 2021). In the following two years, discourses proliferated on vaccination rates and other prevention measures, on whether to draw on experts and to what extent in political decision-making, and the effects of these measures on a societal, political and economic level. As the challenges exponentially accelerated and remained relevant, it became indispensable to have a politics of demarcation in institutional efforts to solidify and legitimise the knowledges which circulate in public arenas. The trigger for this thesis was the policy brief on science communication, published in March 2022 by the *Institute of Advanced Studies* (IHS), which primarily highlighted the lack of involvement of publics in matters of science and technology, and lamented the lack of a strategic and national approach to science communication in Austria. In the months following this publication, several issues emerged as institutions continue to practice a politics of demarcation between illegitimate and legitimate knowledges: science scepticism, ignorant publics, dynamics of trust and interest in knowledge politics. In this thesis, I follow the issues which have

emerged during institutional politics of demarcation in Austria in the time between March 2022 and December 2023. I aim to analyse how institutions negotiate their role as actants within knowledge politics, how the demarcation of illegitimate from legitimate knowledges is practiced in this timeframe, and how these knowledge politics both constitute and inform the roles and duties of publics.

Fourth part: Structure

In Chapter 2, I review pertinent literature to ascertain how knowledge and information have become so ubiquitous to the conduct of public affairs that it has become necessary to call contemporary societies *knowledge societies*. In the first sub-section, I trace how knowledge politics have evolved by situating the production within institutions and collectives, explore how knowledges are legitimated, present challenges and difficulties which occur in processes of knowledge production, examine the emergence of an economic knowledge society, and describe how experts and publics alike contribute to knowledge societies. In the second sub-section, I focus on establishing the theoretical groundwork for the illegitimate knowledges identified as issues in institutional politics of demarcation in the following chapters: 1) disinformation, 2) conspiracy theories, 3) ignorance, distrust, and anti-science sentiments and 4) political and science-related populism and extremism. After establishing my research questions in Section 3, Chapter 4 offers an exploration of the methodological framework utilised to construct and analyse my data corpus, which consists of documents as well as three expert interviews with actants in Austrian knowledge politics and highlight the sensitivities of Grounded Theory/Situational Analysis as well as the practice-orientated approach towards my data corpus. In Chapter 5, I present the theoretical framework utilised to make sense of my case study: the concept of epistemic communities by Karin Knorr-Cetina and boundary work by Thomas F. Gieryn, as well as the boundary object by Susan Leigh Star and James R. Griesemer. In Chapter 6, I present my findings, by *following the issues* of the analysed institutional politics of demarcation. In Chapter 7, I offer a discussion of my findings, structured along the three sub-research questions. I close the thesis with a summary of the chapters, the implications of my findings, a hypothesis which can be drawn from the findings and offer an outlook on future ventures on research and on (Austrian) knowledge politics but highlighting current developments (Chapter 8).

2. Literature Review

The following literature review aims to situate the case study of this thesis in the pertinent literature (2.1) and provide theoretical underpinnings to the concepts of illegitimate knowledge analysed later (2.2). I start by exploring how knowledge has emerged as a central agent in all societal subsystems – economical, technical, societal – during the twentieth century, and examine its position in the twenty-first century nation state. In the second chapter, I examine how this centrality manifests itself in the practices of institutional politics of demarcation – which seek to demarcate illegitimate knowledges from legitimate ones – by providing a typology of illegitimate knowledges as analysed in the findings section.

2.1 The Place of Knowledge: Arriving in the *Knowledge Society*

In this subchapter, I provide the framework for knowledge: in 2.1.1, I examine the collectives and institutions which produce knowledge, and I also show how knowledges function within these institutions. In 2.1.2, I discuss different approaches to the production of legitimated knowledges within institutional boundaries, and then I highlight some concerns and difficulties with knowledge production in 2.1.3. Further, I examine how the institutionalisation of knowledge production prepares the ground for the emergence of (economic) knowledge societies, whose characteristics I examine in 2.1.4. Within knowledge societies, those who possess these knowledges hold a special position, which I present and problematise against the backdrop of (political) crises and a changed understanding of their functionality in a medialised governance landscape (2.1.5). Last, I illustrate how publics are discussed, defined, and positioned within knowledge societies (2.1.6).

2.1.1 The Framework of Knowledge: Collectives and Institutions

To be able to examine any institutional politics of demarcation, it is first necessary to examine how knowledge production is framed and thus able to emerge. Therefore, I trace different understandings of institutions and collectives whose constitution and function, respectively, informs the roles of knowledge.

In an attempt to define what an institution is, John R. Searle (2005) asks what it is "about institutional fact that makes them *institutional*, and what sorts of things do they require in order to be the sorts of fact they are?" (Searle, 2005, p. 3). Searle first distinguishes between observer relative phenomena and independent phenomena; the former are "features of the world that exist only relative to human attitudes", the latter phenomena exist independently from observers (2005, p. 3).[2]

[2] Searle provides some examples which would certainly be challenged by Science-Technology-Studies (STS) concepts (for instance, he states that "football games are observer relative; the trajectories of human bodies are observer independent"

Institutional reality, according to Searle, is an *observer relative* phenomenon. Further, he distinguishes between subjectivity and objectivity to explain how institutions transform subjective attitudes into an objective reality and specific norms: "Epistemically objective statements are those that can be established as true or false independently of the feelings and attitudes of the makers and interpreters of the statement" (2005, p. 4). As such, Searle recognises that institutional realities are observer relative phenomena and lists three distinctive aspects which he deems necessary to demarcate institutional facts from mere social facts: 1) *Collective intentionality*, 2) *the assignment of function* (for example, imposing a function on an object which had none before), 3) *status functions*. Status functions differ from the assignment of function in the sense that the function is determined solely by "a collective assignment of a certain status, and the object or person performs its function only in virtue of collective acceptance by the community that the object or person has the requisite status" (p. 7). For this aspect, Searle provides the example of "money, private property, and positions of political leadership" (p. 8). Searle concludes: "The institutional ontology of human civilization, […], is a matter of status functions imposed according to constitutive rules and procedures" (p. 9). And: "An institution is any collectively accepted system of rules (procedures, practices) that enable us to create institutional facts" (p. 21). This definition, however, does not adequately address the problem of distinguishing an institution just from any organisation. Douglas C. North offers an attempt: Organisations (for instance: political bodies, economic bodies, educational bodies etc.) are the *consequences* of an institutional framework, which renders institutions as an arbiter of rules. Further, North states: "In turn they influence how the institutional framework evolves" (North, 1990, p. 5). Institutions provide the "underlying rules of the game" (1990, p. 5), organisations then develop out of these conventions.

Institutions constitute certain set of rules, which develop out of specific requirements and decisions made by people who contribute to these institutional practices; as such, institutions can be understood to develop agencies beyond what is constituted explicitly. This would mean that they can independently develop further into an entity, and they can also develop implicit conventions, which are the result of a *collective*. Mary Douglas connects this implicit understanding of collective thinking with Ludwig Fleck's "thought styles", whose utility she articulates as follows: "[The thought style] provides the context and sets the limits for any judgment about objective reality. Its essential feature is to be hidden from the members of the thought collective" (Douglas, 2011, p. 13). Fleck thinks of the effect of a thought style in terms of "an absolutely compulsive force upon [an individual's] thinking and with which it is not possible to be at variance" (Fleck, 1979, p. 41). Primarily

(2005, p. 3), a notion which can be certainly interjected by the objection that the movement of the bodies does also only make sense when applying the rules of a football game to their trajectories, in addition to observing the mere act of movement.

writing of the scientific collective, Fleck highlights the effect of this collectivity beyond scientific communities, and institutions in general: "A well-organized collective harbors a quantity of knowledge far exceeding the capacity of any one individual" (1979, p. 42). This capacity building manifests, according to Fleck, for instance, in vastly different epistemological uses of one and the same terminology, depending on the collective that wields it.[3] Any term then acts as an extension of this community and represents the knowledges which manifest within a given collective or institution.

The immediate functionality of institutions remains to be examined. Some definitions of institutions highlight what these practices enable:

> By *institutions* we mean relatively durable sets of practices and ideas that are organized around social activities and that in various ways shape the contour and experience of daily life. Institutions embody routinized 'ways of going on' that, even when largely taken for granted by individual members of society, nevertheless continuously shape or channel social choices, constraining certain courses of action and enabling others (Frickel & Moore, 2006, p. 8).

Others, such as Mary Douglas, point to theorists like Émile Durkheim who understand institutions in the following manner: "In Durkheim's work the whole system of knowledge is seen to be a **collective good** that the community is jointly constructing" (Douglas, 2011, p. 29; own emphasis). As such, institutions are understood as practices of collectivity, which incidentally subsumes the individuals within this collectivity. Mary Douglas points out that the fallacy of Durkheim and Fleck results in the following theorem: [Sociological functionalism] had no place for the subjective experience of individuals willing and choosing. To suppose that individuals are caught in the toils of a complex machinery that they do not help to make is to suppose them to be passive objects, like sheep or robots. Worse, there is no scope in such a theory for explaining change unless it comes from outside as an irresistible coercive force" (Douglas, 2011, 32).

Any organised practices which shape a form of collective enterprise and produces its own knowledges can subsequently be regarded as an institution. Universities, research groups, non-governmental organisations, (economic) industries or a governing body are institutions of knowledge production, since their *raison d'être* lies in producing knowledge for specific subsets of collectives. Moreover, they all historically relied on practices which were separated from each other, however, this has started to change at the end of the twentieth century when the convergences of historically separate institutions had set in within universities or institutions of industry or governance. Anthony Gibbons (1999) highlights that the consequence of "society" advancing into

[3] Inherent in this theoretical construct is the problematization of entirely independent thought (or, "individuals") in societies. Comparing scholars such as Emile Durkheim or Lévy-Bruhl, Fleck problematizes their general insistence on the understanding that the rational adherence to scientific fact emerges due to developing advanced ways of collectivity in opposition to that of previous collectives and institutions. Fleck raises the point that scientific, objective reality is also a product of feeling, of thought styles developed in collectives, like any other social occurrence.

the domain of "science" lies in the fact that "society can now 'speak back' to science" (Gibbons, 1999, p. C82), rendering the "relative institutional impermeability […] more porous" (p. C81). Kleinman & Vallas (2001) term this a 'convergence': "[…] we conclude that a process of convergence is underway in which the codes and practices of industry are infiltrating the academy, even as academic norms are increasingly governing the work practices of selected knowledge workers in high technology firms and industries" (Kleinman & Vallas, 2001, p. 451). However, they emphasise that this convergence remains asymmetrical: "[…] industry ultimately appears to have an upper hand in this process" (p. 451).

2.1.2 The Construction of (Scientific) Knowledge

Having established the framework of knowledge - institutions and collectives - I now turn to examine how legitimate knowledges are constructed within these institutions and collectives. I demonstrate how the claim to the legitimate knowledges is fundamental in establishing that *institutions*, themselves, are *legitimate.*

The process of knowledge production is laid bare when the observability of mere facts in nature is complicated by reality itself: "The search for and formulation of those facts are knowledge-dependent" (Chalmers, 2013, p. 32). If this is the case, that facts can only be established by pre-existent knowledge, how then can knowledges be established and solidified in any substantial manner by *observation*? Chalmers writes:

> An observation statement constitutes a fact worthy of forming part of the basis for science if it is such that it can be **straightforwardly tested by the senses and withstands those tests**. Here the 'straightforward' is intended to capture the idea that candidate observation statements should be such that **their validity can be tested in ways that involve routine, objective procedures that do not necessitate fine, subjective judgments on the part of the observer.** The emphasis on tests brings out the **active, public character of the vindication of observation statements** (Chalmers, 2013, p. 41; own emphasis).

According to Chalmers, validity is "tested in ways that involve routine, objective procedures" (2013, p. 41) of the subjective nature of the observer, while still centring observation, the important addition is performing routinised tests to solidify and produce the knowledge. Chalmers adds that this must necessarily mean that the fact is *revisable*, and that there is the possibility that a fact will not withstand future tests. This conjecture is reflected in Karl Popper's model of falsification: this model predicates that there is no fundamental proving of scientific knowledge, only the continuous testing of *fact* and then the possibly subsequent falsification of these *facts* (Maxwell, 2017). Consequentially, for scientific knowledge production to advance in any manner, different theories ('theoretical pluralism') need to compete, to produce any kind of stable *fact* (Maxwell, 2017, p. 291). This conception of knowledge production departs from the traditional procedure of the sciences, which favoured 'verificationism': Yet in Popper's idea of scientific rationality, imagination and

'theoretical pluralism' is tantamount to the advancement of knowledge production. What precedes this conception of the production of knowledge is a certain 'epistemological optimism', which is the belief in the possibility of "man's power to discern truth and to acquire knowledge" (Popper, 1969, p. 5). Popper summarises that if people hold the power, then no other authority (a God, an institution etc.) is needed to reach the point of revelation of the *truth*. Thus, epistemological optimism is closely related with the ideas of liberalism: "*Man can know: thus he can be free"* (1969, p. 6).

Robert Merton (1973), similarly, stresses the revelatory nature of knowledge production: "The technical methods employed toward [the institutional goal of science to extend certified knowledge] provide the relevant definition of knowledge: empirically confirmed and logically consistent statements of regularities (which are, in effect, predictions)" (Merton, 1973, p. 270). Knowledge, then, is produced through *methodological* work. In addition, there is an "ethos of science", which by extension relates also to the act of producing this knowledge. This ethos is comprised of four "institutional imperatives": universalism, communism, disinterestedness, and organised scepticism" (see 1973, p. 270), which are the four imperatives utilised to inform legitimacy and the special position of legitimate knowledges. Universalism suggests that the knowledge deemed legitimate is constructed by "preestablished impersonal criteria" (p. 270), communism suggests the "imperative for communication of findings" (p. 275), to inhabit the character of disinterestedness suggests that the person producing the knowledges does not skew it to their own advantage (see p. 276), and the attribute of organized scepticism means "temporary suspension of judgment and the detached scrutiny of beliefs in terms of empirical and logical criteria" (p. 277).

This 'organised scepticism' partially explains the favoured place this manner of knowledge production maintains in democratic societies; its decontextualization from the specificities of its situatedness is significant: "But the production, certification and communication of scientific knowledge engages a host of methodologies and tools, whose intended or unintended import has the effect of decontextualizing and depersonalizing claims of knowledge, thus rendering them particularly useful in the **production of the modern democratic order**" (Ezrahi, 2004, p. 256; own emphasis). As such, the expressed hope is that this manner of producing knowledges is able to "de-politicise" certain issues and providing the basis for unquestionable "policy choices": "Science, therefore, is widely regarded as a means by which to de-politicize public issues. The increasing use of expertise is often associated with the 'end of ideology', politics, it is claimed, will become less important as scientists are able to define constraints and provide rational policy choices" (Nelkin, 1975, p. 36). The aspect of utility of knowledge production in democracies, then, is identified in the hope that scientific knowledge production might introduce a fair playing field for various actants.

However, the idea that scientific knowledge production does not answer to anything other than the *pure pursuit of producing knowledge*, is complicated by what Gibbons et al. term **Mode 2,** a new approach to knowledge production which centres its applicability and interrelatedness with other modes. This new mode departs from the initial **Mode 1** (pure science, without much regard for its applicability), which the authors describe thus:

> The old paradigm of scientific discovery ('Mode 1') – characterized by the hegemony of theoretical or, at any rate, experimental science; by an internally-driven taxonomy of disciplines; and by the autonomy of scientists and their host institutions, the universities – was being superseded by a new paradigm of knowledge production ('Mode 2'), which was socially distributed, application-oriented, trans-disciplinary- and subject to multiple accountabilities (Nowotny et al., 2003, p. 179).

In *The New Production of Knowledge*, Gibbons et al. (2011) relay several attributes to the shifting understanding of what contributes to knowledge production, namely transdisciplinarity or quality control which they identify as being more dispersed than in Mode 1, in addition to having become "more context- and use-dependent" (p. 18). Further, they identify that success is structured differently, as there are additional attributes such as "**efficiency** or **usefulness** which are defined in terms of the contributions the work has made to the overall solution of transdisciplinary problems" (2011, p. 18; own emphasis). Thus, the attributes which define *knowledge* have, albeit not entirely changed, shifted from primarily being seen as routinised tests to ascertain the validity of something to be observed (highly theoretical), towards centring the production of knowledge within modes of usefulness in a socially distributed manner.

2.1.3. The Difficulties of Knowledge Production

The common understanding of the scientific method, which produces legitimated knowledges, requires that there is an objective fact in existence, and the process of knowledge production ensures its constitution. This understanding is already complicated by most epistemologies of knowledge production, citing culturally contextual influences: The process of demarcation, as Trevor J. Pinch (1979) proposes, can also be seen as quite arbitrary and not fit to fully explain the constitution of one process as scientific or otherwise. Discussing the demarcation of pseudoscience from normal science, Pinch showcases the common ways in which matters of parapsychology[4] are delegitimated: on account of lack of repeatability and falsifiability, metaphysical bias, and theoretical inadequacy. After showing that the same accusation of non-scientificity which is used against parapsychology may also be true when tested on the "fraud hypothesis" levelled against parapsychology (i.e., the fraud is difficult to be repeated), Pinch concludes:

[4] Psychology Today defines parapsychology as follows: "Parapsychology is a field of study that investigates paranormal or 'psychic' phenomena, including purported mental abilities such as telepathy and telekinesis" (Psychology Today, n.d.)

> That such criteria seem to work equally well against both fraud and parapsychology indicates that they alone cannot account for parapsychology's rejection. […]. This paper is pessimistic about the possibility of establishing independent standards of rationality: but this does not imply that we have good grounds for embracing any belief. […]. My interest is *not* in the *validity* of either hypothesis, but in the types of argument made for or against them. (Pinch, 1979, p. 344).

Further, the idea of linearity in producing scientific knowledge, rendering the production of legitimated knowledge inevitable, has been substantially contested: Thomas Kuhn offers a different conception of the progression of knowledge production in *The Structure of Scientific Revolutions* (1962). Kuhn proposes that instead of thinking about knowledge production as a an upwards progression, it is instead worth conceptualising as time "periods of normal science punctuated by revolutions" (Sismondo, 2010, p. 12). During the former, those pertaining to a particular field share a paradigm, an understanding of the field's past, achievements and the problems that need solving; a crisis occurs if "anomalies accumulate" (Sismondo, 2010, p. 14). Sismondo summarises the conclusion that can be drawn from Kuhn's paradigms as follows: "Science does not track the truth, but creates different partial views that can be considered to contain truth only by people who hold those views!" (Sismondo, 2010, p. 16). After a crisis has occurred, and the paradigm has shifted, Kuhn proposes that the subsequent claims to truth are indeed *incommensurable* to the former claims.

Further, David Bloor's *Strong Programme of the sociology of knowledge* proposes to treat the production of knowledge as a process of reciprocity between people, and not merely as enshrined within institutions of knowledge production. As such, it is essential to analyse legitimate and illegitimate knowledges alike, and scrutinising them by analytically treating them as the same (Bloor, 1991). This ideal finds resonance when considering that formerly legitimated knowledges have turned out to be insubstantial and unscientific. For instance, Londa Schiebinger (1996) shows how the sites of knowledge production can introduce ignorance during the very process of producing knowledge, such that the ideas of womanhood of the sixteenth century are as intricately connected to fertility and being subordinate in terms of cognitive abilities in comparison to men has influenced the earliest depictions of female skeletons impeding legitimate depiction (Schiebinger, 1996). The laboratory studies (an outlier of them is the theoretical lens of "epistemic communities" by Karin Knorr Cetina, which I utilise as a theoretical lens), focused on the mundanities of everyday research practices which lead towards and away from producing different kinds of knowledge which are contingent on the financial, temporal and material constraints that researchers found in laboratories (Knorr-Cetina, 2014, 2016; Latour & Woolgar, 1987).

2.1.4 The Emergence of the (Economic) Knowledge Society

As shown in previous chapters, institutions and collectives are necessary to produce and structure knowledge. With the institutionalisation of knowledge, 'knowledge society' as a concept emerges,

which I trace in the following subchapter: how do institutionalised and legitimated knowledges within institutions of knowledge production structure a *knowledge society*?

Research on the pervasive role of knowledge stresses the increased significance that knowledge occupies within the interrelated spheres of a society. As Yaron Ezrahi summarises, the impact of (scientific) knowledge can be recognised in a "growing deployment of professional-instrumental and technical vocabularies in fields of political discourses formerly regulated by religious, moral and legal ones [and the] faith in the compatibility between individual autonomy, the advancement and diffusion of certified knowledge and representations of political reality, and the possibility of rational consensus among citizens (Ezrahi 1990; 1996)" (Ezrahi, 2004, p. 254-255). As such, the strive towards spheres based on knowledge, and the hope that publics might adhere to legitimated knowledges and thus are guided to form a "rational consensus" amongst them, is central in the understanding that a knowledge society has already emerged. The term "knowledge society" itself is attributed by Nico Stehr and Richard V. Ericson to Robert E. Lane in as early as 1966: To describe a society as knowledgeable seeks to signify the growing *importance* of science in general as well as its increased relevance to *publics*. The intensified prevalence or "penetration of all its spheres of life by scientific knowledge" (p. 6) makes a society into a "knowledge society" (Stehr & Ericson, 1994, p. 6). Stehr and Ericson phrase it in the following manner:

> In [sic!] involves the displacement, although by no means elimination, of other forms of knowledge by scientific knowledge, mediated by a growing stratum of, and dependence on, experts, advisors and counsellors, and the corresponding institutions based on the deployment of specialized knowledge. It constitutes the emergence of science as an immediately productive force, and of knowledge as an increasingly important source of added value and the possibility of economic growth. (1994, p. 6)

Apart from the "displacement" of other forms of knowledges as the primarily important ones by scientific ones, what signals the advent of knowledge societies is when knowledge becomes economically viable: "**The change from functioning as a producer or critic of world-views to functioning as a productive force means that important aspects of science are now part of the material basis of society**. It is a productive force to the extent that **its knowledge is frozen into machinery**" (p. 11-12; own emphasis).

The interrelatedness of *knowledge production* and *innovation* is illustrated in neologisms such as the *knowledge economy,* which Frickel and Moore (2006) deem "[…] the process by which the codes and practices of industry and the academy are increasingly traded across the boundary between the two" (Frickel & Moore, 2006, p. 35). Moreover, the boundaries between manual manufacturing and theoretical knowledges are rendered porous, Powell and Snellmann (2004) cite the car as an example, which has shifted from being first and foremost a product of assembly to a "smart machine that uses computer technology to integrate safety, emissions, entertainment, and

performance" (2004, p. 201). This is reflected in Karin Knorr-Cetina's work, as she similarly stresses the aspect of economics in a researcher's definition of knowledge: "The dominant definition of a **knowledge society is economic**; it states that knowledge has become a productive force that increasingly replaces capital, labour and natural resources as central value- and wealth-creating factors" (Knorr Cetina, 2007, p. 361; own emphasis). Consequently, the term knowledge economy emerges as a reflection of these interrelations between material realities and knowledge production. Further, Powell and Snellmann (2004) outline three lines of research that shape the term of a knowledge economy: the first "[...] focuses on the rise of new science-based industries and their role in social and economic change" (Powell & Snellman, 2004, p. 200). They point towards research strands identifying that "theoretical knowledge" had become "the source of innovation" (ibid). The second research strand notes that the changes to the types of jobs signals an economy tied to knowledge, while the third notes the degree of learning that is required and a move towards "continuous innovation" inside companies. As such, the authors conclude, a move towards understanding economies as particularly knowledge-driven has emerged, which they define "[...] as production and services based on knowledge-intensive activities that contribute to an accelerated pace of technological and scientific advance as well as equally rapid obsolescence" (Powell & Snellman, 2004, p. 201).

On a policy-level, the merging of knowledge-production with economic concerns has been enforced since the early 2000s as well: In *Rapport Mondial de l'UNESCO: vers les sociétés du savoir*, for instance, the UNESCO defines its vision for societies in the following manner: "Knowledge societies are about capabilities to identify, produce, process, transform, disseminate and use information to build and apply knowledge for human development" (UNESCO, 2005, p. 27). Further, the report states that, "[f]or UNESCO, the construction of knowledge societies 'opens the way to humanization of the process of globalization'" (2005, p. 27), which includes adherence to human rights, freedom of expression and empowerment, and the fight against poverty.[5] Fundamentally, the report stresses the importance of knowledge at the beginning of the twenty-first century when economies had reached a point of transformation into networked entities, all reliant on the exchange of information and knowledge and dependent on new technologies in an unprecedented manner. Economies are now understood as 'knowledge economies': "The knowledge economy underlines organizational and technological complementarities between the expanded possibilities for information codification, storage and transmission offered by the new technologies" (UNESCO, 2005, p. 46). There is increased importance put on 'information processing' as a what is termed 'intangible'

[5] Further, the report stresses the importance of eradicating the digital divide as a cornerstone of knowledge societies, which means working towards accessibility of the Internet for all, as access to knowledge-(production) hinges on it.

activities, and research and development (R&D) expenses rise in proportion in the gross national product (GNP). As the term 'knowledge society' signifies the function within societies of knowledge-production, the term 'information society' is primarily used when discussing the necessity to implement improvements to (technological) infrastructures to enable this knowledge-production. The guiding principles of the *Plan of Action* resulting from the *World Summit on the Information Society* in 2003 promotes the advancement of the information society in fostering and advocating for sustained efforts to further the infrastructural developments on a national as well as trans-national level, putting information and communication technologies (ICTs) at the centre (World Summit on the Information Society, 2003).[6] John Feather (2017) even goes so far as to speak of a (non-violent) revolution, and sees the "information-dependent society that is emerging from our revolution" in various contexts (Feather, 2017, p. xiv). The first change is historical: in the ways of communication; the second is economic: how these systems of communication have been integrated into other systems; and the third, political: "commodified information is valorized by more than merely the cost of its production and distribution, for there is real power to be derived from its possession and loss of empowerment caused by its absence" (Feather, 2017, p. xv).

Yet there are worries stirring that this deluge of information which needs to be processed at any given time in a day has become too much to comprehend. In 2020, in the midst of the COVID-19 pandemic, the WHO amongst several other supranational organisations, issued a statement recognising the increased necessity of curbing the effects of "an overabundance of information, both online and offline", and the need to tackle its effects (World Health Organisation, 2020). In 2024, in a correspondence in *Nature Human Behaviour*, several researchers "advocate for organized action that is performed simultaneously in three different areas: science, education and legislation" (Hołyst et al., 2024, p. 403). With this plea, they aim to elicit action on what they identify as "information overload (IOL)". IOL, as Holyst et al. define it, is "an abundance of data, beyond the human capacity to process them in a timely fashion" (p. 402). The authors compare the abundance of and instantaneous access to information to the effects of the *Industrial Revolution*, to when "the massive increase in iron and chemical production was considered necessary for progress" (p. 402).

Consequently, the term knowledge society, knowledge economy, as well as information society all signal the gradual move towards the importance of (intangible) knowledge production.

[6] On an EU-level, the advancement of an information society has been promoted for instance by the "i2010 – A European information society for growth and employment" strategy, which included aims such as "establish a single European information space, i.e. a truly single market for the digital economy" and "reinforce innovation and investment in ICT research" (European Commission, 2008).

The concentration of diverse and specialised knowledges as a productive force necessitates people who can consolidate these knowledges and functionally utilise these knowledges.

2.1.5 The Rise and Fall of Expertise and Experts in Knowledge Societies

In the previous subchapters, I established the ways in which contemporary societies are understood as knowledge societies and highlighted the consequences, particularly the significance on economic relations. Now, I introduce one of the main components of any given *knowledge society*: expertise, and by extension, those who embody expertise and contribute to its institutionalisation. I show why the position of expertise and experts has become increasingly complicated in a diverse knowledge and information landscape, despite the increased reliance on their *expertise* in political institutions and their decision-making.

First, it is necessary to demonstrate different understandings of "being an expert". Ludwig Fleck, in his considerations on thought collectives and their thought styles, conceptualises an "esoteric circle of experts" (Fleck, 1979, p. 160), as opposed to an exoteric circle of the "uninitiated". These uninitiated need to make a conscious effort to penetrate from their circle into the expertise of the other. This understanding is concurrent with Reiner Grundmann's (2017) conception of expertise and how it shapes knowledge societies: In general, expertise is related to having specialised knowledge, and often moral virtue. Grundmann highlights that this results in the demarcations between experts and non-experts, in the placement of experts in professions as well as science, in the understanding that experts possess skills both manual and intellectual, and lastly, that their advice can be trusted (see Grundmann, 2017, p. 26). In (scientific) controversies, the status of having expertise is advantageous to be granted more influence (H. M. Collins & Evans, 2007; Suryanarayanan & Kleinman, 2013). Still, the status of expertise has seen a significant shift over the progression from traditional, to industrial, to knowledge societies, as Grundmann writes:

> With regard to expertise this means that in a traditional society decisions are justified by references to God, Nature, or the good life (Douglas 1966). Industrial societies make references to wealth and health more prominent so that efficiency, competition, inclusion and concerns about the consequences of the industrial mode of production and its impacts on humans and the natural environment become important (Beck 1992). In this society science appears as an arbiter in many contentious issues, as Bauman's role of 'legislator' indicates (2017, p. 29).

Expertise, as well as the people who possess expertise, takes on a specific function in knowledge societies. Experts can be understood as having two key characteristics, as Kaiser (2021) posits: "Experts are constituted, first, through their position and status as well as the knowledge that is ascribed to them. Second, the expert functions as the carrier of relevant knowledge for scientific analyses" (pp. 44-45; own translation). Having expertise can be both a self-referential assessment as well as a status legitimated by external entities or persons; additionally, expertise does not only refer

to scientific knowledge, but to anybody who possesses knowledge which holds interest for "scientific analysis" as formulated by Kaiser formulates. The experts, therefore, are defined by their function of the knowledge they possess.

This definition already implicitly suggests that relationality is tantamount to the constitution of expertise; other scholars have suggested this more explicitly. The aspect of relationality of expertise is expanded by Reiner Grundmann, who posits that expertise is usually provided after a *request* by someone to another has been made (Grundmann, 2017, p. 26). Grundmann summarises: "[…] experts mediate between the production of knowledge and its application; they define and interpret situations; and they set priorities for action. **Experts are primarily judged by clients, not necessarily by peers (professional or scientific**) […]" (Grundmann, 2017, p. 27; own emphasis). As Sheila Jasanoff notes, this fact can be used to devalue expert knowledge, as it can be perceived as biased (what Jasanoff terms the *relativist* model) or to favour expertise, as it is seen as specialised knowledge (the *elitist* model) (Jasanoff, 2003). Even the experts themselves, who act as policy advisors, seem, as Jasanoff writes "[…] at times painfully aware that what they are doing is not 'science' in any ordinary sense, but a hybrid activity that combines elements of scientific evidence and reasoning with large doses of social and political judgement" (Jasanoff, 1990, p. 229).

The idea of a "value-free" (p. 17) transmission of (scientific) knowledge, which seamlessly translates into political action is unmasked as an erroneous judgment. Caspar Hirschi argues that experts in the public media, particularly during COVID-19, were put in the position to legitimate political decisions with a scientific certainty that cannot be provided during times of crises (Hirschi, 2021). As some issues, for instance, determining adequate steps to deal with the climate crisis, cannot principally be solved by a consensus of values, extraneous experts are sought to decide on the issue of knowledge. This epistemisation of the political, which understands issues of value as issues of knowledge, stands in opposition to the complicated status of experts and expertise in the public eye. Increasingly, many suggest (Eyal, 2019; Nichols, 2017) that expertise plays a diminishing role of legitimising knowledge. As Grundmann (2017) suggests, "science" as an all-compassing entity "has lost its position of authority" (Grundmann, 2017, p. 29). Grundmann suggests the reason in part to be "due to the disillusionment with scientific and technological projects after the Second World War, but also due to the emergence of a multiplicity of knowledge sources" (p. 29). He concludes: "The argument so far describes a paradoxical development: it lays out that the emergence of the knowledge society has led to a proliferation of, and dependence on expertise. It has led to a loss of trust in scientific experts while at the same time generating forms of expertise that are not based on professional accreditation of scientific reputation" (Grundmann, 2017, p. 31). Similarly, Dorothy Nelkin (1975) writes: "Scientists play an ambivalent role in controversial policy areas. They are both

indispensable and suspect. Their technical knowledge is widely regarded as a source of power" (Nelkin, 1975, p. 36).

Others view the complicated status of expertise to a rise in the medialization of science, a concept proposed by Peter Weingart, which purports that the role the media plays in the conduct of the sciences, and its increasing importance (Weingart, 1998). Ulrike Felt and Maximilian Fochler analyse the interrelations that scientists perceive with media, affirming that the medialization of the sciences affects the tacit governance of their scientific practices (Felt & Fochler, 2012). The legitimation of expertise, then, is increasingly sought in a variety of interrelated spaces, both inside and outside the purported areas of expertise itself (i.e., institutions of knowledge-production). The effect of these suspicions: (online) harassment and increased stress on the part of the experts (Nölleke et al., 2023), which research institutions increasingly recognise as one part of sharing expertise in the public eye, provide contact points to affected scientists (Österreichische Akademie der Wissenschaften, n.d.).

Conversely, Alexander Bogner discusses the complicated status of expertise in knowledge societies based on the process of *epistemisation*: "[…] many political problems are only accurately formulated and also solvable if we understand them as issues of knowledge" (2021, p. 17; own translation). He questions this belief and identifies the emergence of "counter-expertise" because of this process of epistemisation since the legitimacy of value claims can primarily be achieved through this very *epistemisation*. Bogner postulates that this "trust in the power of knowledge" (Bogner, 2021, p. 15; my own translation) has consequences for democracies, as the understanding that the best knowledges result in unambiguous political decisions would result in a "politics of no alternatives" (p. 21; my own translation). This would result in favouring authoritarianism and dogmatism (Bogner, 2021, p. 53).[7] A politics without alternatives mirrors Poppers discussion on what belief the sciences are founded on, namely that "truth is manifest" (Popper, 1969, p.7). From this belief follows that ignorance needs only to be uncovered, as the truth beneath needs only to be *revealed*. The consequence, however, is: "The theory that truth is manifest – that it is there for everyone to see, if only he wants to see it – this theory is the basis of almost every kind of fanaticism. For only the most depraved wickedness can refuse to see the manifest truth; only those who have every reason to fear truth can deny it, and conspire to suppress it" (Popper, 1969, p. 8).

2.1.6 The Role of Publics in a Knowledge Society

The problematisation of expertise is inherently tied to the question of who can define expertise, in

[7] Still, Bogner emphasises that the political arena in which differing opinions can compete needs to be grounded in the same reality; the belief that there are indeed better knowledges than others still maintains relevance.

other words, which people and institutions can claim expertise. When expertise is claimed, it inevitably defines a binary and creates the non-expert: the laypeople, or the general public. In the following sub-section, I complicate the notion of a homogeneous entity which can be described as "the public" and seen as an opposite to "expertise". Further, I discuss the place of publics in knowledge societies, and highlight their place in various issues, and conclude with the challenges that arise when publics are considered in knowledge practices.

Historically, as Thomas Gieryn details, it has been important to draw boundaries between the sciences, expertise, those who possess it (the "experts"), and the general public. To establish science as a necessary addition to religion and mechanics in the public eye, definitive demarcations had to be made (Gieryn, 1983). The drawing of boundaries was needed to legitimise scientific practices and associated activities: funding, agency in training scientists, collaborations between industry, the place of science more generally within a knowledge society (Gieryn, 1983). The public is not actively defined, but seen, for example, as what the sciences or experts *are not.* As Mike Michael illustrates, "the public" has been conceptualised in relation to the *lack of knowledge* it does not possess, and is thus framed as inherently deficient (Michael, 2009). The institutions of knowledge production (i.e., the sciences in particular) are put in opposition to "the public", the one entity knowing, and the other lacking. In contrast to this understanding of publics in knowledge societies, generally described as "the public understanding of science", is the conceptualisation which followed: "the public engagement with science", which differs in one crucial aspect from the former, as Michael summarises: "If the former perspective assumes publics are deficient cognitively, the latter perspective extols their **political repleteness**" (2009, p. 619; own emphasis). This "political repleteness" points towards the fact that publics, albeit still considered adjacent to institutions of knowledge production, and thus seen as separate from it, are involved in the issues of knowledge production in a political manner. This in turn has the following effect: "One general way of describing this is the 'democratization of democracy' (Giddens, 1998) where state-related scientific institutions are, in various cases, actively pursuing publics in order to consult with them, to have them participate in decision making, to provide for a in which they can deliberate on key scientific questions" (2009, p. 619)[8]. Steven Shapin, for instance, offers his perspective on why the public ought to understand *science in-the-making:* as it would reveal to them the innerworkings of the sciences (Shapin, 1992). Shapin asserts that this is necessary as publics are continuously asked to be *trusting* of the sciences and knowledge production, without

[8] However, to even speak of a holistic entity ("the public") suggests the following: "A residual realist imaginary assumes publics preexisting in a natural state external to the practices of participation (cf. Marres and Lezaun 2011), comprised of (aggregations of) largely autonomous individual human subjects (Wynne 1991; Proctor 1998)" (Chilvers & Kearnes, 2020, pp. 352–353).

any access to *understanding* these processes. The boundary between science and the public ought to be broken down in favour of "introducing the citizens of democratic societies to the work-world of science-making" (Shapin, 1992, p. 28). In addition, Shapin mentions the utility of boundary-drawing: as a division of labour which ensures that knowledge can accrue and flow with little disturbance (1992, p. 28), yet the price for this flow of expertise is the lack of involvement of publics in the process of *science-in-the-making.* Similarly, some scholars showcase the involvement of "publics" into the processes of knowledge production" through *materiality*. Noortje Marres and Javier Lezaun (2011) trace the role of engagement in the constitution of "a public", and write the following: "What are publics made of? Of people, the conventional answer would be, people engaged in a particular form of public or political action. Yet this response only displaces the question, slightly: what, then, is that engagement - the sort of engagement that generates a public - made of? By what means does this form of action - a genuinely public action - come about?" (Marres & Lezaun, 2011, p. 489). They understand that the constitution of publics is through "[…] the devices, objects, substances and material settings in and through which publics are mobilized" (p. 490). As such, their understanding of how publics emerge and are constituted stands in opposition to merely linguistic deliberations on the separation of "publics" from other actants such as experts.

As the understanding has proliferated that many political issues are indeed technical ones (Nelkin, 1975), and that these technical issues are grounded in scientific practices of knowledge production, there have been profound efforts of members of publics to demand their engagement in these issues. The material involvement of publics shows in particular in cases when members of a public need to acquire expertise in order to be able to participate in issues which they are a part of, yet generally excluded from: As described by Steven Epstein, AIDS-patients in the 1980s acquired knowledge, learned the technical terminology, and thus became able to negotiate for their rights on behalf of other patients in setting where they would typically only be referred to as publics and not as experts (Epstein, 1996). Epstein's study effectively shows how this agenda was set by people who were considered publics: they had to appeal and set agendas themselves to ensure the earliest treatment possible would be given to them. Further, they needed to proactively advocate for the integration of the perspectives of patients to be considered in medical research. As such, the study tackles an array of questions, among others: "What is the nature of the power wielded by experts? How does a society reconcile competing commitments to scientific autonomy and participatory democracy? What possibilities are there for laypeople to involve themselves meaningfully in the processes of "doing science," and what are the consequences of such incursions?" (Epstein, 1996, p. 4).

Involvement in processes of knowledge production, however, also involves certain

responsibilities. These responsibilities are reflected in the concept of *scientific citizenship*, which signals the duties and responsibilities of publics in knowledge societies and its processes of knowledge production. The idea of a *scientific citizen* addresses the notion of emerging interrelations between those spheres formerly viewed as separate, and the implications this has on the rights and duties of publics in knowledge societies (Gibbons, 1999). A *scientific citizenship* further complicates the distinction between "publics" and "the sciences", which I have addressed earlier in this chapter. As a concept, *scientific citizenship* can be traced back to the earliest reconsiderations of the relationship between publics and institutions of knowledge production, such as the sciences. To name two examples[9]: In Great Britain, the 1985 Royal Society of London report named *Public Understanding of Science* (in short: PUS). In this report, the society highlights the pervasive role that science has come to occupy in the United Kingdom. In the preface, vice-president D.C. Smith writes: "More than ever, people need some understanding of science, whether they are involved in decision-making at a national or local level, in managing industrial companies, in skilled or semi-skilled employment, in voting as private citizens or in making a wide range of personal decisions" (Royal Society, 1985, p.5). The report advocates to make publics aware of the concerns of science and technology, based on the comprehensive effects that these two entities have come to occupy, as it also affects personal decision making for publics. To achieve this involvement, the society demands an increase in the efforts in science education (including the representation of the sciences in the media, and argues that scientists should spend more time communicating their research (Royal Society, 1985). The second example is the PUSH (Public Understanding of the Sciences and Humanities) memorandum of the *Stifterverband* in 1999, the German pendant to the PUS report. The memorandum differs from its British predecessor as it highlights the necessity to include the humanities ("traditional" humanities as well as the social sciences). They stress the interrelations between the sciences, society and economies, grounding their objective to make the sciences accessible to publics to increase the awareness that "economic prosperity and high quality of life are as well and in particular due to scientific pursuit" (*PUSH-Memorandum*, 2019, p. 5; own translation). This awareness is furthered by a commitment of scientists to do more than their research, specifically by engaging in a dialogue with publics and politics. The establishment of the *European Research Area* in 2000 "with the aim of creating a single market for research and innovation fostering free movement of researchers, scientific knowledge and innovation, and fostering a more competitive European industry" (European Commission, n.d.) further solidifies this shift towards a convergence of

[9] As early as 1992, the *Rio Declaration on Environment and Development* includes principle 10, which stresses the importance of participation in environmental issues. Two aspects are highlighted: 1) access to information and 2) the possibility to get involved with decision-making (United Nations, 1992).

formerly separate spheres. In addition, the aim that publics should be engaged in these knowledge production concerns were made explicit in several working papers that dealt with the interrelations of expertise, knowledge production, publics and policies: the "Report of the Working Group 'Democratising Expertise and Establishing Scientific Reference Systems", for instance, agreed on five lines of action to support the process of democratisation with regard to the involvement of expertise on a policy-level[10] (European Commission, 2001), and the *Science and Society Action Plan* of the same year was established "to become, by 2010, the most competitive and dynamic **knowledge-based economy** in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" (European Commission, 2002, p. 6; own emphasis). Further, the drive to include publics in processes of innovative, economically focused knowledge production found its continuation in the widespread commitment to implement *Responsible Research and Innovation* (RRI) policies and programmes, starting in 2011, with an explicit concession that the involvement of publics is essential. As such, RRI is defined as "[…] a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view on the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society)" (European Commission. Directorate-General for Research and innovation & Schomberg, 2011, p. 9).

Nowotny et al. (2003) attribute the sustained effort to include publics to the *paradigm of innovation*, which then started to be centred in science and technology policy concerns. This assessment concurs with the general, implicit tone of the two reports (PUS in Great Britain, and PUSH in Germany), which I have described above: knowledge production is increasingly geared towards economic innovation, which publics ideally need to contribute towards or endorse. As Mark Elam and Margareta Bertilsson (2003) write: "From the outset PUS was, and has remained, a predominately science-centred and science-led movement. It has emphasized the educational and 'civilizing role' science and scientists can play in the context of the new technological competition, and has framed its task as first of all one of **combatting public hostility and resistance to new technology**" (Elam & Bertilsson, 2003, p. 239; own emphasis). PUS was understood as the realisation of a democratic ideal, giving publics a stake in matters of science and technology, and decrease their hostility by involving them. Gradually, the concept of PUS, which assumed a deficit of understanding in publics, yielded to the concept of *Public engagement with science and*

[10] The following lines of action were included: "(i) A more complete understanding of the expertise currently used at EU level, (ii) European Guidelines for the selection and use of expertise for policy-making, (iii) Ensuring access, improving participation and developing intermediary platforms for more transparent and accountable policy-making and informed public debate, (iv) Broadening and integrating the expertise used in policy-making, (v) Integrated procedures for risk governance" (European Commission, 2001).

technology (PEST), which introduced new models of deliberation and engagement with publics (Elam & Bertilsson, 2003).

One of these examples of deliberation between "publics" and "institutions of knowledge production", thereby help the relations between the two, can be found in the concept of *citizen science*. Alan Irwin, suggesting that "science-citizen" relations at the height of PUS debates had reached an "impasse", asks: "Is it possible for a 'citizen-orientated science' (or '*citizen science*' in that sense) to emerge from these debates over the relationships between science, technology and wider society?" (Irwin, 1995, p. 27). Almost two decades later, the objectives of citizen science have received attention on a policy level within the EU (Hecker et al., 2018; (Serrano Sanz et al., 2014), have resulted in trans-national programmes (https://eu-citizen.science/ecs_project/), national programmes (https://www.citizen-science.at/), and has developed into a field worthy of academic discussions (Lewenstein, 2016; Vohland et al., 2021).

As can be seen, the inclusion of publics and their issues in the production of knowledge has been firmly established as necessary in economically-savvy, European knowledge societies. And yet, several difficulties remain which hinder the realisation of the (political) objective of participation, inclusion and engagement by publics in the processes of knowledge production. Regarding this difficulty in the political realm, Bruno Latour asserts the following: "It's simply that our usual definitions of politics have not caught up yet with the masses of linkages already established" (Latour, 2005, p. 27). Almost two decades later, this observation can still be considered apt: the array of knowledges which assemble even within one singular democracy can hardly be engaged with by publics within the sphere of standard democratic measures. This, inherently, bears the risk that the non-involvement of publics becomes an issue of contention on a *democratic level*. As Dorothy Nelkin suggests: "The complexity of public decisions seems to require highly specialised and esoteric knowledge, and those who control this knowledge have considerable power. **Yet democratic ideology suggests that people must be able to influence policy decisions that affect their lives**" (Nelkin, 1975, p.37; own emphasis). Ultimately, Nelkin suggests that expertise is political, and the demand of methods of participation by publics is the result of the politics of democracies. This position results in two consequences: publics must be 1) included in science policy and 2) their knowledge on the sciences must be expanded to keep up with these demands.

I have now established that there has been a historical precedent to see publics as separate from institutions of knowledge production, presented counter-theoretical engagements with the notion that publics are separate at all from these concerns, exemplified this involvement by drawing on examples that show how publics demand their place in engagements, showcased the gradual concession that they should, however, be involved (RRI, public engagement in science

policies), and lastly presented considerations with the difficulties in engaging publics in legitimate knowledge practices. In the following chapter, I expand on the consequences that an inadequate involvement of publics in legitimate knowledge practices might conjure and discuss strategies of classifying these illegitimate knowledge practices.

2.2 Politics of Demarcation: Categorising Illegitimate Knowledges

While in 2.1. I have traced the development of institutionalised, legitimate knowledges, as well as the role of those who possess expertise and of publics within these knowledge societies, in this chapter I turn towards the politics of demarcation as practiced by institutions of knowledge production. In engaging with my research field, I encountered more than one category of illegitimate knowledges which are demarcated during institutional politics of demarcation. In the following, I discuss those types of illegitimate knowledges which appear most relevant to categorise and discuss my later analysis of my data in 6. Findings. In doing so, I focus on 1) establishing a definition which highlights why institutions seek to demarcate this particular type of knowledge as *illegitimate* and discuss 2) how publics are involved in the dissemination and production of each individual type. Thereby, I aim to showcase how legitimate knowledges are understood to be located *within* institutions of knowledge production, whereas illegitimate knowledges are considered primarily a phenomenon of publics. I provide this overview to showcase the difficulties of practicing institutional politics of demarcation during a time in which the involvement of publics in knowledge societies is necessary for its own continuation.

2.2.1. Disinformation

Public discourse on misinformation has focused on the effects on public relations during an era which has been termed 'post-truth' (see Introduction). In the following subchapter, I explain how the epistemic definition of 'misinformation', a central component in post-truth discussions, is defined, and which other subsets of misinformation are being demarcated as illegitimate knowledges.

Misinformation is a label which subsumes half-truths, fake news, as well as disinformation, as Lewandowsky et al. (2020) explicate: "Misinformation ranges from outdated news initially thought to be true and disseminated in good faith, to technically true but misleading half-truths, to entirely fabricated disinformation spread intentionally to mislead or confuse the public" (p. 5). Misinformation only becomes a problem if publics at large do not have the ability to recognise this information as *illegitimate*, or are disinclined to challenge information and knowledge which does not intervene with their already existent beliefs (Scheufele & Krause, 2019). Misinformation, then, only becomes salient in its relation to the publics who do or do not engage with it. In addition, **disinformation** as a subset of misinformation is "misinformation that is deliberately disseminated to

mislead (Lewandowsky et al., 2020, p. 5): The *Action plan against disinformation* phrases it as follows: "Disinformation is understood as verifiably false or misleading information that is created, presented and disseminated for economic gain or to intentionally deceive the public, and may cause public harm" (European Commission, 2018, p. 2). A similar iteration of disinformation is **fake news**. Avramov et al. (2020) attribute the following characteristics to fake news:

> 'Fake news', meanwhile, comes in many forms and attributions: As (1) intentionally deceptive communication practice by rogue actors who falsify, forge, distort or invent information for the public (see, for example, Peters et al. 2018: 3–12), as (2) a concept of adversarial (to politician, ideology or country/nation) mass media that 'lies' to the public or 'conceals truth' about a particular policy, politician, cause, country or any other entity (Kalb 2018). (Avramov et. al., 2020, p. 514)

As such, fake news is disinformation of malevolent nature that aims to deceive and contort. Further, the term 'alternative fact' sits somewhere in the middle of outright misconstruction of a statement as a fact and the "entirely fabricated disinformation spread intentionally to mislead or confuse the public" (Lewandowsky et al., 2020, p. 5). The term was first used in a comment made about the size of Donald Trump's inauguration crowd in 2017 by former White House media spokesman Sean Spicer: after being made aware of the fact that he lied about the number of people attending in a press briefing, Spicer retorted that he merely presented alternative facts (Kumkar, 2022). Alternative facts, or half-truths, following Nicola Gess' characterisation of the term, are directly opposed to 'Tatsachenwahrheit' (Hannah Arendt)[11], which makes them hard to verify or falsify based on scientific reasoning. By using the analytical lens of 'half-truths', Gess provides a way to identify and describe "[…] speech acts which threaten to flatten the distinction between knowledge and belief, facts and opinions" (Gess, 2021, p. 47, own translation). This concurs with Nils C. Kumkar discussion of alternative facts, as he regards them as "[…] communicative escapes from situations in which the factual basis is unambiguous yet constitute dilemmas which one does not want to deal with or is not able to do so" (Kumkar, 2022, p. 18; my own translation). As such, Kumkar sees alternative facts as communicative strategies first and foremost. He argues that the effect of suspending the need for immediate action as well as the formulation of mistrust rather than providing logical counterarguments should be the focus of discussion rather than deconstructing the truth value of the presented argument. Kumkar further stresses that the function of the term is more than a synonym for a *lie*. The communicative function in knowledge-making processes are as follows:

> The factual claim itself is presented within the context of offering a counter statement, the claim is not presented as mere information, but as a correction of something. […] The immediate effect consists of (at least also) **generating, communicatively, uncertainty**, […] one could also

[11] The term *Tatsachenwahrheit* (eng. 'truth of fact', a term coined by political Hannah Arendt), pertains to those *truths* which are (past) events verified through documentation, or eyewitnesses, as well as scientific knowledge, which has been collaboratively developed, tested and criticised (see Gess, 2021, p. 7).

> say that the information, which is taken a stance against, is not corrected but more concealed with "noise" (Kumkar, 2022, p. 57; own translation and emphasis).

Bogner similarly identifies the appeal of alternative facts by what they achieve to delay, which makes them tempting in a knowledge-driven society: "Alternative facts are in great demand when politics (because of their agreement with the sciences) appears without any alternative" (Bogner, 2021, p. 106; own translation).

The realities of a diversified media landscape, in which information is disseminated throughout multiple (digital) platforms (increasing the encounter of *misinformation* in general), fosters a "doctrine of equivalence in the presentation of information", as Bernhard Pörksen phrases it (Pörksen, 2018, p. 13; own translation). He clarifies that this supposed equivalence (or the encountering of different epistemologically salient claims in the same place) results in a "supposed righteous assumption that these claims are rivalling explanations of reality" (ibid.). Pörksen, however, complicates the general diagnosis of a *post-truth* era in explicating that this would imply a *before state*, a prospering state of uncontested statements of truth. He highlights that a supposed advent of a new era is "epistemologically naïve", as it does not consider that the notion of truth and knowledge have always been contested and must necessarily remain open to revisions (2018, p. 17).

2.2.2 Conspiracy Theories

In a lecture in 1963, later revised and expanded into an essay version, Richard Hofstadter explicates what he defines as the "paranoid style in American politics",[12] in which "the spokesman of the paranoid style finds [the conspiratorial world] directed against a nation, a culture, a way of life whose fate affects not himself alone but millions of others" (Hofstadter, 1996, p. 4). He specifically demarcates this notion of paranoia from the clinically paranoid, individual person. Rather, he positions the paranoid style as "a common ingredient of fascism, and of frustrated nationalisms" (1996, p. 7). Hofstadter concedes that there might be some truth to some of the accusations levelled against groups such as the Masons and the (Bavarian) illuminati yet focuses on "the **apocalyptic** and **absolutist** framework in which this hostility to Masonry was usually expressed" (p. 17; own emphasis) and identifies this thinking as causing *harm*. Principally, a paranoid style denotes a fashion of supposedly identifying grandiose plans of corruption, infiltration, and ultimately, the tendency to identify conspiratorial schemes which are attributed to entire groups of people.

[12] Hofstadter explains, however, that he chose to focus on America out of the convenience of being an 'Americanist', and stresses that "the phenomenon is no more limited to American experience than it is to our contemporaries. Notions about an all-embracing conspiracy on the part of Jesuits or Freemasons, international capitalists, international Jews, or Communists are familiar phenomena in many countries throughout modern history" (Hofstadter, 2008, p. 6)

The problematisation of conspiracy theories, however, has only received academic and public discussion in recent years. Katharina Thalmann (2019) shows how there has been a noticeable 'paradigm shift' in how conspiracy theories are conceptualised as knowledge claims: from legitimate claims worthy of being scrutinised to an 'anti-conspiracy theory discourse' within three decades (1950s to 1980s) (Thalmann, 2019). In the twenty-first century, there are two manners in the public sphere, according to Michael Butter (2019), in which conspiracy theories are discussed: those who appreciate thorough academic investigations into the effects and perils of conspiracy theories ("traditionelle Öffentlichkeit"), and those who are worried about actual conspiracies taking place, who see academics, such as Butter, as delegitimising valid concerns ("Gegenöffentlichkeit"). Those in the first category liken the knowledge-making processes in conspiracies theories to 'heterodox bodies of knowledge' (Anton et al., 2014). Following this classification, knowledge-making processes in conspiracy theories are in direct opposition to 'orthodox bodies of knowledge', or knowledge which has been institutionally stabilised and is circulated as such in public spheres. Similarly, Michael Barkun (2015) classifies conspiracy theories as 'stigmatized knowledge', which are "knowledge claims that have been ignored or rejected by those institutions we rely upon to validate such claims" (2015, p. 115). Others refer to conspiracy theories as demonstrating 'epistemological pluralism', a concept which indicates that conspiracy theories draw on multiple sources of epistemic strategies to validate their claims, thus offering more than what institutions of knowledge production value in ascertaining claims to authority (Harambam & Aupers, 2021). The plurality of utilising various epistemic strategies, which can be appealing, is consistent with the appeal of conspiracy theories identified by philosopher Karl Hepfer (2021): the conspiratorial model of truth does not adhere to the practices of scientific knowledge production, as *truth* in conspiracy theory is determined by observed contradictions to other knowledge claims. These contradictions affirm, rather than falsify a conspiracy theory. Knowledge is stabilised even if diverse claims appear contradictory. However, Hepfer points out that there is indeed a resemblance to the tradition of philosophical scepticism, which utilises scepticism as a means to examine knowledge claims (see Hepfer, 2021, p. 57). This 'epistemological pluralism' also takes effect when providing an explanation to diffuse anxieties, providing an easily accessible explanation: Ted Goertzel's (2010) recounts how the origins of the conspiracy theory "autism is caused by the measles mumps rubella vaccine" - now entirely refuted - which used a "very small sample size and speculative causal inferences" (Goertzel, 2010, p. 495). As Goertzel suggests, the reason for the public uptake of this dubious study can be attributed to an assemblage of "resentment of pressure on parents, distrust in medical authorities and the potentially catastrophic nature of possible risk for a vulnerable population" (p. 495). Similarly, the perceived disagreement of climate scientists on the causes of climate change and the

exact levels of risks associated with the phenomenon has bred the scepticism regarding if (man-made) climate change is happening at all. The fact that if it is happening, it would have such far reaching consequences which necessitate drastic changes to acquired standards, can be assumed as another contributing factor to this scepticism. In both cases, scientific thinking is not entirely rejected, rather expertise and scientific proof seem to be selectively chosen to legitimate already existent opinions or substantiate fears.

Some research approaches also aim to understand and prevent the constitution and stabilisation of conspiracy theories. Political sciences, for instance, analyse the direct relation between times of crisis and the subsequent popularity of conspiracy theories, considering whether feelings of an impending crisis exacerbate the belief in conspiracy theories (van Prooijen & Douglas, 2017). When conspiracy theories are problematised, there is an understanding that conspiracy theories rely on false epistemic understandings, therefore undermining scientific institutions and understandings. Measures to prevent conspiracy theories are then focused on improving "being epistemically virtuous" (Meyer et al., 2021), locating the reasons for following conspiracy theories in being limited to one's own opinions and inability to be open to change opinions when encountering adverse information to previously held positions. This understanding of conspiratorial thinking patterns aligns with the following (sociological) explanation that conspiracy theories are "[…] irrational accounts that fail to understand the nature of events", as articulated by "marginal groups" (Nefes & Romero-Reche, 2020, pp. 104–105). Not only are conspiracy theories delegitimated, if publics do engage in them, they are classified as "marginal", and "not virtuous".

2.2.3 Ignorance, Distrust, and Anti-science sentiments

In the following subchapter, I focus on describing two harmful characteristics which are ascribed to publics: being ignorant and exhibiting anti-scientific sentiments. Because of their assumed harmfulness, these characteristics are constituted as illegitimate behaviours and knowledges. Rather than being a theoretically relatively closed set of practices of illegitimate knowledge-production, such as misinformation (2.2.1) or conspiracy theories (2.2.2), these characteristics stand in for the occurrence of illegitimate behaviours and sentiments, which are sought to be demarcated by institutions for various reasons.

To understand how ignorance can be positioned in proximity to illegitimate knowledges, a distinction needs to be made between ignorance that is active or passive. J. D. Brown (2004) makes the following distinction: "In science, we may be missing useful knowledge either because: (1) we intentionally close a problem (**act of ignoring**) or (2) we are unaware of alternative views of the world, or their potential utility (**ignorance**)" (Brown, 2004, p. 372; own emphasis). In this thesis, I primarily follow the second conception as it is lobbied against *publics showcasing ignorance*,

eliciting an understanding that this needs to be rectified. The term ignorance is mostly used to signify an *obstacle*, as something to overcome within a knowledge society, signifying a distinct lack of knowledge.

To the contrary, the study of the origins of ignorance (also: agnotology) enables the analysis of *ignorance* as something to be used wilfully, thereby reevaluating *ignorance* as its own type of knowledge, which fundamentally deconstructs the ignorance/knowledge opposition. Linsey McGoey, for instance, points out that "[s]trategic ignorance is different from deliberate concealment for it encapsulates the varied ways that individuals can seek to preclude unsettling knowledge from emerging in the first place" (McGoey, 2012, pp. 562–563). Her understanding of ignorance is opposed to the general principles put forth during the Enlightenment era, an era which is perceived as *ending* ignorance altogether. Starting in this era, knowledge was no longer attributed to deities but the capabilities of humans, what McGoey calls "false arrogance, to the presumption that ignorance is as mortal as humans themselves (McGoey, 2019, p. 155).[13] Most importantly, McGoey highlights ignorance as a strategic tool employed by those who are deemed powerful within knowledge societies.[14] As such, McGoey breaks open the assumed dichotomy of knowledge/ignorance and knowers/unknowers, which she questions in showcasing that knowledge might be used to lead others towards ignorance.[15] There are various instances in which ignorance was strategically used, strikingly by referring to the uncertainty of a scientific issue: examples include the tobacco industry's delay in affirming that smoking increases the risk of getting lung cancer significantly, or that administering aspirin to children with viral illnesses increases the risk of getting Reye's syndrome (Michaels & Monforton, 2005).

It is now clear that ignorance can be found in places where knowledge dominates, and vice versa. However, there are also instances when ignorance becomes desirable: Proctor offers an overview over the virtues of ignorance, pointing out that one of the founding principle of modern states is the right to *privacy*, calling it "a form of sanctioned ignorance: liberal governments are (supposed to be) barred from knowing everything; inquisitors must have warrants" (Proctor, 2008, p. 2). Conversely, he problematises common conceptions of ignorance and knowledge: he insists

[13] Similarly, Karl Popper asks in the lecture "On the Sources of Knowledge and of Ignorance" (1963): "The title of this lecture is likely, I fear, to offend some critical ears. For although 'Sources of Knowledge' is in order, and 'Sources of Error' would have been in order too, the phrase 'Sources of Ignorance' is another matter. 'Ignorance is something negative: it is the absence of knowledge. But how on earth can the absence of anything have sources?"(Popper, 1969, p. 3).

[14] Regarding terminology, there is an important aspect missing in McGoey analysis: the author never acknowledges the loaded language of an all-encompassing *elite* class. While McGoey primarily addresses specific cases/controversies and family dynasties, still, the language to describe these phenomena remains vague at times, which I see critically as it assimilates itself easily to antisemitic tropes of *financial elites and powerful entities.*

[15] To further substantiate her argument, McGoey shows the false presumption that "great wealth" must mean "great intelligence or moral worthiness" on the example of Henry Ford, whose role as a propagandist in antisemitic campaigns during the 1920s in the U.S. remains largely ignored today (McGoey, 2019, p. 81).

that ignorance is rarely just a 'native state', which can be rectified by filling up this lack with more knowledge: "I have called it *native ignorance*, because the notion is of a kind of infantile absence by virtue of primitivity, a dearth or cavity that is rectified (filled) by growth or birth" (2008, p. 5). Similarly, Michael J. Smithson observes, that many disciplines even identify ignorance as a *necessity for various social relations*, most prominently the notion of trust, which Smithson calls "systematic ignorance arrangements" (Smithson, 2008, p. 218). Further, he draws attention to how ignorance "[…] reduces cognitive load. A crucial mistake in many perspectives that privilege knowledge over ignorance is the failure to realize that knowledge seeking and possession are not costless" (Smithson, 2008, p. 219-220). An example would be the phenomenon of confirmation bias.

To diagnose someone of showcasing *ignorance*, or as Peter Wehling phrases it, *non-knowledge*, means that there is a contingency to knowledge in the first place: "One of the foundational conceptual difficulties is found, without a doubt, in the charged relationship of non-knowledge and knowledge: The diagnosis of non-knowledge only takes shape against the background of something that is known by oneself (or others), or something that could be known, or should be or must be known" (Wehling, 2001, pp. 466–467; own translation). This lens becomes vital when assessing the progression of diagnosing "the public'" with insufficient (legitimate) knowledge about science and technology, seeing as this discussion has a long history in policy making (see 1.1.6). As a policy document, the aforementioned Royal Society report (Royal Society, 1985) has had two major effects: First, it constructed a specific notion of the *ignorant* public, and second, it provided the basis upon which subsequent educational initiatives were built, and a specific vision for the relation between publics and "the sciences". As Alan Irwin comments: "There is no suggestion in the Royal Society report that the organization of science is open to change or that it should incorporate citizen views within research policy. The goal is to make the public better informed about science but not to encourage a critical evaluation of scientific institutions" (Irwin, 1995, p. 18). Ignorance is problematised as it relates to the (lack of) public understanding of science and is then sought to be rectified through various measures. However, practically, there are reasons to believe that the *deficit-model* which is inherent in the diagnosis of ignorance is still utilised in discussions about the relations between publics and institutions of knowledge-

production (Bauer, 2016).[16] The deficit-model of (science) communication[17] is still appealing to researchers as well as policy-initiatives, as Simis et al. (2016) argue, due to the belief that the rational demeanour of scientists translates to the behaviour of publics as well in engaging with science and technology. Despite little evidence to definitively prove that publics act entirely rational when engaging with knowledge and information, Simis et al. formulate a hypothesis as to why the deficit-model remains alluring: as it "has the added benefit of working within the confines of established infrastructure, the education system" (Simis et al., 2016, p. 409).

2.2.4. Political and Science-Related Populism and Extremism

As an extension of the already discussed illegitimate knowledges as a direct consequence of ignorance, I discuss the consequences of the interrelation of democratic principles with legitimate knowledge production, and to what extent (political) extremism is understood to be a threat as an illegitimate way to produce of knowledge.

First, it is necessary to distinguish between populism and extremism, as these terms are often used interchangeably. Extremism generally pertains to a specific attitude towards a democratic nation state, which typically means rejecting the concept and its institutional dimensions. Populism, on the other hand, pertains to a certain attitude towards those political actants which are perceived as *elites*; populism, then, can be best described as a way to *do* politics (Jesse, 2012). Anton Pelinka (2012) notices that the original use of populism was to proclaim the dissatisfaction with a style of governing that is not fully dedicated to representing the "will of the people" (in German, "Volk"), which would make the beginning of modern populism an endeavour to rectify this grievance.[18] Pelinka further highlights that there is a "naïve" understanding of what constitutes a *populace*, noting that within democracies there has been a constant negotiation of the question who belongs to this group, which is entirely negated in populist discourses. After the triumph of democracies, populism was however not extinguished, only because former elites (for instance, members of the royal family) stopped having power over their populace: "[Populism] articulates itself in the

[16] In 2016, an issue of the journal *Public Understanding of Science* explored the continuous return of the notion of the deficit in science communication. This engagement can be seen as contrasting to the linear understanding of big paradigm shifts: even after the participatory turn, the remnants of the diagnosis of a *deficit* seems to run deep. Further, Bauer et al. (2007) provide a helpful table of the paradigm shifts, ranging from science literacy from the 1960s onwards, to the public understanding of science from 1985 onwards, to the paradigm of science & society from the 1990s to the present.

[17] The authors define the knowledge deficit model as "the assumption that ignorance is the basis of a lack of societal support for various issues in science and technology" (Simis et al., 2016, p. 401).

[18] Pelinka further notes that the idea of modern democracies is to prevent a "tyranny of the majority", which is achieved by implementing systems (parliamentary representatives, the US system of "checks and balances" etc.) to "channel and thereby also to relativise" the power of the people (Pelinka, 2012, p. 12). Further, Kaltwasser (2017) notes: "At an abstract level, there is little doubt that populism contains a strong democratic urge: it promotes the idea that the ultimate political authority is vested in "the people" and not in divine powers or unelected bodies composed of experts (Rovira Kaltwasser, 2014b)" (Kaltwasser, 2017, p. 491).

tendency to criticise existing democracies for their inadequacy to be truly democratic; as a protest against the discernible self-interests of politicians and parties" (Pelinka, 2012, p. 15). Some scholars correlate the decreasing relation between publics and the concerns of public policies as a condition of the rise in populism, which seeks to reinsert the concerns of "a public" (Kriesi, 2014). Populist tendencies, if identified in certain publics, suggest a high likelihood of *scepticism* or *outright rejection of expertise*, and the demonstrative demarcation of populist tendencies necessarily aims at strengthening the adherence to legitimated knowledges. There are ample discussions which trace the overlap between groups utilising populist-rhetoric, and their accompanying scepticism of institutions of knowledge-production and groups which are deemed "enemies of democracies" (Kleffner & Meisner, 2021). Van Prooijen et al. (2015), for instance, analyse whether political *extremism* suggests increased belief in conspiracy theories. They conclude "[…] that political extremism and conspiracy beliefs are strongly associated and that this is attributable to a style of sense making that provides a straightforward explanatory framework for the events and problems that our society faces" (Van Prooijen et al., 2015, p. 7). Merton, already in 1973, correlates the exhibited scepticism with the

> so-called intrusion of the science into other spheres: Such resistance on the part of organized religion has become less significant as compared with that of economic and political groups. The opposition may exist quite apart from the introduction of specific scientific discoveries which appear to invalidate particular dogmas of church, economy, or state. **It is rather a diffuse, frequently vague, apprehension that skepticism threatens the current distribution of power**. Conflict becomes accentuated whenever science extends its research to new areas toward which there are institutionalized attitudes or whenever other institutions extend their control over science. In modern totalitarian society, anti-rationalism and the centralization of institutional control both serve to limit the scope provided for scientific activity (Merton, 1973, p. 278; own emphasis).

However, populism extends beyond the immediate political realm: the way knowledge production is viewed is tantamount to the political ideals and is typically accompanied by *anti-intellectualism*, which Eric Merkley (2020) defines "[…] as *a generalized suspicion and mistrust of intellectuals and experts of whatever kind*"(Merkley, 2020, p. 26). He identifies a defining behaviour: "Suspicion of experts can be rooted in a perception that their knowledge will be used to control ordinary citizens, which shades into populist discourse" (p. 27). As such, there is a likely reason as to why populism is closely related to the rejection of certain expertise (*mistrust*), and the legitimated and institutional knowledges which are connected to this expertise (*embodiment of policies and ideas which are regarded with said mistrust*).

Anti-intellectualism and political populism meet in the 'anti-science sentiments' which are identified more increasingly by institutions of knowledge production: Niels G. Mede and Mike S. Schäfer (2020) emphasise that there is a distinction to be made between criticism of malpractices of the sciences and *genuine* anti-scientific sentiments. Anti-science populism regards "[…] organized

science as corrupt and want[s] to replace it with alternative authorities and counterknowledge" (Mede & Schäfer, 2020, p. 479), and seeks to "rejec[t] the scientific epistemology as such and attempting to replace it with people's common sense, their personal experiences, and emotional sentiments" (ibid.). While the authors unsatisfyingly attribute the "participatory turn" as a contributing factor to science-related populism without consideration of the historical development of engaging publics (2.1.6), their conceptualisation is useful insofar as it tries to consolidate various disjointed discussions – of political and epistemological nature – into one analytical tool which identifies the struggle over *decision-making sovereignty* and *truth-speaking sovereignty*" as "[…] a conflict between the people and the academic elite over these power claims" (Mede & Schäfer, 2020, p. 482).

3. Research Questions

After demonstrating in the introduction why the analysis of the Austrian iteration of institutional politics of demarcation is particularly relevant in a post-COVID-19 time, I discussed the pertinent literature on several issues which arise in contemporary knowledge societies. Arising from these considerations, I now state the research questions which can be formulated to guide and thus frame the case study of this thesis. The main research question below asks how institutional practices work to demarcate illegitimate from legitimate knowledges. To answer this question, written institutional politics of demarcation such as policies or reports were analysed, and three expert interviews were conducted. Here, I utilise the understanding of institutions as demonstrated in 2.1.1. The output of these institutions fundamentally informs ideas about knowledge practices in scientific, political, and economic settings which, when combined, constitute publics writ large. Further, institutional practices in a network of stakeholders in and beyond Austria further constitute legitimate knowledges as well as publics. This frame of reference results in the following main research question:

How are illegitimate knowledges demarcated from legitimate ones by 'institutional politics of demarcation' between March 2022 to December 2023 in Austria?

According to this main research question, which centres 'institutional politics of demarcation',[19] I can formulate the first sub-question:

Which issues can be identified that establish the need to demarcate between illegitimate and legitimate knowledges?

This sub-question allows me to focus on examining which types of issues in the analysed data arise that demonstrate the necessity for a politics of demarcation from an institutional perspective. This sub-question can be further broken down into two more questions:

1. Which issues identified in the analysed data contribute to establishing the necessity to practice a politics of demarcation?
2. How are these issues integrated into lines of argumentation?

[19] Principally, Marres problematises the "normative opposition between legitimate and illegitimate claims, between knowledge and non-knowledge" (Marres, 2018, pp. 428). Practices of "politics of demarcation", according to Marres, shift responsibilities in knowledge practices by obscuring the effects of digital dissemination of information as influenced by algorithms (see Introduction).

On the contrary, this introduces the second sub-question which focuses on the role of publics in institutional politics of demarcation. The sub-question aims to consider how publics constitute themselves and are constituted by these issues.

How are different publics constituted during practices of institutional politics of demarcation, and how are their duties within a knowledge society established?

1. This sub-question aims to ascertain how the analysed data identifies different publics and establishes their responsibilities and duties within a knowledge society.
2. By examining how the duties of publics are framed, this sub-question explores which roles are allocated to different publics during the dissemination and production of knowledges.
3. Further, the data is analysed to ascertain when and how the engagement of publics with knowledges is encouraged or discouraged.

Next, the third and last sub-question pertains to institutions whose output is in the form of documents and thus analyses their self-understanding. More specifically, the sub-question analyses how these different institutions' understanding of their responsibilities in a knowledge society contribute to the specificities of their politics of demarcation:

How does the self-understanding of institutions contribute to how they practice politics of demarcation?

The next section outlines the methodological and analytical approaches utilised to analyse the data and answer the research questions.

4. Methodological and Analytical Approach

The two main methodological approaches used in this thesis are document analysis as well as expert interviews. The analysis is of documents of institutional nature not documents produced by publics. This is due to the focus of this thesis on Austrian institutions and how they practice the politics of demarcation, and furthermore, how these practices constitute publics and their roles and duties in knowledge societies. The following sub-chapters elucidate: a description of the methods of data analysis and their benefits (4.1), an outline of the methods of data collection (4.2), and finally, a discussion of the methods of data analysis related to the specific data of documents and expert interviews (4.3).

4.1 Methods of and Approaches to Data Analysis

In the following, I outline and discuss the different methods of data analysis used in this thesis. In 4.1.1, Grounded Theory and Situational Analysis and their general sensitivities are outlined regarding their appropriateness for research and thus their usefulness in the context of this thesis, in particular in regard to the analysis of documents. In 4.1.2, a specific practice-orientated approach is introduced and how it builds on the two selected research frameworks. Finally, in 4.1.3, I discuss the specificities of discourse (document) analysis employed for the data.

4.1.1 Grounded Theory & Situational Analysis

The guiding principle towards the data is *Grounded Theory,* developed by Barney Glaser and Anselm Strauss in the 1960s. Grounded Theory proposes the idea that as soon as there is data, a researcher can start analysis: by engaging with one's dataset, a theory is gradually developed and continuously reassessed until the data set is finalised. Thereby, a *theory grounded* in the data is developed (Clarke, 2012, p. 33). Grounded Theory as a methodological tool is committed to an inductive approach to one's own corpus of data: no categories are established before analysing and the engaging with the field; therefore, the data informs the development of theories about one's data sample (Charmaz & Bryant, 2011).

Situational analysis, developed by Adele E. Clarke, builds on the concept of Grounded Theory and equips qualitative research for the realities *after* the *postmodern turn.*[20] Clarke argues that after this turn, the complexities in research had become abound and methodologies needed to

[20] The postmodern turn marks a proclaimed as well as actively negotiated point in time, in which many principles commonly associated with modernity had become questioned, proclaimed as outdated and were actively sought to be overcome with new concepts as well as methodologies. One of many was to diverge from the ideal of *positivism* exhibited in many social studies until this point, and to explore what the role of the researcher means for the research conducted (Clarke et al., 2022, pp. 54–58).

adequately fit these new situations. Clarke lists several effects of the postmodern turn on Grounded Theory; here, I adopt Clarke's understanding that the *situation* in which the data occurs is also considered worthy of studying (see Clarke, 2012, pp. 47-62). The lenses provided by Situational Analysis enables me to map the relationships (i.e., the mapping of *situations* and the researchers own *situatedness)* between the issues which partake in the issue formation (4.1.2). These 'situational maps', which I will refer to as *issue maps*, construct a framework aimed at understanding the relations between involved actants and artifacts (i.e., issues, documents) of any given *situation*. As such, these maps help the researcher in examining the situation of complex relations, the specificities of the relations and ideally opens new ways of looking at the data and its involved actants (Clarke, 2012, p. 38; pp. 106-114).[21] The understanding that the actants involved in the construction of an issue can also be non-human (i.e., documents) is characteristic for Situational Analysis.

Documents, which is the main site of data collection, can be conceptualised as "situated products" as termed by Lindsey Prior. This perspective reveals how knowledge cultures are established through written documentation, "form[ing] a cornerstone of modern life" (Prior, 2007, p. 345). Prior discusses documents as both "receptables of content", as well as "functioning agents" (2007, p. 346). Documents which pertain to similar issues often build on one another's argumentation, cite each other, and utilise knowledge claims which have been circulated already and thus integrated into other discourses and issues. The merit to analysing documents in this case study is not limited to determining how institutions and stakeholders translate their objectives into a written form, it also allows examining the issue formation surrounding these documents. In its written iteration, documents showcase institutional stakes in issues; documents also illustrate how they contribute to the constitution of an issue themselves. As such, written documents demonstrate a certain kind of circularity: they address issues, problematise them and contribute to their constitution.

4.1.2 A Practice-Orientated Approach to Data Analysis

As illustrated, Grounded Theory and Situational Analysis have introduced and further developed the idea that the context in which data occurs should be considered in data analysis. In addition to that, inherent to this approach is the understanding that practices and *issues* contribute to the properties of the data. The very foundations of laboratory studies (and its theoretical continuation by Karin Knorr-Cetina with the concept of epistemic knowledge cultures) are heavily focused on parsing texts

[21] A central element of constructing these maps is 'thick description'; however, I have utilised these maps slightly differently, as I explain in 4.2.1.

and examining the practices which produced them.[22] Kristin Asdal and Hilde Reinertsen point out that *inscription*, in its most archaic iteration, was a material practice: words were carved in stone and thus rendered each material object into something else entirely (see Asdal & Reinertsen, 2022, p. 215). Thus, by bridging discourse analysis with a more practice-orientated approach, issues in data can be traced and so can the discourses that are constituted in and through the issues. Further, documents can be understood as representations of practices as well as actants at the very same time. Thus, as a guiding principle for document analysis,[23] I use Asdal and Reinertsen's (2022) *Doing Document Analysis. A Practice-Orientated Method*. They understand documents as involved in actions and in relational and material practices. The researchers stress the materiality of documents, which is to say that these documents contribute to material data (even if one encountered the documents within a digital environment).[24] They observe the materiality which emerge in documents as they highlight *issues*, which makes documents into entities implicated in practices. Asdal and Reinertsen build on Michel Foucault's (and by extension, Ferdinand de Saussure's) work: They argue that discourse analysis has been wrongly divorced from practices. By highlighting that words relate to objects, a distinctly practice-orientated approach to discourses can be pursued.[25] In addition, examining issues during their constitution, the focus is also on looking "[…] towards issues as they emerge *outside* the formal sites of politics and administration and beyond formal procedures, trajectories and well-established circuitries" (Asdal & Reinertsen, 2022, p. 221).[26] As a result, publics play a vital role in the construction of these issues. Asdal and Reinertsen position documents as being implicated in issues and in the conduct of publics – which builds on the concept of pragmatism.

This practice-approach towards viewing documents as being actants *and* as being constitutive of larger practices makes it possible to treat documents as both representative and constitutive of practices. By viewing documents as constitutive of practices as well as actants of their own, the research paradigm of *constructivism* is followed: "Our concern is rather with how such documents are assembled and evaluated" (Silverman, 2019, p. 291). Asdal and Reinertsen (2022), too, understand documents as contributors to the constitution of reality, and do not regard them as

[22] The concept of *literary inscription devices* was developed Latour & Woolgar (1987), in their seminal text "Laboratory Life: The Construction of Scientific Facts".

[23] As DA can be used for any given text, I will not be specifying that DA is also used for the analysis of my interview data. The interviews are also seen as text, and therefore documents of their own.

[24] Treating documents in this manner, however, does not have a substantial history in the social sciences: David Silverman (2019) touches on this (historical) reluctance in the social sciences to treat documents merely as background data supplementing the 'real' data (such as interviews, or other relatively unmediated data.

[25] The researchers' understanding of *issues* is based on John Dewey's work on pragmatism, a tradition "which is orientated towards understanding things *in their becoming*" (2022, p. 220).

[26] They further stress why document work is important: "[…] we should not be satisfied with the fact that something becomes or *is* an issue. We need to analyse carefully both how issues emerge in the first place, and then what *kind* of issue and with which effect for the relevant nature object or issue" (Asdal, 2015, p. 75).

existing outside of it (see p. 102). This transforms the value of the document into more than just a *linguistic* representation, but a documentation of material practices. Stephan Wolff formulates it similarly: he insists on "recognising documents as independent methodological and situationally embedded accomplishments by their authors (and during the reception, also by their readership) and as such to subject them to scrutiny" (Wolff, 2007, p. 504; own translation). Further, Suzanne Briet offers a definition of documents which classifies them as 1) *action-based*, 2) *relational* as well as 3) *material*: "[A document] must have been preserved or recorded towards the ends of representing, or reconstituting, or of proving a physical or intellectual phenomenon" (Briet, 2006, p. 10; quoted in Asdal & Reinertsen, 2022, p. 3).

Foundationally, as I examine documents and what they seek to communicate and thereby what they constitute as issues, initiates asking which issues are implicated within a document which then forms a part of the politics of demarcation. Thus, I utilise the "methodological move" of 'document issue formations' in this thesis (Asdal & Reinertsen, 2022). This approach is in accordance with the turn to practices in the social sciences which denotes the shift to considering the material and practical dimension in the analysis of *text*. Asdal & Reinertsen (2022) describe the concept of issue formation as follows:

> Thus, 'issue formation' can be about relatively neutrally framing, describing or making something governable or manageable. But even if cases or issues are meant to be 'plain', neutral, or simply a thing to be sorted out, they can nevertheless, and sometimes almost without knowing it, establish the issue in a quite distinct way. […] At other times, establishing an issue is more about opening up, debating and questioning, of spurring controversy and debate, and of contesting things (p. 106).

Documents are conceptualised as holding transformative power, as being engaged in 'modification work', and as working on shaping an issue (Asdal, 2015; Asdal & Reinertsen, 2022). Therefore, the analysis of policies, which comprise the largest type of documents used for analysis, can excavate this transformative power; policies further discuss, problematise, and finally offer recommendations and guidelines on dealing with some aspects and their issues. A general definition of what the term 'policy' can signify is provided by H.K. Colebatch:

> 'Policy' may be used to mean a broad orientation ('we have a policy of openness in government'), an indication of normal practice ('company policy is to buy from local suppliers where possible'), a specific commitment ('there has been a policy decision that analogue transmission will be phased out in favour of digital use at the end of 2010'), or a statement of values ('honesty is the best policy') (Colebatch, 2009, p. 7).

The objective of policies as a specific type of document is to build an argument to support the implementation of certain activities.[27]

[27] Colebatch further identifies three main themes which are inherent in all policies: the notion of order, authority and expertise (see 2009, p. 8). Particularly the second and last theme is of interest to this thesis, as the issue formation on the politics of demarcation is concerned with how illegitimacy and legitimacy is constituted and by whom.

4.1.3 (Critical) Discourse (Document) Analysis

Having discussed the general lens and approach taken to understanding the data, in this section, I will describe the primary tool of document analysis: (Critical) Discourse Analysis (CDA). In general, discourse analysis (DA) is concerned with analysing "rhetorical and argumentative organisation of talk and texts" (Silverman, 2019, p. 338). DA "[…] does not usually seek to make links with any broader social or political context" (2019, p. 339). CDA, however, focuses on the critique of a text as well at what lies beyond it. Martin Reisigl and Ruth Wodak define the critical approach of CDA in the following manner: "[…] adhering to a 'critical' stance should be understood as gaining distance from the data […], embedding the data in the social context, clarifying the political positioning of discourse participants, […]"(Reisigl & Wodak, 2001, p. 87).[28] Finally, Discourse-Historical Approach (DHA) focuses on revealing the construction of relations of power through discourses (Reisigl & Wodak, 2001, p. 88).[29] In order to analyse the particular data of this thesis, it is crucial to consider the contexts in which the data occurs, as well as how the issues are constituted in lines of argumentation, and so the sensitivities embedded into CDA and DHA are necessary lenses.

By employing a practice-orientated approach towards the data, DA is compatible with the sociological analysis of this thesis; DA's suitability becomes clearer in this definition of discourses by Norman Fairclough, which are…:

> […] ways of representing aspects of the world – the **processes, relations and structures of the material world**, the 'mental world' of thoughts, feelings, beliefs and so forth, and the social world. […] Discourses not only represent the world as it is (or rather is seen to be), they are also projective, imaginaries, representing possible worlds which are different from the actual world, and **tied in to projects to change the world in particular directions** (Fairclough, 2003, p. 124; own emphasis).

Another definition of discourses by Keller is illustrative of the compatibility between discourse analysis and a practice-orientated approach to the analysis of *text*: "A discourse can be defined as a regulated practice of statement formulation responding to some problem, urgency or need for action, including knowing something, defining a situation and perpetuating or transforming a given order as such problems for action" (Keller, 2018, p. 20).

---

[28] Every iteration of DA stands in the tradition of the school of *Critical Theory*, developed in part by Max Horkheimer and Theodor Adorno in the 1920s. The new theory of conducting social studies (studies on the relations of society and people) was developed in response to the perceived overbearing *positivism* of social studies; Horkheimer pointed out that the way social studies were conducted did not allow for criticism of the *status quo*. Horkheimer further proclaimed that the systematic, traditional theories were not conducive to studying research subjects such as society or people. As such, Critical Theory provided the methodological tools to study the *constructive* nature of their research subjects (Schwandt, 2009, pp. 28–38).

[29] For example: When analysing political speeches on the topic of immigration policies, it is important to consider whether there is an allusion to recent events, domestic policies in the speech or discussions of immigration in the past which inform the contents of the speech.

Further, its indirectly implied – sometimes even directly -- focus on the materiality aspect of discourses works well with a practice-orientated approach. The term *issues*, as utilised throughout this analysis here, denotes a practicality which is coherent with the spatial aspect involved in the uptake, and dissemination of discourses (Jäger, 2015, pp. 26–30). The relevance of DA to sociological analysis is further strengthened by the *Sociology of Knowledge Approach to Discourse* (SKAD). SKAD "argues for inquiry into the production, circulation and performance of processes of meaning making all across society and societies […] [and] emphasises context-specific conceptualisations of discourse" (Hornidge et al., 2018, p. 3). SKAD, as a 'research agenda', is "[…] aiming to examine the discursive construction of relations of **knowledge and knowing and in the social politics of knowledge and knowing**" (Keller, 2018, p. 27; own emphasis). As such, SKAD offers a set of sensitivities and guiding questions towards different aspects of discourses which fundamentally address the discursive power of speech, written text, and other signs which are deciphered, built – upon and circulated within 'dispositifs'.[30] Some analytical patterns for the analysis of *text* are suggested with the ones highlighted in bold I will subsequently elaborate on: 1. Interpretative schemes, **2. Argumentation clusters**, 3. Classifications, 4. Phenomenal structures, and **5. Narrative structures** (Keller, 2018, p. 32). Examining argumentation clusters as well as narrative structures is a helpful tool to make sense of an 'issue formation'. In analysing argumentation clusters, the researcher examines the "strategic orientation and calculations of actors in a political conflict or campaign situation" (Keller, 2018, p. 33). Similarly, Keller exemplifies that narrative structures examine the narratives which are coherently created by an amalgamation of different strands of argumentation (2018, p. 34-35). Argumentative discourse analysis focuses on analysing the ways in which language is utilised to relay meaning to phenomena. As such, argumentative structures in language are not empty containers but ways to further knowledge production. Thus, argumentative discourse analysis is well suited to complement a practice-orientated approach since argumentative structures facilitate the constitution and enhancement of practices. Argumentation clusters are examined during analysis.

4.2 Data Collection & Methodological Approaches

In this section I trace the decisions made prior to the process of data collection (4.2.1), the selection of interviewees and the conduction of the interviews (4.2.2), and the approach to codification

[30] 'Dispositifs' "[…] refer to a complex of heterogeneous but related elements such as actors, texts, laws, buildings, legal and procedural measure, objects – in short: sayings, doings, artefacts and materiality – assembled to deal with an 'urgency': some problem, identified via occurring processes of problematisation" (Keller, 2018, p. 27).

approach in general (4.2.3). As such, I illustrate the different steps taken to reach the final documents sampled for close analysis, and how I approached them.

4.2.1 Sampling Documents and Mapping Issues

The main data corpus is comprised of documents and an additional three (expert) interviews. These documents are regarded as artifacts to understand a particular *issue-formation* (4.1.2). The issue(s) in question form the politics of demarcation by Austrian institutions during the demarcation of legitimate from illegitimate knowledges. Hence, documents were collected for reasons of *relevancy* to illustrate the issue formation of institutional politics of demarcation. Although data collection has primarily taken place between March 2022 and December 2023, documents published before and after that timeframe were included if they played a role in shaping the issues of the present-day. Nonetheless, the main focus remains on documents which have been disseminated, referenced, and acted upon within the aforementioned timeframe. The final documents were included in early March 2024.

After designing the research project, engaging with the field and formulating tentative research questions, I envisioned the ideal sample[31] to encompass policies, press releases, reports, webpages as well as didactic materials. Monographs were not considered. The groupings of documents were determined based on the themes and topics they covered, and thus guided the encounter with the field:

Category	*Themes/topics*
Disinformation and media literacy	Fact-checking; media literacy education; disinformation; fake news
Constituting & strengthening democracy	activities aimed at democratic ideals, strengthening of public engagement with science, politics, and technology
Initiatives against anti-science sentiments	Science journalism campaigns, campaigns and initiatives tackling anti-science

Table 1: Sampling categories after first data collection/familiarisation with the field

These categories were determined to be useful to operationalise the first mapping of the emergent issue formation of the Austrian politics of demarcation. After starting the collection of documents, the specificity of the categories, however, proved to be limiting. As a result, a rigid thematic

[31] For my thesis, my 'ideal sample' would be a sample of documents which accurately illustrates current institutional efforts of the politics of demarcation in Austria. As such, those documents included in my document corpus should provide context and insight into the issue formation of demarcating legitimate from illegitimate forms of knowledges.

framework was forsaken in order to ensure that I would be able to make *thick descriptions*[32] of the data to be used for analysis. Documents were then selected with respect to the *objectives of their contents* as opposed to any envisioned themes. Such objectives included: 1) didacticism, 2) communication to publics, 3) policies advancing the politics of demarcation on various levels. Then, the first step was to consult and monitor salient institutions, for instance:

- Austrian universities (e.g. *University of Vienna*)
- Non-university research institutes (e.g. the *Institute for Higher Studies Vienna* (IHS), or the *Austrian Academy of Sciences* (ÖAW))
- relevant federal ministries such as the *Bundesministerium für Bildung, Wissenschaft und Forschung* (BMBWF)

In general, the analysis of data was guided by Situational Analysis, Adele E. Clarke's (2005) continuation of Grounded Theory (4.1.1) (Clarke, 2005). Further, the sampling of the corpus was guided by 'theoretical sampling' as developed by Glaser & Strauss as part of the Grounded Theory approach. With this approach, sampling is done throughout the research process, and so the theoretical framework continues to develop along with the collection of data. This approach makes it feasible to include data which has become unexpectedly relevant. While the criteria for including data is determined prior to the data collection, the theory developed during the research process is also considered and taken into account (Glaser et al., 2010). This exemplifies the 'snowballing technique' which proved to be the most efficient way to sample documents and map the issue formation. In line with the methodological "following the issues" (4.1.2), more documents that appeared in cross references and mentions were added to the sample set. To make sense of this landscape, I used the free version of Miro (https://miro.com/de/), a digital whiteboard tool, to keep track of documents and visualise how themes and issues are related to one another. The development of the *issue map* (from March 2023 to September 2023) can be seen below:

[32] 'Thick description' is a term coined by Clifford Geertz in 1973, seeking to draw attention to the utility and necessity of describing the data which a researcher engages with as descriptively and holistically as possible. During this approach, it is essential that the researcher's role in constructing knowledge is reflected upon during the engagement with the data (see Geertz, 2008).

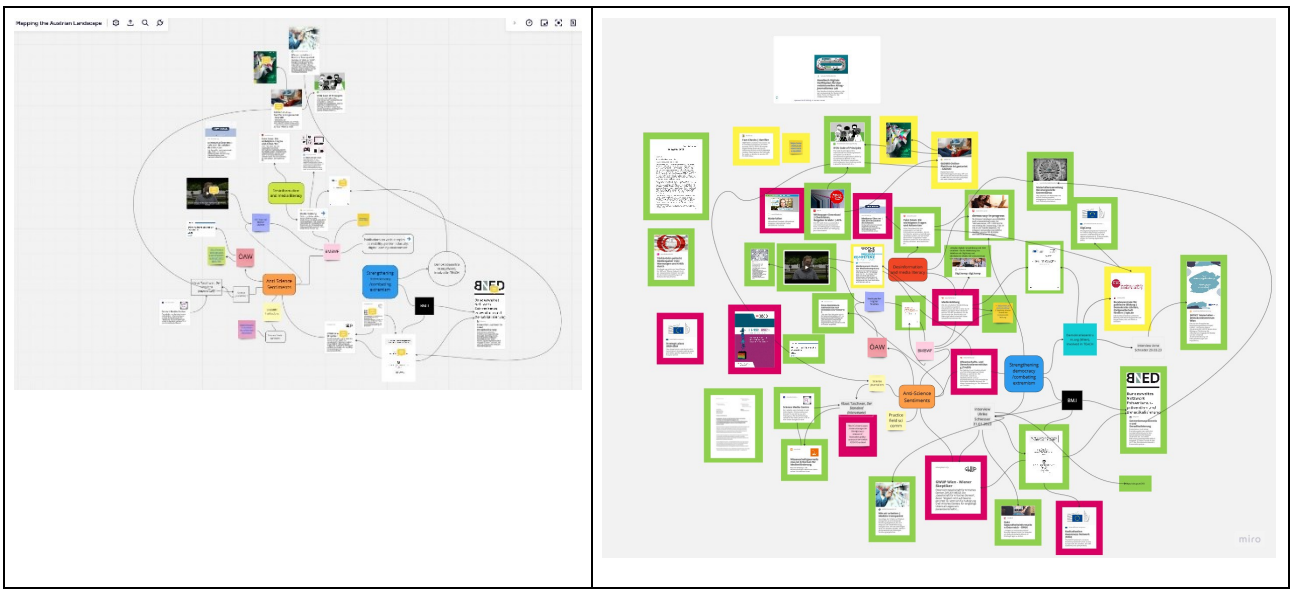


Figure 1: Screenshots from first issue map 13/03/23 and final one 28/09/23[33]

This issue map follows the concept of the situational map presented as part of Situational Analysis. Clarke proposes that the situational map contributes to make sense of the relations between actants and the artifacts (Clarke, 2012). During the phase of data collection and analysis, this map helped me with several questions: 1) the utility of the documents collected, 2) the thematic similarities, and 3) the connections between actants (i.e., institutions or documents). As such, the issue map changed and adapted as the research progressed. Relevant (media) sources were monitored for further activities and developments taking place in the landscape of the politics of demarcation in Austria. This adhered to the theoretical commitment of 'following the issues': as they are constantly progressing and changing during the time of writing this thesis, monitoring their development was a methodological necessity to ensure a broad enough understanding to answer the research questions. The cut-off point for data collection was informed by the principle of 'theoretical saturation' as well as time-constraints. The notion of 'theoretical saturation' refers to the point in time when the researcher does not encounter substantially new data points within a given category anymore (Flick et al., 2007). This point in the data collection process is determined by continuous re-sampling and comparison of data.

The data collection process has been the most challenging aspect of the master thesis process. I attribute this challenge partly to the fact that I assembled the corpus of documents manually rather than working with a pre-determined corpus. The sensitivities of Grounded Theory guided and hindered this process of constructing a final document corpus. The *constitutive* nature of the data

[33] In the final issue map on the right-hand side, the documents framed green are documents which had already been analysed. For the ones in yellow I was still unsure about their relevancy, and the ones framed pink I was convinced at this point to exclude from analysis. After the last update, I felt like I had a good grasp of actants and issues, which is why I stopped updating this map.

collection process provoked questions regarding whether the documents chosen — both in quality and quantity — would adequately illustrate the issues that will be drawn together in the next section. As such, I make no claims of being able to fully capture the issue formation of the Austrian institutional politics of demarcation as practiced in Austria at the time of writing. The selection and choices to disregard certain documents for reasons such as time constraints or perceived irrelevance is important to note since it implies that the issues are analysed from a very specific angle.

In the following table, I provide an overview over how many documents encompass the final corpus (in total: 64), separated into Document Cluster 1 (DC1), which includes 41 documents and Document Cluster 2 (DC2), with 23 documents. See 10.1 for a chronological reference list:

Type of Document	**Number of Documents**
Didactic material	1
Essay	3
Funding call / Funding guideline	5
Method report	1
Policy	1
Policy brief	2
Press release	2
Publication (journalistic)	1
Publication (webpage)	7
Recommendations	1
Report	16
Study Outline	1
Total sum	**41**

Table 2: Types and Sum of Documents in DC1

Type of Document	**Number of Documents**
Code of Practice	1
Decree	1
Didactic material	5
Method Paper	1
Policy	8
Publication (webpage)	4
Report	2
Statement (webpage)	1
Total sum	**23**

Table 3: Types and Sum of Documents in DC2

4.2.2 Conducting Exploratory, Semi-Structured Interviews

Apart from documents, the analysed data is also comprised of *interview* data. Whether an interview partner was considered suitable was dependent on their *expert*-roles, the quality of contribution they could bring to interviews and on their perspectives. In part, this refers to the elucidation on

certain aspects of the issue formation which could not be ascertained solely from document analysis. As such, the interviews conducted for this thesis aim to bridge the gaps of understanding which emerge during mapping and analysing the output of institutional politics of demarcation in the form of documents. The first step was to consider which documents or issues would require more information. Three interviewees emerged as relevant and interesting during this process. For instance, one important contributor – a journalistic source discussing the politics of demarcation or practising them - to the issue-formation was excluded from the corpus of documents due to the limited scope of this thesis. Hence, these contributions present a gap in my understanding. In response, it was a priority to dive into this contributor as well as others through interviews. Klaus Taschwer, science journalist at *Der Standard,* a daily newspaper, as well as co-author of *Impulse für einen Neustart der Wissenschaftskommunikation in Österreich,* was chosen for insights into journalistic practices as well as the development of this specific policy brief. Ulrike Schiesser, chief executive of the *Bundesstelle für Sektenfragen* (Bundesstelle), was chosen after encountering *Fakt und Vorurteil: Kommunikation mit Esoterikern, Fanatikern und Verschwörungsgläubige* (Hümmler & Schiesser, 2021) of which Schiesser is the co-author, and through including *Das Phänomen Verschwörungstheorien in Zeiten der COVID-19 Pandemie* in the document corpus. Schiesser's expertise in policy matters as well as being chief executive of a contact point which works with people affected by cults (or cultish behaviours) and extremist organisations made her an ideal interviewee. Lastly, Arne Schrader, a scientific staff member of the *Demokratiezentrum Wien,* was chosen due to his involvement in projects which produced didactic materials which I analysed as documents (e.g., *TEACH – Targeting Extremism and Conspiracy Theories*). For the reference system, see 10.2.1.

Since the analysis of documents is the main site of data, the number of interviews were capped at three. These interviews were envisioned to elucidate some perspectives and insights which cannot be examined or unearthed by analysing documents alone, and thus to guide and shape the research process, particularly as they provided complementary input. I defined the aims of these interviews as such:

1. The interviews should provide insights into what the role of documents or any other written communication is for the interviewees in their professional lives.
2. The interviews should explore how the interviewees approach and experience institutional politics of demarcation in their professional lives as part of a particular epistemic knowledge culture.

The interviews were both exploratory and semi-structured[34] in nature due to their dual function in the data collection process. Typically, those two types of interviews are not combined, since the

[34] Semi-structured means that there is some structure and pre-planned interview guideline, but there is also a degree of flexibility to the procedure of the interview (Silverman, 2006, 117-119).

former aids in hypothesis-building but the latter is beneficial to gain initial insights into the field (Kaiser, 2021). However, as the interviews supported the data collection as well as the analysis, I chose these approaches to assist in discovering new documents and gaining an increasingly holistic understanding of the current Austrian field of the politics of demarcation and its adjacent issues. By approaching the interviews in this manner, new insights were gained into already collected documents which made it possible to re-assess them. In general, the interview data as well as the interview situation is interpreted as being constructed. Rather than understanding interviews in a positivist manner, i.e., gaining access to reality and facts through them (Silverman, 2006, pp. 119–128, 2019, p. 185), these interviews are understood as permeated by the setup of each interview, the ways the interviewees chose to conduct themselves and respond to the interview situation, and the questions asked (see 10.2.3 for an example for an interview guideline). The same methods of analysis applied to the documents is also applied to the interview data.

4.2.3 Coding, Categorising, Identifying Themes

For the first step, the selected documents and conducted interviews were closely read and relevant passages were openly coded with broad identifiers. These identifiers naturally differed from each document and each interview, despite some general categories and broader themes having already emerged during the initial first open coding. The primary purpose of this step was to sort through the deluge of text in a manner so that after each round of this process, the development of themes and broader categories became more refined. In Table 2 below, I provide an overview over my process:

Step 1	Sorting document into the three *thematic groupings* described here
Step 2	Open **coding** of first documents (inductive descriptive, open codes)
Step 3	Continue data collection process, taking into consideration additional data points such as the conducted interviews
Step 4	**Application** of already established codes to further documents (deductive) + expanding of codes list (inductive)
Step 5	**Categorisation** of codes
Step 6	Re-considering the **utility** of codes for analysis
Step 7	Restructuring of codes and categories
Step 8	Finalising **themes**

Table 4: Overview of Coding Process

The interviews and documents were coded simultaneously and approached through the mixed (circular) manner of analysis: first, an inductive open coding, then a deductive coding through applying codes (with emergent themes in mind) to the new data. Ultimately, this helped me in ascertaining whether the codes and preliminary categories resulted in coherent themes and ultimately reach 'theoretical saturation' (Silverman, 2019, pp. 124–130). However, as the reason for conducting expert interviews in the first place was to open and enhance the document analysis and collection, codes and categories were also opened again on account of analysing the interview data and adding new codes.

5. Theoretical Framework

In the following, I discuss the theoretical lenses used to frame the concept of institutional politics of demarcation. First, I introduce the concept of 'epistemic cultures', developed in the tradition of laboratory studies by Karin Knorr Cetina. I highlight how taking *epistemic communities* into consideration is useful in analysing institutional politics of demarcation. I use this lens to illustrate the process of legitimating knowledge by different institutions alike, and how the (micro)practices of epistemic cultures translate into the lines of argumentation used in the data, which I show in 6. Findings. The second theoretical lens I draw on is Thomas Gieryn's concept of 'boundary work', which works in tandem with Knorr Cetina's epistemic cultures: This concept provides a lens to examine the politics of demarcation of boundaries on a rhetorical level. I show how this concept is useful in framing and understanding institutional politics of demarcation of illegitimate knowledges of Austrian institutions. Further, an adjacent concept allows me to frame the role of documents as boundary objects (Star and Griesemer, 1989). I integrate Marres' concept of a politics of demarcation into the discussion of these concepts.

5.1 Epistemic cultures

As already discussed in 2.1.1, the existence of *epistemic cultures* necessitates the understanding that knowledge lies at the centre of most societies in the twenty-first century. Further, it requires the acknowledgment that the production of knowledge is a *cultural* activity, and that scientific practices do not occur outside of these cultural phenomena.[35] These cultures are epistemic as they are associated with practices which are engaged in knowledge production. For this reason, Knorr Cetina reiterates that they "can be seen as a structural feature of knowledge societies" (2007, p. 362). Hence, the concept of epistemic cultures, as Knorr Cetina writes, "captures the interiorised processes of knowledge creation. It refers to those sets of practices, arrangements and mechanisms bound together by necessity, affinity and historical coincidence which, in each area of professional expertise, make up how we know what we know" (2007, p. 363). Instead of elucidating the construction of knowledge itself,[36] Knorr Cetina focuses on the "**machineries of knowledge construction**, relocating **culture** in the micropractices of laboratories and other bounded habitats of knowledge practice" (Knorr Cetina, 2007, p. 361; own emphasis). The practice

[35] Ludwig Fleck's notion of 'thought styles', for instance, exemplifies the earlier studies of this very concept of science being culturally influenced (see 2.1.1 and 2.1.5).
[36] Locating *cultures* in the sciences started with the 1970s laboratory studies: "One of the more consequential moves of the new sociology of science was to switch from an understanding of knowledge as the representational and technological product of research to an understanding of knowledge as a process, or in other words, to knowledge as practice" (Knorr Cetina, 2007, p. 364).

turn, in which the notion of epistemic cultures can be located, "moves the level of cultural analysis 'down' to the realm of material regularities without losing sight of symbolic regularities and the ways these are associated with the material" (2007, p. 364). 'Lifeworlds', in which these epistemic cultures are situated, provide the necessary backdrop to bring into focus not only practices as an understanding of "doings, routines and human activities" (p. 364), but also the "broader referential contexts and their temporal, ontological, spatial and other structures" (p. 364).

Before introducing two specific concepts within the framework of epistemic cultures and demonstrating their utility for analysing institutional politics of demarcation, I relate the lens of *epistemic cultures* conceptually to my research. First, I understand my analysed data (and specifically, the documents analysed) in this thesis as *products* of specific epistemic cultures. By utilising this lens, I focus on the practices which go into producing these machineries of knowledge (documents), which in turn constitute and justify the boundaries between legitimate and illegitimate knowledges. Second, the concept of politics of demarcation by Marres (2018) can be understood as supported by the machineries of knowledge production, which become essential to the constitution of these epistemic cultures as well. The knowledge which is produced by these machineries of knowledges (documents), is what this thesis seeks to analyse: the lines of argumentation and justifications for one set of knowledges (deemed legitimate), while demarcating others in the process (i.e., illegitimate).

By applying this theoretical lens, the practices of the institutional politics of demarcation can be conceptualised as *machineries of knowledge production* themselves. In its written form (reports policy documents, didactic materials etc.), these machineries of knowledge production constitute the legitimacy of knowledges by drawing on *indexical* as well as *trans-epistemic/trans-scientific* arguments. In the following, I expand on these two concepts proposed by Knorr Cetina to study epistemic cultures and their practices.

Indexicality

I use the term 'indexicality' "to refer to the situational contingency and contextual location of scientific action" (Knorr Cetina, 2014, p. 33). While Knorr Cetina focuses on the practices of scientists in a laboratory, I use the lens of *indexicality* to focus on the actions and practices involved in producing legitimate knowledges. This lens allows me to understand how the specific Austrian context influences how the demarcation between legitimate and illegitimate knowledges is practiced by Austrian institutions.

The first aspect of indexicality Knorr Cetina discusses is **opportunism**. She clarifies that 'opportunism' "[…] does not suggest that scientists are unsystematic, irrational or career-oriented in their procedures", instead she characterises opportunism as "a process, rather than [practiced

by] individuals. It refers to the 'indexicality' of the mode of production from the point of view of the occasioned character of the products of research, in contrast to the idea that the particularities of a given research situation are irrelevant or negligible" (Knorr-Cetina, 2014, p. 34). To illustrate this aspect, Knorr-Cetina cites statements made by her interviewees which illustrate that "preference is also given to technical instruments and apparatus which the scientists know are 'around somewhere' (p. 35). Hence, the culture aspect in knowledge production is reflected in the knowledge gain itself. Knorr Cetina comes to this hypothesis while observing the practices of scientists in laboratories:

> Note that what we have here is a reformulation of the traditional question concerning the relationship between 'internal' and 'external' factors in science, this time based on the observation that the contextures invoked in the scientists' practical laboratory reasoning are in principle neither exclusively 'scientific' or 'cognitive', nor exclusively 'external' or 'social' (Knorr-Cetina, 2014, p. 88).

As Knorr Cetina formulates, the context of knowledge production is highly dependent on factors which are neither exclusively internal or external, just as knowledge production is neither exclusively 'cognitive' or 'social'. Further, if (scientific) action is the production and demarcation of legitimate from illegitimate knowledges, then, according to Knorr Cetina, this demarcation is contingent on "particular agents at a particular time and place; that these products are carried by the particular interests of these agents […]" (p. 33).

Additionally, Knorr Cetina postulates that deciding which research to pursue and in which framework it is integrated, criteria and adjacent conditions "often reflect relatively short term [sic!] concerns of exclusively local relevance" (2014, p. 35). Knorr Cetina describes this process as **economic reasoning**, citing instances during which the interviewed scientists utilise *economic* rhetorical devices to frame decisions made in the research process, or generally discuss the process of knowledge production. Knorr Cetina asks one of the scientists what he would consider a successful idea:

> You try to **discriminate**. You can get one idea a day, or ... (in) two days, or one a week, and you discriminate (in terms of) your time and your ability to use it. […], but you can't spend a lot of your time on things **you don't have the opportunity to perform**, or to **prove**, or to **verify**. So you try to limit your interest to **the idea you know is going to be most productive as quickly as possible within the frame of facilities at hand" (**2014, p. 75; own emphasis).

Thus, institutional politics of demarcation can be seen as a process of solidifying and determining which ideas can be sustained, removing the focus on understanding the practices of those involved in knowledge production as a purely epistemic project of *valid* knowledges.

Trans-scientific resource-relationships and trans-epistemic arguments

Further, the **situational contingency** and **contextual location** (Knorr Cetina, 2014, p. 33) of

knowledges are integrated in *trans-scientific* resource-relationships.[37] Knorr Cetina postulates that epistemic cultures go beyond 'communities of specialists/researchers' and integrate seemingly independent spheres (or 'fields'), meaning that all of their activities, which Knorr Cetina calls "ex-situ", act as the framework for their academic work (Knorr-Cetina, 2016, p. 154).[38] These resource-relationships[39] become visible when traditional institutional borders are transcended as an agreement must be reached on which knowledges are considered legitimate. These relationships are described by Knorr Cetina as *trans-scientific* or *trans epistemic*:

> We are confronted with 'arenas of actions' [ger. Handlungsarenen], which are both *trans-epistemic* as well as *trans-scientific*. They include 'mixed' groups and arguments which cannot be sorted easily into the category of "science" or the affiliated issues of the 'special field' on the one hand, and on the other hand also cannot be broken down into the category of "further" business. I use the term *epistemic* for those considerations which (assumedly) promote the truth-resembling characteristic of scientific results. *Trans*-epistemic arguments, therefore, would be those arguments which also include (based on an assumption) considerations which go beyond the epistemic. […] I use the term *trans-scientific* to highlight that beyond including relevant groups such as specialists or scientists for technical decisions, other groups of people are included as well. (Knorr-Cetina, 2016, pp. 154–155; own translation)

As Knorr Cetina highlights the relevance of trans-scientific arenas and trans-epistemic argumentation in processes of knowledge production, the aforementioned 'communities of specialists/researchers' lose their salience as the most relevant place for knowledge production. The places of knowledge production, as well as their arguments, include other communities and stakeholders separate from those of the immediate knowledge production. This means that the epistemic rationale which undergirds knowledge- and meaning-making processes is steered towards a specific, indexical direction before knowledge production even commences. If knowledge production is recognised as being made in a *trans-scientific* arena, these fields, their practices as well as the machineries of knowledge production (i.e., documents) they employ, elevate them to an essential research subject: "[…] that is, that transscientific fields are relevant in so far as they bear on the decisions which mark the production of a scientific result. In other words, they must bear on the selections incorporated into scientific constructions" (Knorr-Cetina, 2014, p. 88). As such, I use the lens of trans-scientific fields to understand how a politics of demarcation, as practiced by Austrian institutions in a specific timeframe, constitute knowledge as legitimate. The concept of

[37] For instance, the idea of making the university more efficient in its production of knowledge and the dissemination of knowledge had far-reaching to bureaucratic processes as well as the self-understanding of the university's role in societies. The integration of the New Public Management (NPM) into the management of universities promised the application of standards of proficiency, and thus an overall improvement in favour of international and national comparability, as well as modernisation (Burkert, 2021).

[38] The term 'ex-situ' is only used in the German version.

[39] Knorr Cetina explicates that *resources* are imparted in these fields of action which frame any relationships and dependencies between participating actants as *resource-relationships* (2016, p. 157); scientific work is framed as rallying around resources, which in turn shapes the production of knowledge.

politics of demarcation further enables me to formulate an understanding of the distinct lack of considering issues of publics in the context of the practices of knowledge politics.

In sum, the lens of epistemic cultures is helpful insofar as it allows me to understand the practices of knowledge production as being determined with notions such as **opportunism** or being influenced by **trans-scientific arguments**, which negotiate the specific **situational contingencies** which need to be made in the process of knowledge production.

5.2 Boundary-work

Thomas F. Gieryn's (1983) concept of boundary work is helpful in exploring how (scientific) institutions establish and maintain their boundaries to illegitimate knowledge cultures on a rhetorical level. While the concepts introduced in 5.1. seek to expound the practices in epistemic cultures, and thus how knowledge production is practiced, boundary work focuses on the rhetorical mapping of legitimacy. Introducing boundary work, Gieryn writes the following: "As knowledge makers seek to present their claims or practices as legitimate (credible, trustworthy, reliable) by **locating them within 'science'**, they **discursively** construct for it an ever-changing arrangement of boundaries and territories and landmarks, always contingent upon **immediate circumstances**" (1999, p. xi; own emphasis). By applying the concept of boundary-work to institutional politics of demarcation, these practices can be understood as a process of demarcating legitimate and illegitimate knowledges into distinct territories through rhetorical means. Further, the process of legitimating knowledges which are generally not deemed *scientific* (for instance, pro-democratic and anti-extremism sentiments) can be understood as a process "of locating [these knowledges] within science" (1999, p. xi), a process which constitutes them as legitimate. Rather than focusing on the material side of practices, which is achieved with the lens of epistemic cultures, boundary-work highlights the rhetorical and discursive nature of demarcation. In addition, I propose to see documents as *boundary-objects* (Star & Griesemer, 1989).

Legitimate and illegitimate knowledges: Populating distinct territories

Using the lens of boundary-work, I can understand the lines of argumentation used in the data to maintain the boundaries between legitimate and illegitimate knowledges as *discursive and rhetorical processes*. The lens of boundary-work is useful insofar as it can be used to locate *where* the boundaries of legitimacy are drawn, and how the label of *scientific* is utilised rhetorically in spheres where rationality, benevolence, etc. are demanded in order to *legitimate* knowledges. Gieryn writes of boundary drawing as having a *pragmatic utility*:

> The selective attribution of this or that characteristic to science cannot be explained by what science 'really' is at the bench or in a journal, but only by the **pragmatic utility of any given borders and territories for the protection or expansion or denial of scientific authority over the facts**. In other words, the question to be asked of any cultural map is not 'Is it accurate?' but 'Is it useful? If so, by whom, for what?' (Gieryn, 1999, p. xi-xii; own emphasis)

Here, Gieryn summarises the objectives of boundary-work: to examine the discursive/rhetorical nature of the epistemic authority of the sciences. By highlighting the cultural necessity of constantly drawing boundaries, Gieryn thus highlights that there are no inherent characteristics "to know a priori what science will look like on the next occasion for its mapping […] Boundary-work is constrained by the several 'real sciences', but not determined by any or all of them" (1999, p. 19). To me, this sentence is crucial: it hints at the inherent arbitrariness of boundary-work, as well as the malleability of constituting legitimate "sciences", while simultaneously not conveying that boundary-work is mere representation and not grounded in reality.

Gieryn exemplifies the salience of rhetorically drawing boundaries with the case of John Tyndall, an Irish professor of natural philosophy born in 1820 (Gieryn, 1999, pp. 40-41). Tyndall used rhetorical moves of demarcating the sciences which are classified by Gieryn as *economic* and *cultural* in nature:

> His goals are ***economic***: to secure for scientists various professional resources (increased employment opportunities, increased attention to science in curricula of schools and universities, increased government or private patronage for scientific research and facilities). His tactics are ***cultural***: to construct and to broadcast an interpretative context that defined – in contextually distinctive ways – the meaning of science and its relationships to religion and technological progress (Gieryn, 1999, p. 43; own emphasis).

During his life, Tyndall argued for the functional differences between science (*bringing innovative prosperity and progress to the nation*) and religion (*providing merely comfort to emotional matters*) and insisted on the *practical utilities* of the separation of these spheres: "[…] neither can succeed when the other interferes" (1999, p. 47). Practical utility is achieved by "construct[ing] ideologies with style and content well suited to the advancement or protection of their professional authority" (Gieryn, 1983, p. 783). According to Tyndall, there are two features which make the sciences superior as knowledge: 1. *Empiricism*, that is, "the world of observable fact" (p. 49) sets the sciences apart from religion, as well as showing 2. *scepticism*, which means adhering to the authority of fact, including a willingness to abandon all preconceived notions, however cherished, if they are found to contradict the truth" (p. 50).[40] Tyndall's demarcation practices were both a cultural as well as practical endeavour to be able to justify financial investment regardless of potential practical and lucrative results: "Tyndall's campaign for science took the rhetorical style of boundary-work: he attributed selected characteristics to science that effectively demarcated it from religion or

[40] "Science is empirical in that its road to truth is experimentation with observable facts of nature" (Gieryn, 1999, p. 48).

mechanics, providing a rationale for the superiority of scientists in designated intellectual and technical domains" (Gieryn, 1983, p. 784). This 'superiority of scientists' then translates to a "likely *stylistic resource* for ideologists of a profession or occupation to the goal of 1) "[…] *expansion* of authority or expertise into domains claimed by other professions or occupations […]"), 2) "[…] *monopolization* of professional authority and resources [[41]]", 3) […] protection of *autonomy* over professional activities [[42]]" (p. 1983, p. 791-792). "Locating knowledges within 'science'" (1999, p. xi), as Gieryn formulates it, can be understood as the process of 'scientification' of these knowledges. Institutions might engage in this process of scientification as *credibility* and *epistemic authority* is afforded to knowledges when they are brought near the sciences. Therefore, fending for credibility and epistemic authority is a crucial part of the politics of demarcation. In the epilogue of "Cultural Boundaries of Science: Credibility on the Line" (1999), Gieryn writes about the beginning and the middle of an extended period in the 1990s during which numerous public back-and-forth's and discussions were exchanged between natural scientists and sociologists working in the tradition of social constructivism. Some natural scientists feared that by examining science as a cultural process, the door would be opened to "seductions of relativism, constructivism or radical environmentalism" (1999, p. 358). The points of discussion from both sides appeared to be neatly sorted into two strict binaries.[43] According to Gieryn, these discussions illustrated a fundamental disagreement about what can be deemed scientific as well as the struggle to secure *epistemic authority*. As such, both sides engaged in boundary drawing to strengthen their positions within the boundaries of science (see p. 351). In the process of knowledges becoming epistemised (i.e., the process of scientification), one set of knowledges is brought closer to being a scientific practice, and thereby becomes legitimated. Similarly to Gieryn's concept of a cultural map of science, where knowledges need to be situated within the borders of what is deemed science, epistemisation works to legitimate knowledges by bringing them in proximity to scientific practices. The process of epistemisation, and thereby legitimation, is done through institutional politics of demarcation, which separates different knowledges from each other.

This concept is helpful insofar as it allows me to conceptualise not only the lines of argumentations used in the data as a process of boundary drawing and scientification/epistemisation, but also to understand *documents* as boundary objects

[41] "[…] boundary-work excludes rivals from within by defining them as outsiders with labels such as 'pseudo' 'deviant', or 'amateur'" (Gieryn, 1983, p. 792)

[42] "[…] boundary-work exempts members from responsibility for consequences of their work by putting the blame on scapegoats from outside" (ibid.)

[43] These strict binaries were not representative of either sides' discussion points at the end: "Characterizations of the other side become caricature: science studies is said to deny altogether that natural reality exists, just as defenders are said to deny the existence of anything cultural or historical" (1999, p. 345).

themselves. The concept of boundary objects, originally developed by Susan Leigh Star and James Griesemer, builds on the understanding that across different (scientific) social worlds, there needs to be objects which act as a translator of different understandings, thus showcasing a sense of adaptability to different contexts:

> Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual site use. These objects may be abstract or concrete (Star & Griesemer, 1989, p. 155).

In tracing the establishment of the *Museum of Vertebrate Zoology* at the University of California, Star & Griesemer identify two major factors which helped bridge the differences of all actants (founders, workers, amateur collectors, university's administration) at this large enterprise:[44] "methods standardization and the development of boundary objects" (1989, p. 155). The former means following meticulous documentation of the specimens which had been collected with the aim that any worker would be able to locate them in the collections with ease; the latter means establishing objects which were concrete in some settings, and diffuse in others, while still translatable and understandable in all settings. Hence, boundary objects were necessary in establishing the museum as an actant in the field of ecology, as several differences in understanding had to be overcome between the involved actants during the pursuit of their regional (California-focused) research; the state of California, then, became a boundary object:

> For the university administration, the regional focus supported its mandate to serve the people of the state. For the amateur naturalists concerned with the flora and fauna of their state, research conducted within its bounds also served their goals of preservation and conservation. […] It gives California itself the status of a boundary object, an object that lives in multiple social worlds and has different identities in each. (Star & Griesemer, 1989, p. 167)

Star and Griesemer further identify four types of boundary objects for their case study: 1. Repositories, 2. Ideal type, 3. Coincident boundaries, 4. Standardized forms. I can draw on the last type to make sense of the place inhabited by the analysed documents within the issue formation of institutional politics of demarcation in Austria. These documents are, in many ways, representatives of their epistemic cultures (thereby *machineries of knowledge production*); their knowledges are preserved within a standardised form. Policy documents, reports, as well as educational materials follow specific rules and structures aimed at communicating the contents in a manner that makes them legible to adjacent actants as well. They are, at the same time, highly specific to the epistemic culture which has produced the results and knowledges, while being so malleable as to be translatable to other contexts, taking on entirely different meanings and associations. By utilising

[44] The museum was established at a time of great development in the field of ecology (1907) and had to adapt to these changes as well (Star & Griesemer, 1989).

the lens of boundary objects, I can make sense of the function of specific documents as they are read and utilised in various settings, examining what this means to the knowledges which are demarcated as well as constituted by these documents.

6. Findings

The analysis of my data corpus sought to answer the main research question, "How are illegitimate knowledges demarcated from legitimate ones by institutional politics of demarcation between March 2022 to December 2023 in Austria?" The following chapter outlines the issues which I have identified in analysing both document and expert-interview data (sub-question 1). By analysing the data through the lenses of the second sub-question ("How are different publics constituted during practices of institutional politics of demarcation, and how are their duties within a knowledge society established?") and the third sub-question ("How does the self-understanding of institutions contribute to how they practice politics of demarcation?"), it became clear that the identified issues are structured according to three rationales which are evoked as making knowledges *legitimate*. Meaning, the identified issues in both data clusters fail to deliver on three rationales that make knowledges *legitimate* through institutional politics of demarcation. These rationales are:

1. The rationale for adequate levels of trust in institutions (democratic)
2. The rationale for the self-empowerment of publics (engagement)
3. The rationale of stability, maintenance & innovation in a national economy (economics)

These issues can be grouped into two main clusters of issues, as they threaten to harm 1) the constitution of democracy, and 2) the constitution of self-empowered publics:

Data Cluster 1 (DC1). Constituting & Strengthening Democracy
Data Cluster 2 (DC2) Constituting Engaged Publics

In Data Cluster 1, I examine the issue of distrust and disinterest (6.1.1), the interrelated issue of scepticism (6.1.2), the issue of extremism and harmful group tendencies (6.1.3), the issue of material and temporal barriers in knowledge politics (6.1.4), and close with the issue of empowerment and inclusion of publics (6.1.5). Following that, Data Cluster 2 subsumes the issue of information literacy (6.2.1), the issue of disinformation (6.2.2), and the issue of diversified knowledge and information systems (6.2.3)

6.1. Constituting & Strengthening democracy

The name for this data cluster was chosen due to the understanding that institutional politics of demarcation aim to constitute and strengthen democratic practices by identifying issues which harm these practices, and thus demarcating them as illegitimate knowledges by employing their knowledge politics. Thus, knowledge production is an inherent part of the continuation of democratic structures and ideals. In this cluster, I demonstrate how institutional politics of demarcation itself constitute the meaning of *democracy* in Austria by demarcating between legitimate and illegitimate knowledge. Through their politics of demarcation, institutions contribute to 1) cementing the importance of legitimate knowledges which comprise and stabilise democratic

practices and 2) demarcating those knowledges which are considered detrimental and thereby become illegitimate within democracies.

6.1.1 The Issue of Distrust and Disinterest

The two main issues which prevail throughout the data are **distrust** and **disinterest** in publics towards institutionalised and legitimated knowledges. In the analysed data, two interrelated yet seemingly opposing aspects emerged as assumed reasons why publics either do not engage with or outright reject institutionally validated, stabilised, and *legitimate* knowledges. Hence, these issues are identified as detrimental to the practices of a democracy. In the following subchapter, I trace the issues of **distrust** and **disinterest** through the data as risks to democracies. I analyse these two issues concurrently, as they are evoked in an interrelated manner in the data.

The first document which contributes to this issue is the *Terms of Reference. Studie zu den Ursachen von Wissenschafts- und Demokratieskepsis in Österreich,* which outlines the terms of reference of a study commissioned by the BMBWF to seek answers for the proliferation of science and democracy scepticism in Austria (DC1-1). The study was conducted from September 2022 to 2023 and is part of an initiative called *Trust in Science and Democracy* (TruSD) by the BMBWF which is in part a response to policy brief on science communication published by the IHS as well as the *European citizens' knowledge and attitudes towards science and technology* (Eurobarometer survey 2021) (both discussed in 6.1.2). As the study's design purports, a preliminary hypothesis is offered that there is scepticism towards the sciences and democracy which necessitates a governmental analysis of the situation. Further, the commission of the study itself already suggests that the solution for anti-scientific and anti-democratic sentiments is indeed the increase of trust levels. Hence, the phenomenon of scepticism is 1) taken for granted as a solidified phenomenon which is comprised of certain attributes, and 2) the phenomenon in turn is problematised. The *TruSD_10 Punkte* programme operates on the same premise: The title reads *TruSD: 10-Punkte-Programm zur Stärkung des Vertrauens in Wissenschaft und Demokratie in Österreich* (DC1-2). This programme comprises the aforementioned TruSD study as well as efforts to increase the consolidation of activities and programmes which practice science communication and further democratic practices. Further, the programme seeks to increase the focus of "Wissenschafts- und Demokratievermittlung" in teacher training and relatedly implemented more concretely in university curricula. With this programme, the connection between trust in the sciences as in democracies is discussed side-by-side, as inextricable from each other: Anti-science sentiments are detrimental to democracies as anti-democratic sentiments hinder the sciences of the sciences. **Trust** in the institutions of the sciences as well as democracies is positioned as the starting point to tackle *scepticism* (6.1.2).

Not being interested in or distrustful of knowledges such as the sciences becomes a risk factor precisely because the support and adherence with scientific and technology concerns are positioned as necessary to mitigate risks within knowledge societies. An often-used example is the risk factor that materialises during health crises, for instance pandemics. Discussing the question "what can the sciences do during pandemics", posed by an annual essay competition of the Austrian Academy of Sciences (ÖAW), Alexander Bogner posits that the practices of the sciences are equipped to transform pandemics into "a calculable risk, which is to be approached preventatively on the basis of scientific insights" (Bogner, 2020, p. 2; DC1-3; own translation). Pandemics, which have historically been fateful and detrimental events for public health, can be "demystified (German original: entzaubert"[45]) by rigorous scientific investigation of their origins, the ways of dissemination, containment and preventative measures. Distrust and disinterest with the institution of the sciences, therefore, become actively harmful. If policy concerns are constructed on the usefulness of scientific pursuits and the democratic engagements of publics with these measures, as well as with an inclusion of expertise in political-decision-making processes (see 2.1.5). The *Austrian Corona Panel Project* (ACPP), a survey study conducted by the *Vienna Center for Electoral Research* (located at the University of Vienna) in 35 waves from March 2020 to July 2023, aimed to "designed to capture the social, political, and economic impact of the COVID-19 crisis on the Austrian population on a weekly basis" (Kittel et. al., 2021, p. 318; DC1-4).[46] The open-source data has been re-used, discussed and contributed to "[…] investigating how information, attitudes, and behaviours are distributed across the population, and how these develop in the course of the crisis" (DC1-4, p. 319). This data collection is insightful due to its numerous analyses starting points: attitudes towards crisis management can be correlated, contrasted, and brought into conversation with the effects on economic, psychological and general wellbeing of the population during different phases of the pandemic. The panel identified a broad majority to validate political decision-making in 2021 (DC1-5), which can be attributed to generally stable trust levels in the sciences and health (DC1-6). Conversely, distrust and disinterest with these legitimated knowledges would become harmful for democracies.

On account of the expected harmfulness that is associated with disinterest and distrust, levels of trust/interest have been measured in concerted efforts most substantially in the form of national and international surveys. The *European citizens' knowledge and attitudes towards science and*

[45] „Entzauberung"/" demystification" of pandemics refers to the abilities of the sciences to research causes, and develop remedies and prevention methods. "The sciences" are equipped to provide feasible explanations as to why these enormous public health concerns transpire at all. These abilities stands in stark contrast to historical explanations provided by members of the Church, who understood, for instance, the 1720 outbreak of the plague in Marseille as God's punishment (Krischer, 2020).

[46] Generally, the surveys aimed to shed light on a variety of topics: belief in conspiracy theories during the COVID-19 crisis, trust in institutions, on the sentiment in "Coronaschwurbler*innen", on whether experts should be the first to consult in political decision-making (in order: Blog 120, Blog 70, Blog 138, Blog 96 & 89, last checked: 29.11.2024)

technology survey (DC1-7), published in September 2021 by the European Commission, was concerned with capturing public sentiments and rates of interest and engagement with the sciences and technologies; respondents were asked questions intended to illustrate their knowledge levels about science and technology, ascertain their views on the impacts of science and technology, and demonstrate their views on governance or citizens' engagement in science and technology. The survey marks a pivotal point in the Austrian landscape of institutional politics of demarcation, as many documents regarding the relationship between the sciences and publics draw on these results after the results were first discussed in media outlets (DC1-8): The policy brief on science communication, issued by the IHS, brief cites the low rates of trust and interest in the sciences in the Austrian populus compared to other member states as a central argument in their plea to facilitate a more coherent strategy regarding the communication of the sciences (Starkbaum et al., 2022, p. 4; DC1-9). Similarly, a policy brief by Helga Nowotny mentions the problem of distrust and disinterest in connection with the Eurobarometer survey 2021: Nowotny criticises the failure to communicate adequately that the most recent scientific knowledges are still *impermanent* ones: "The public is not told that the current iteration of knowledge is only preliminary, each scientific knowledge is continuously advanced by more accurate, more comprehensive knowledge or simply by other knowledge" (Nowotny, 2021, pp. 2-3; own translation; DC1-10). According to Nowotny, it is the responsibility of the sciences to restructure the merit system in the sciences, as the current status quo sidelines innovative approaches (also regarding the communication to the public) in favour of adhering to primarily quantitative indicators. She advocates for a change in scientific procedures ("wissenschaftliche Arbeitsweise", p. 8). Nowotny proceeds to exemplify the necessity to coordinate science communication activities on account of the Eurobarometer 2021 survey results, as well as criticisms issued by the *Rechnungshof Österreich* on the lack of strategy and coordination in utilising the funds distributed for science communication in the years 2013-2017, which was 62 million euros (1-2% percent of the research spending in this time period), as well as to improve conditions for science journalism (Rechnungshof Österreich, 2019; DC1-11).

By discussing the issue of 'science populism' after citing the Eurobarometer survey 2021 results, Nowotny positions distrust and disinterest as issues which are precursors or even occur simultaneously with illegitimate forms of knowledges such as science populism (DC1-10, p. 10). In doing so, Nowotny as well as the authors of the policy brief published by the IHS in 2022 highlight a few question items and focus on the below EU-27 average that the Austrian surveyed sample has "achieved" on these questions. However, the end report of *Ursachenstudie zu Ambivalenzen und Skepsis in Österreich in Bezug auf Wissenschaft und Demokratie*, in support of the TruSD programme, points out that narrowly focusing on a few question items in comparison to other EU-states distorts

the results, particularly compared to the previous Eurobarometer in 2010, which illustrates that the Austrian interest rates in the sciences have actually increased (see Starkbaum et al., 2023, p. 261; DC1-12). Further, the authors clearly state that no conclusion can be drawn as some particularly distanced answers towards some aspects of the sciences (such as the use of genetic engineering) stand in opposition to particularly positive answers regarding the expected developments of renewable energies or in clearly denouncing the statement that scientists "deceive the public" (DC1-12, p. 261; own translation). Further, disinterest and distrust, when showcased in some items, cannot be generalised, and no specific socio-demographic public can be ascertained. Rather, these answers appear in all socio-demographic groups, despite occurring with a higher percentage in those of "younger age, lower educational level, dissatisfaction with democracy and orientated towards the right spectrum of politics" (DC1-12, p. 263; own translation).

On a national level, the levels of interest in the sciences have been measured as part of a dedicated survey for the first time in December 2022 in Austria: The *Wissenschaftsbarometer*, commissioned by the ÖAW, was published shortly after the TruSD22 programme[47] had already commenced in the middle of 2022. While both Germany and Switzerland[48] have had regular survey studies to measure attitudes towards science and technology for the better part of a decade now, Austria's ÖAW implemented the first barometer to measure interest and trust rates of Austrian publics to date. In a press statement by the ÖAW, the survey results are being described as "detaillierte Daten zur Wissenschaftsskepsis" (ÖAW, 2022a, DC1-13).[49] Further, the issue of (dis)interest and (non)-engagement are highlighted: it is mentioned that there are high levels of 'general interest' in the sciences, yet low levels of 'active engagement'. These results are contrasted to the consensus of the survey results that there is **low trust levels** found generally in the sample surveyed. These results are salient, as they seem to suggest that interest levels are generally unrelated to trust and engagement levels. In the conclusion to the results, the assumption is posited that the high "trust ratings" in the sciences can be questioned as they appear contradictory to the high levels of 'science scepticism' and can be explained by the "sozial erwünschten Antwortverhaltens" in questions measuring the interest in the sciences (ÖAW, 2022b, p. 75; DC1-14). This brief contextualisation illustrates that there might be some contradictory results manifesting in this survey.

Another national survey study indicating that the hypothesis that interest and trust are interrelated, is the report on the *Corona-Aufarbeitungsprozess* (discussed in more detail in 5.1.5).

[47] The programme cites the results of the Eurobarometer survey 2021 as well as increasing science scepticism as its *raison d'être.*

[48] https://www.wissenschaft-im-dialog.de/projekte/wissenschaftsbarometer/ (since 2014) & https://wissenschaftsbarometer.ch/ (since 2016)

[49] In 6.1.2, I expand on the practice of labelling segments of publics as sceptics, particularly regarding the sciences.

This reappraisal of the national conduct during the COVID-19 consists of case studies of different issues which emerged during the pandemic, and closes with a "dialogue" with citizens and their experiences during the pandemic (Bogner, 2023; DC1-15). For instance, the ACPP contributed with a study on science scepticism: the ACPP illustrates that although large segments of publics are highly interested in the sciences and its practices, they still showcase distrust in questions concerning, for instance, the interrelation of politics and the sciences (see DC1-15, pp. 95-97): Their survey results indicate that **distrust** of the sciences and **disinterest** do not always occur together. Therefore, the hypothesis that if disinterest is tackled, then trust levels in legitimated knowledges will increase, can be seen as an inconclusive takeaway, without enough evidence to warrant definitive conclusions. Similarly, the end report on the TruSD study concludes that there is no significant correlation between "science scepticism" and low interest levels, in some population segments they are even opposed. Interest levels of what they have determined as "sceptics" (i.e., people, who have showcased an increased level of scepticism in a few select question items) are higher in the batteries "Evolution" and "Heilmittel Krebs" than the general Austrian populus (DC1-12, p. 119). In addition: the findings of the focus groups which have been conducted showcase that just as disinterest is not synonymous with lack of trust in scientific practices, general criticism of the sciences is not synonymous with a general distrust of scientific practices either, but often rather an expression of criticism of the relations between the sciences and other institutions such as the mechanisms of the political field or the economic landscape (see DC1-12, p. 263).

Distrust and **disinterest** in legitimate knowledges, however, are also problematised in the analysed data due to their effects on the labour market. Innovation, which relies on (scientific) knowledge production, can only be secured by a steady flow of personnel who are interested in the sciences and research (usually, the natural sciences are singled out[50]). This is demonstrated by the funding programme *Kommunikation 18-22+* (which was open from 2018-2022) by the *Wirtschaftsagentur*, a call that was directed towards "innovative companies" to initiate projects of public relations: "Ultimately, the attractiveness of an academic education as well as continuing education in the natural sciences must be increased for the purpose of securing sufficient human resources in the sciences and research" (Wirtschaftsagentur, n.d_a, p. 5; DC1-16; own translation).[51] If large segments of publics are disinterested or even opposed to scientific practices, actively distrusting the knowledges which are produced, this becomes an active problem for sustaining

[50] However, Austrian incentive programmes which seek to improve rates of women in Science, Technology, Engineering, Mathematics (STEM) disciplines do not deliver the expected results (APA/dpa, 2024).

[51] I mention this funding call, as it represented one of three available science communication calls in Vienna in 2022; a new funding call by the Wirtschaftsagentur (2024-2026), called "Wissenschaft verstehen" (eng. "Understanding Science"), has shifted the focus on "counteracting the prevalent science scepticism" (Wirtschaftsagentur, n.d_ b, p. 1; DC1-17; own translation).

personnel, and in turn, for a knowledge society. In a funding call by the *FWF – Österreichischer Wissenschaftsfonds* (FWF) regarding a science communication programme re-frames this as it aims to facilitate more broad-scale awareness of the sciences and research in the "general public" (FWF – Wissenschaftsfonds, n.d.; DC1-18).

As mentioned above when tracing the effects of the results of the Eurobarometer survey 2021, the trust in legitimated knowledges is generally directly related with trust levels in different institutions within a democracy. Declining trust levels in democracies, then, also become indicators for trust levels in institutionally validated knowledges. Consequently, distrust in institutions such as the sciences and its practices become signifiers for raising concerns about the stability of democracies, as Starkbaum et al. (2023) formulate it: "An institution is not shown trust or scepticism in an isolated manner, on the contrary, other institutions which are understood as related are also affected" (DC1-12, p. 92; own translation). Based on this co-occurrence, any increases in distrust and criticism necessitates attention from various institutions. In Austria, these trust levels are principally indicated by the *Demokratiemonitor*; the first was conducted in the year 2018, when overall satisfaction in the political system was found in 64% of surveyed people, falling steadily to only 34% satisfaction rate in 2022[52] (SORA/Zandonella, 2022; DC1-19). The report highlights several aspects:

1. The so-called "crisis of faith" is a crisis of **representativeness** (meaning, dissatisfaction with how democratically elected representatives represent their voters). Levels of trust in institutions such as judiciary or the police force remain steady over the years.
2. The **decline in satisfaction rates is attributed to satisfaction rates in middle and upper classes:** While the satisfaction rates have remained (steadily) low in the lower income classes, over the past years, there has been a decline in the middle income and upper income classes. One hypothesis is that these segments of publics conjecture that "gut Situierte (sich) untereinander ausmachen, was im Land passieren soll" (eng. "well-situated people decide among themselves what should happen in the country") (DC1-19, p. 5).
3. As such, the crisis of faith is intertwined with a perceived loss of **self-determination**: People in the middle- and upper-income classes lose faith in political institutions if the state intervenes too much in their lives. While this "paternalism" has always been felt by lower classes, the report concludes that state interventions have only started to touch the middle and upper classes during the COVID-19 pandemic.

[52] I do not utilise the newest report, despite having been published already at the time of writing-up the findings, as most documents are concerned with the time span 2021-2022.

As a crisis of trust correlates with the uptake of illegitimate knowledges, which are envisioned as contrary to institutionally validated knowledges, there is a need to increase levels of trust for both the sciences and democracy (see DC1-2). The report is prefaced by situating the results in the increasing trend of autocracies and autocrats gaining power through elections, democracies, and its elected politicians, as well as institutions, and the challenge facing democracies to demonstrate **resilience**. This resilience is based on multifactorial aspects, which also concerns the maintenance and defence of the constitution, the responsibilities of elected representatives to curb the rise to power of autocratic members within their ranks, as well as an active civil society with shared interests and goals (see DC1-19, p. 6).

In the examples discussed above, distrust and disinterest manifest as risks for democracies in the sense that the behaviour exhibited by people who answer affirmatively to survey questions which signify aversion to legitimate knowledges are likely to dismiss political actions by the government. Thus, as the ACPP posits, low trust levels in the government can result in problems of low levels of adherence to the measures put in place to curb a crisis such as the COVID-19 pandemic (DC1-20).

6.1.2 The Issue of Scepticism

Having discussed how distrust and disinterest are identified as issues within institutional politics of demarcation, and closely aligned with illegitimate knowledge practices, in this subchapter, I single out one specific phenomenon, that of the "science-sceptic" (German original: "Wissenschaftsskeptiker*in"). In speaking of a "sceptic public", "science scepticism" is attributed to certain publics, thereby describing their character. As such, I trace arguments which are made which problematise this scepticism as *being sceptical* correlates to the adherence to illegitimate knowledges and practices.

First, I need to demarcate scepticism which is indeed positively connotated, as the *function* of scepticism is an essential part of legitimating knowledges, particularly the sciences (2.1.2), from *scepticism* which is seen as negative. Productive scepticism is then defined by a consistent openness to adopt hypothesis and integrate new findings and data into models which ensure the legitimacy of scientific knowledges. If there are musings of ideologically influenced research, the sciences work hard to rebut these claims, ensuring their immutability regarding the unbiased integration of new data points even if previous results are rendered irrelevant. Alexander Bogner puts it as follows: "Also in this case, the performance of the science is measured according to their ability to exercise self-criticism" (DC1-3, p. 4; own translation). In answering the ÖAW essay competition "Fakt oder Fake? Wie gehen wir mit Wissenschaftsskepsis um?" (English: "Fact or fake? How do we deal with science scepticism?"), Klaus Gourgé highlights the integral part that scepticism plays in the sciences and the

scientific method, and thereby clearly problematises a *type of scepticism* which does not adhere to the scientific standards of openness to new ideas and constant re-assessment of previous theories. The researcher makes clear, however, that the scientific community would bode well in upholding the sceptical spirit, and not let the term be taken over by certain publics:

> Science needs scepticism. If science wanted to rid itself of scepticism, something that is not even possible theoretically, everything would get even worse. […] The scientific community should not offer this favour to [the conspiracy theorists]. By doing so, it would lose their best weapons against science sceptics: evidence, criticism, argumentation, logic, scepticism, systemic questioning of the present state of knowledge…indeed, good old scepticism (Gourgé, 2023, p. 4; DC1-21, p. 4; own translation).

Despite this avowal of upholding the functionality of scepticism as a productive, generating force, when scepticism is shown in manners which are deemed unproductive, scepticism becomes an issue for processes of knowledge production. **Scepticism** in publics is framed as something which needs to be urgently avoided, if this scepticism manifests in unproductive and even harmful behaviours which hinder the process of engagement with the role of the sciences and technology in societies as well as its production. Scepticism, here, is not used to point solely towards deficiencies exhibited by publics but discussed as a phenomenon of public life which should be taken seriously. Primarily, n*egative sentiments* towards scientific endeavours, certain innovation practices are identified by conducting surveys.

In the data, more concrete discussions of the effects of broad-scale scepticism also materialise. One example is the policy brief *Impulse für einen Neustart der Wissenschaftskommunikation in Österreich,*[53] in which the lack of a cohesive coordination strategy for science communication activities in Austria is highlighted against the backdrop "[…] that Austria, compared internationally, has a populace that is sceptic towards the sciences and technologies" (DC1-9, p. 3; own translation). These science-sceptic and technology-sceptic sentiments are problematised due to three main issues which might arise:

1. Problems of **legitimation of (investment in) scientific practices** in the long-term,
2. Problems for the **economy** and relatedly, the labour market, and
3. Problems for **democracy** as political problems which are increasingly interpreted as "knowledge conflicts"

These issues result in three different consequences for a sceptic public in the context of processes of knowledge production. As such, **scepticism** is demarcated as an illegitimate knowledge practice as it suggests, since in the long run it creates a problem of legitimation on multiple levels of society: to legitimise the large amounts of funds spent on research and innovation becomes difficult to justify as well as execute if publics question whether it is necessary to invest in legitimated knowledges

[53] In English: "Impulses for Re-Starting Science Communication in Austria" (own translation).

through research (see DC1-9, p. 5). This is an issue which is relevant in the Austrian context: According to the *Austrian Research and Technology Report* from 2023, the Austrian Research & Development (R&D) expenses are generally high in global competitions, namely 3.22% of the gross domestic product (GDP) of the nation (Bundesministeriums für Arbeit und Wirtschaft, 2023, pp. 38-39; DC1-22). Scepticism, then is positioned as harmful to the legitimation of institutionally salient knowledges and the engagement with technologies, for instance, which becomes relevant in the context of ensuring a certain robustness of labour markets in the medium- and long-run (see p. 5). Lastly, the understanding of the necessity of democratic ideals is thought to be challenged by anti-science sentiments, as many conflicts are increasingly understood as "knowledge-based conflicts" which must utilise the sciences to get solved (see DC1-9, p. 6). The (scientific) knowledges needed to solve the conflicts are positioned as vital to democracies. This reason is particularly noteworthy: it illustrates the necessity of institutional politics of demarcation, as a pronounced adherence to illegitimate knowledges and associated aversion to legitimate knowledges are actively detrimental if problems are first and foremost understood as knowledge problems. Further, the policy brief gives an overview over the landscape of science communication activities and makes recommendations based on this assessment. The recommendations, in brief, are the following: 1) to develop a coordinated strategy for science communication activities in Austria, 2) to implement institutional and individual incentives for scientists to partake in science communication, 3) to fund possibilities to provide science communication training to scientists, and 4) to adequately fund science journalism. Ultimately, these recommendations are geared towards curbing the effects of an increasing **science scepticism.**

Both DC1-9 as well as DC1-10 draw attention to deficits in the relations between the sciences and the publics and argue for specific improvements. Centrally, they base their arguments on a diagnosable 'sceptic public'. Their arguments are grounded in a few commonalities: 1) the sciences hold an integral part in most public spheres in Austria, 2) there are a few indicators that Austrian publics inadequately engage with the sciences, and 3) the existing strategies of engagement are not coordinated sufficiently. These policy briefs matter-of-factly discuss the apparent **scepticism** in the population, their proposals for changing the landscape of science and technology relations with publics are grounded in the conjecture that **scepticism** is either already rampant or at risk of becoming cemented.

In terms of contributing to the issue formation, it is necessary to highlight that both policies refer to a number of related studies and reports, such as the findings of the ACPP (in particular, the purported 'science-related populism'/'wissenschaftsbezogener Populismus', see DC1-23), the report by the *Rechnungshof Österreich* from 2019 (DC1-11), and in particular, the Eurobarometer survey

from 2021 (DC1-7). The latter was used to argue for the diagnosis that a science and technology scepticism prevails in the Austrian population. Some indicators, which looked at in an isolated manner, seamlessly support the argument of a science-sceptic public and were integrated in a manner to constitute a sceptic Austrian public. The findings are structured into the following segments: 1. Knowledge about science and technology, 2. Views on the impacts of science and technology, 3. Views on the governance of science and technology, 4. Views of scientists, 5. Citizens' engagement in science and technology, 6. Young people, gender equality, and social responsibility in science and technology, and 7. Comparative advantage of the EU in science (DC1-7, p. 3). In the first segment, the Austrian survey participants consistently demonstrate low interest levels in indicators such as "new scientific discoveries and technological developments" or report that they do not feel informed compared to the EU27-average. Further, the following indicator ("Young people's interest in science is essential for our future prosperity") is particularly notable: While on EU27-average, an increase (from the last survey in 2005) of 11% can be noticed (to 48%) of people who "strongly agree" with this statement, only 27% Austrian respondents "strongly agree" (a decline of 6%) (European Commission, 2021b, p. 4; DC1-24). However, there are survey responses which are less easily interpretable: In DC1-9, for instance, Portugal is highlighted as an outstanding example of science communication the public due to their high vaccination coverage (DC1-9, p. 6); however, in the sub-section "belief in conspiracy theories", Portuguese respondents disagree less often with both conspiratorial statements[54] in the survey than Austrian respondents. These results might challenge the argument of a scientifically educated Portuguese in another argument. Thus, drawing the conclusion that there is a particular science-scepticism based on an EU-wide comparison might be premature, while a necessary discursive tool to argue for making improvements to the relation between the sciences and its publics. In DC1-12, the authors similarly note that there are no significant increases in attitudes which might be classified as science-sceptic across numerous survey waves which enquire about respondents trust levels in different institutions: in the analysed timeframes, respondents showcase more consistent levels of trust in "the sciences" as compared to institutions such as politics, media, medical institutions etc. These results need to be juxtaposed to the fact that the topic had received outstanding media attention in the Austrian media landscape: from four mentions of 'Wissenschaftsskepsis' in 2020, to 104 mentions in 2021, and 321 mentions at the end of 2022 (DC1-12; pp. 91-92).

Still, a specific type of scepticism, which veers close to populism, has been identified in some responses. The ACPP has identified a "science-related scepticism" (2.2.4) during their multi-stage

[54] "The cure for cancer exists but is hidden from the public by commercial interests" and "Viruses have been produced in government laboratories to control our freedom".

survey waves; in the groups termed ‘sceptic’ people, the popularity of ‘following a gut instinct’ and ‘common sense’ is noticeable (DC1-23; own translation). ‘Science-related populism’ has been identified as a specific manifestation of an issue of scepticism. It materialises in expressions of anti-scientific sentiments towards the integrity of scientists, their independence from politics and the type of research they pursue. The latter signifies the conjecture that scientists and their research do “not follow the interests of lay-people” (DC1-23; own translation). This phenomenon is associated with distrust as well, as this specific type of populism targets and makes use of criticism geared towards scientific expertise and academia at large. Scientific expertise is devalued by contrasting it to the every-day experiences of laypeople, whose knowledges are seen as more valuable and less withdrawn from the experiences of publics.

This sentiment is also corroborated by Alexander Bogner, who highlights that studies identify that this type of practical, every-day knowledge is morally enhanced in contrast to the ‘theoretical’ knowledges of the sciences: He stipulates that the reason why alternative facts, or illegitimate knowledges, can proliferate in opposition to institutionally validated knowledges lies in the fact that they offer an alternative pathway to the situation that a specific scientific consensus is drawn on to limit political actions (2.2.1). His answer: “Formulated a bit polemically: alternative facts are in great demand when the political landscape – thanks to, largely, an accordance with the sciences – understands itself as without alternatives” (DC1-3, p. 8; own translation). As a result, Bogner offers an assessment of the reason as to why illegitimate knowledges could become viable alternatives for publics to legitimated knowledges by institutions: as an extension of a political practice, which offers alternative routes to pathways which are perceived to have no alternatives due to their scientific character.

Further hypotheses for the existence of scepticism which is geared towards processes of institutionalised knowledge production are manifold: the still prevailing black-box approach of the sciences or the proliferation of disinformation in digital spaces. Helga Nowotny hypothesises that the issues might lie in the inherent ‘black-boxing’ of processes of legitimating knowledges such as the sciences. For instance: Nowotny stipulates that if primarily success stories reach publics, the processes and stipulations of scientific practices are sidelined. However, showing these very processes is substantial for publics to understand that it takes time to produce sound evidence. The processes before *facts* become stabilised within epistemic communities are neglected to be shown. To communicate this reality to publics is framed as essential in accurately communicating the limits and capabilities of scientific practices. The one-sidedness of communicating the sciences with its focus on success stories, pursued perhaps under the assumption that it would legitimate the involvement of industrial interests, has seemingly backfired as the necessity to communicate the

whole picture (failures included) has been sidelined (see DC1-10, p. 4). Nowotny's policy brief discusses the negotiation of the sciences in the eyes of publics; the policy brief particularly makes references to the challenges of the COVID-19 pandemic. Principally, Nowotny discusses the downsides in highlighting only the "finished products" of the sciences, as opposed to also discussing the processes, challenges and failures of the sciences in public:

> Disappointments are preprogrammed if the public exclusively gets to see the "day sciences". If the public only gets to see the end-products, from the newest therapies, medications or the latest technological gadgets, then the processes of developing this new knowledge, as well as the oftentimes long way to production, remain invisible (DC1-10, p. 2; own translation).

Joachim Allgaier finds different words for the proliferation of science scepticism: he focuses on the impossibility of demarcating disinformation on social media platforms such as YouTube, highlighting the role that the advertising guidelines play in pushing disinformation. He concludes with a plea to actants in the sciences, politics, NGO to work together in developing strategies to deal and ideally prevent disinformation. Towards the scientific community, Allgaier suggests more transparency and openness to curb scepticism, mirroring Nowotny's sentiment of opening the 'black box' (see DC1-25, p. 8).

While distrust and disinterest, when aimed at (scientific) knowledge production, remain negatively connotated, scepticism, when formalised into practices which are interested in utilising its potential for the improvement of theories, ideas, and practices, is deemed appropriate and helpful. This type of positive *scientific scepticism* is demarcated from illegitimate scepticism which veers into deflection and is used as a communicative strategy in political and cultural discourses, and thereby classified as unhelpful, disruptive, and sometimes even harmful. Thus, there is a definite differentiation between *being a sceptic*, oftentimes associated with a closed-off, disruptive mindset, which is not open to new information and not able to adapt one's existent frame of reference when confronted with new information, in contrast to *being sceptical* as an attribute, which is considered a productive function if aimed at advancing knowledge production.

The analysis of the data in this chapter has shown that the attested high levels of 'science scepticism' in comparison to the other EU-27-states by the Eurobarometer survey 2021, which is centrally mentioned by both DC1-9 and DC1-10, cannot definitively be substantiated. The diagnosis of a prevalent science scepticism in large segments of publics is thus complicated.

6.1.3 The Issue of Extremism and Harmful Group-Tendencies

Some issues, rather than being discussed as separate entities (such as **trust** or **scepticism**), are invoked in the data in reference to the ideal which they threaten. In the analysed data, I found a continuous reference to an *intended* robustness of democratic practices; the argument is that this robustness is essential in ensuring the institutional production of legitimated knowledges. Several

issues relate to the aim of stabilising democracies and its institutionally legitimated knowledges. Accordingly, in this subchapter, I trace the issues which are constituted specifically as a threat to democracies.

The first issue drawn on as detrimental to the robustness of democratic ideals is the occurrence and broadscale dissemination of **conspiracy theories**. The proliferation of conspiracy theories is often linked to an overwhelming information system, in which the nested networks of actants in the sciences, policies, politics, and economy become inscrutable to publics, and make them more susceptible to illegitimate knowledges (2.2.2). The appeal of conspiracy theories for publics, then lies in offering solutions on how to deal with complexities, and the mechanisms of (perceived) exclusion in knowledge societies. In a special report on conspiracy theories during the COVID-19 pandemic in Austria, the Bundesstelle[55] likens the belief in conspiracy theories to the power of religious beliefs: "Conspiracy theories take on the function of a pseudo-religion for many affected people. They explain the world and introduce order and meaning, complexity gets reduced and replaced by black-and-white-pictures" (Bundesstelle für Sektenfragen, 2021, p. 53; DC1-27; own translation). The **belief** in conspiracy theories provides explanations to complex issues which lack simple, straightforward solutions and require intensive awareness of interrelated **knowledges**. This belief system, the report suggests, necessitates that the motivations of people need to be understood on a personal level, that there needs to be an understanding as to how and which views on societal relations within a society strengthen these beliefs. Ultimately, the report suggests that arguing with people on a factual basis (i.e., knowledge-basis) is not going to dissuade people who engage with conspiracy theories because conspiracy theories are belief constructs: **belief** is juxtaposed, then, from **knowledges**. Conspiracy theories also inhabit a certain functionality, particularly in group dynamics. Ulrike Schiesser (EI-1), executive director of the Bundesstelle, explicates some reasons during our interview why these group dynamics manifest:

> Immediately, you have a power-imbalance, and they have influence on what they bring to the table regardless: group dynamics, manipulation, this charm from certain leaders, who can capture people, fulfil needs. However, as soon as faith gets added, everything becomes much more comprehensible, and that certainly makes a difference (EI-1, Pos. 4; own translation)

One of the appeals of conspiracy theories or conspiratorial explanations of events is the fact that as a body of knowledge, they are uniquely able to adapt to all new crises within a short matter of time, which stands in stark contrast to other knowledges produced by the sciences or if adherence to research and a certain rigorous journalistic standard. Conspiracy theories, however, embrace

[55] The *Bundesstelle für Sektenfrage* is a contact point for private persons as well as institutions. The *Bundesstelle* offers expertise in matters of extremism, and in particular, advice on navigating harmful group tendencies. Apart from being a contact point, the disseminate information in various networks, hold workshops, and do research themselves (Bundesstelle für Sektenfrage, 2022; DC1-26).

contradictions and even fallacies, and integrate those as confirmation rather than refutation in their theory-making. This phenomenon is discussed extensively in a report by the Bundesstelle on conspiracy theories in Austria during the COVID-19 pandemic (DC1-27). The report illustrates, among other things, the various thematic references which are integrated in these COVID-19 related theories. Inclusion of contradictory sentiments becomes most prevalent when highlighting the simultaneous suggestion by "Coronaschwurbler*innen" that there is a conspiracy of Jewish people pulling the strings of the pandemic, while at the same time utilising the subject of the Holocaust and associated visuals such as the yellow badge, which is situated closely to the Holocaust, to refer to their own oppression during the pandemic (DC1-27).

These knowledge-making practices are demarcated by institutions: the Bundesstelle issued the aforementioned report as part of an initiative by the interior ministry in 2021, at a point in time when the protests of the so-called "Corona-Leugner*innen" had resulted in a number of injured police officers and administrative and judicial offences in the hundreds. During a press conference, former interior minister Karl Nehammer is quoted as saying: "Conspiracy theorists disseminate disinformation consciously and purposefully and try to utilise the insecurities by people for their anti-democratic, ideological aims" (Bundesministerium für Inneres, 2021; DC1-28; own translation). In this statement, Nehammer associates the disseminated knowledges (disinformation) of conspiracy theorists to anti-democratic goals, which particularly take effect in group dynamics. Further, Nehammer evokes that *antisemitism* and *political extremism* in general are associated with the groups of publics that disseminate conspiracy theories. An awareness of the potential dangers is reflected in the fact that a first nationwide extremism prevention strategy was published in 2018, spearheaded by the *Bundesweite Netzwerk Extremismusprävention und Deradikalisierung* (BNED), established in 2017, an initiative which unites the federal ministries with civil organisations as well as the federal states. In their strategy on extremism prevention, they showcase how the allure of illegitimate knowledges is recognised, the emphasis lies on offering the possibility of "exit ways" from these knowledges: "A professional co-operation between judicial police and the specialist departments as well as through the support of external experts and centres providing follow-up support, alternatives to the extremist explanation and indoctrination patterns have to be presented, offering an escape from fatal group dynamics" (Bundesweites Netzwerk Extremismusprävention und Deradikalisierung, 2018, p. 27; DC1-29). Further, **radicalisation processes which result in extremism** are linked to the "growing **polarisation** and fragmentation of our society" by the BNED (DC1-29, p. 23; own emphasis). Extremism and popularism are framed as sets of corrosive attitudes and behaviours which in turn destabilise and diminish trust in various institutions ("society"). As part of the funding call, *democracy in progress – Beiträge zur Stärkung des Vertrauens in demokratische*

Institutionen (English: “democracy in progress – Contributions to strengthen trust in democratic institutions”, own translation), issued by the Viennese municipal government, one of the possible subjects which are encouraged to be dealt with are “[…] models which counteract society’s polarisation” (Stadt Wien, 2022; own translation; DC1-30). This funding call as well as the aforementioned strategy argue that extremist tendencies and polarisation are fostered by the dissemination of illegitimate knowledges, most prominently conspiracy theories. As such, the cohesion and stability of democracies is threatened by knowledges which are considered illegitimate by institutions.

To tackle the effects and consequences of proliferating conspiracy theories, one strategy is providing didactic materials which can be integrated in various classroom settings. They are geared at helping pupils in detecting the harmful basis of these illegitimate knowledges such as conspiracy theories. The project *Targeting Extremism and Conspiracy Theories* (TEACH), a project co-funded by the Erasmus+ Programme of the EU, analysed the influence of conspiracy theories in adult education, and then integrated these finding into didactic material to deal and discuss conspiracy theories. In the document *Targeting Extremism and Conspiracy Theories. Was geschah mit Jörg Haider?* (eng.: “Targeting Extremism and Conspiracy Theories. What happened to Jörg Haider?”; own translation), for instance, distrust shown towards numerous institutions is discussed as detrimental to democracies by highlighting the consequences of conspiracy theories surrounding Jörg Haider’s death, caused by a car accident, who was an influential right-wing Austrian politician of the early 2000s (Demokratiezentrum Wien, n.d_a; DC1-31). The threat of conspiracy theories is also closely aligned to distrust of executive or judicative forces (see p. 5). The didactic material, which acts as a supplementary material to be used in classrooms to discuss conspiracy theories, was published by the *Demokratiezentrum Wien*, which is dedicated to civic education and conducting studies on democratic matters. Several details of the circumstances of the accident remain unsolved to this day, providing enough gaps to be filled with speculations, ranging from expressions of distrust in media outlets and government agencies to political conspiracies, resulting in the distrust in other political parties, even to theories about the involvement of the Freemasons. Particularly in reference to the Freemasons theory, the didactic material provides discussion points to help pupils identify the totalising language which ascribes culpability to one group: Jewish people. Further, the exercise cites an excerpt which discusses populism (as exhibiting mistrust against institutions. The exercise finishes with presenting a short article called *Medienvertrauen als demokratische Notwendigkeit* (Fischer & Jarren, 2019). The didactic material a) discusses the issue of a lack of trust towards institutions on the example of a specific case which provoked conspiracy theories and b) problematises these explanations, which it demarcates as illegitimate knowledges by positioning

them in close proximity to the disruptive tendencies of mistrust in institutions. As such, establishing *trust* for one stakeholder and inspiring *scepticism* towards another is highly pertinent to the way conspiracy theories as knowledge constitute and legitimate themselves. Trust for these theories is frequently established by offering explanations for experiences and feelings of being disadvantaged or not being able to understand societal developments (Demokratiezentrum Wien, n.d_b, p. 6; DC1-32).

Similarly, conspiracy theories of identities and narratives around the "friend/enemy" rhetoric which operates by establishing whom to trust and whom to distrust, combined with logically ill-conceived scepticism towards entire segments of contemporary societies (i.e., "the" media, politicians, scientists). This process of determining the "outside" enemy, establishing whom to trust and who to face with a sceptical stance strengthens the inner workings of any group, as Ulrike Schiesser (EI-1) describes: Aside from constructing clear boundaries between bodies of knowledges which are legitimate/good (friend) and illegitimate/bad (enemy), groups with a strong ideological underpinning further enable the possibility to profit from the polarisation which they themselves perpetrate:

> When I say, '5G is killing us, cell-phone radiation is dangerous', of course, I am then able to sell 'energetic stickers' to be put on phones; or when I say, 'vaccinations are dangerous', I am able to then able to say, there is a 'Engelswasser' to channel the vaccination, you need to spray this three times a day to not get contaminated by the vaccinated people around you" (EI-1, pos. 18; own translation).

As Schiesser explicates, when the advisors of the Bundesstelle demarcate and problematise knowledges during their counselling sessions, it is to highlight the implications of labelling entire publics as "the enemy", and thereby constructing them as well as the knowledges which are associated with them (scientific knowledges, etc.) as a holistic whole.

Ultimately, the aim of extremism prevention is to counter another anti-democratic knowledge system: terrorism. One aspect of a terrorist offence is "seriously destabilising or destroying the fundamental political, constitutional, economic or social structures of a country or an international organisation", as defined in an EU directive (European Union, 2018). One aspect of destabilisation is the illegitimate knowledge associated with terrorist actions. Agendas such as *A Counter-Terrorism Agenda for the EU: Anticipate, Prevent, Protect, Respond* (European Commission, 2020a, DC1-33) speak to the importance of information in combatting terrorism. Using available networks to share information in the service of prevention of extremism or terrorist attacks are seen as essential and legitimate. As such, the correct use of information sharing, collecting, and production is put into focus: "The three new Schengen Information System (SIS) Regulations that entered into force in December 2018, introduced a number of measures to improve the information exchange including on terrorist suspects" (DC1-33, p. 14). Further, the constitution of networks of knowledge and the

establishment of a *Knowledge Hub* for trans-national cooperation centres the role of knowledge production and dissemination in providing a pillar against terrorism (DC1-34).

As can be seen by the abovementioned examples, the demarcation between legitimate knowledges (stabilising democratic ideals) and illegitimate knowledges (inspiring populist ideas) illustrate that this discussion happens after an event has already taken place, and the dissemination of a particular set of illegitimate knowledges is causing issues in institutions as well as their publics. **Distrust** is the issue, which is sought to be remedied by different means to inspire trust again. If this trust cannot be restored, the conjecture in DC1-31 is that more crises phenomena will follow (see p. 16 onwards). **Trust** in certain societal institutions is therefore classified as essential, *particularly* (and not *despite*) because of the complexities of modern life, to ensure their proper functioning.

6.1.4 The Issue of Material and Temporal Barriers in Processes of Knowledge Production

In the analysed data, I was able to identify that there is a considerable attention to the role of the digital information economy.[56] The relevance of the digital information economy is evoked when discussing the ways in which illegitimate knowledges can proliferate. For instance, Joachim Allgaier puts it in the following manner: "Unfortunately, the enemies of democracies have found ideal conditions for attacking the main institutions of free societies (of which the sciences are only one among many) in the predominately digital information ecosystem" DC1-25, p. 3).[57] The information ecosystem is related to providing ideal conditions for specific types of information to flourish, and for specific illegitimate bodies of knowledges to become relevant and influential to publics. Although these theories such as conspiracy theories exhibit logical fallacies and are essentially "unfalsifiable" (O'Mahony et al., 2023, p. 1) due to their insufficient securement of proof. While this fact forecloses conspiracy theories from being regarded as legitimate knowledges, their impacts on publics are still considered profound and detrimental. Accordingly, conspiracy theories, while being treated as illegitimate knowledge – which are more closely aligned to belief constructs – gain notoriety in the analysed data through the associated effects and the closeness to extremism and other behaviours which destabilise democracies.

The importance of ensuring robustness of democratic practices through politics of demarcation was mentioned in an entirely different context as the above discussed documents: In our interview, Klaus Taschwer (EI-2), science journalist, discussed the tendencies in science journalism as 'cheerleaders' of the sciences. In his viewpoint, this bias makes meaningful

[56] A digital information economy is a blend of concepts such as the information society and characteristics exhibited by digital & information economies, which are similar concepts to the knowledge economy/society.
[57] With his essay, Allgaier answered the call to discuss how an imagined "us" will move forward in the face of science scepticism.

interactions between the sciences and publics more difficult, enforces hierarchies and portrays the sciences as an entity unworthy of issuing criticism against. To ensure the **robustness of knowledges,** as Klaus Taschwer expresses, the possibility to express criticism (i.e., material spaces) is required, and being able to spend adequate time in relaying problems and discuss potential solutions. Taschwer expresses the importance of "making space for criticism and reflections" in the following manner:

> […] I simply need to describe what happens, and sure, there are also wonderful things happening, someone gets a nobel prize, but I also need to write about it if the sciences do something badly, I need to report critically about aberrations in the sciences, which is precisely how trust in journalists and journalism is established. In this respect, activities which are essentially PR-activities do not guarantee that people believe in the sciences, especially those who are sceptical; therefore, I think that the establishment of trust is substantially connected to the ability to issue criticism, and ideally, with the possibility of interactions and conversation (EI-2, Pos. 34; own translation).

In the above section, Taschwer postulates that the development of **trust** necessitates the ability to express criticism, which in turn fosters the robustness of democratic ideals. In this passage, he addresses the problems which arise when two spheres – journalism and public relations (which have fundamentally different objectives) – overlap significantly. The material and temporal conditions to express these worries, criticisms etc. are not given, although there is an inherent understanding that only by fostering material and immaterial spaces, democratic ideals, adherence to legitimated knowledges, as well as a cooperative and participatory democracy can be facilitated. If there is a **distinct lack of such spaces**, expressions of concern, scepticism, or disagreement cannot be adequately voiced, and thus no adequate room can be given for these discussions which might affect the relations between the sciences and society, as Starkbaum et al. formulate in DC1-12: "From the perspective of a democracy, a problematisation can be, principally, evaluated positively. […] However, one can observe, despite repeated attempts to moderate these debates, these attempts have run up against the lack of structures and public spaces which are necessary for them to happen, in the sense of 'res publica', making it possible to affect the relation between science and the public" (DC1-12, p. 75; own translation). The authors point out that the realisation of legitimate knowledges necessitates space and further highlight the importance of voicing sentiments and ideas which fall outside these legitimated knowledges in democratic fora.

Further, **temporal** barriers hinder the engagement with legitimated knowledges as well. In other words, the institutional politics of demarcation are hindered to come to fruition by the impossibility to practice them in the time needed. Despite the motivation to engage with and participate in projects such as *Sparkling Science* within schools, from both the scientific institutions as well as the pupils involved (see Technopolis, 2018, p. 2; DC1-35), is hindered by the lack of **longevity** of procuring sufficient funds or even enable long-term collaboration between scientific

institutions and schools. A Technopolis evaluation report on the Sparkling Science programme[58] in 2018 concludes that for activities to reach full impact, the programme needs to be implemented in a manner which makes it possible to extend their reach and duration *beyond* the project duration. Longevity is needed, yet there are multiple factors which hinder these projects from reaching full potential, found in the incompatibility of the school year and outside partners, or the fluctuation of pupils and teachers after the schoolyear is over (see DC1-35, p. 10).

The temporal dimension in institutional politics of demarcation comes into effect in another way as well: To implement measures which 1) strengthen democratic ideals and practices necessitates 2) a timely response to the dissemination and adherence to knowledges which are recognised as fostering extremist ideals. Institutions, such as the Bundesstelle, struggle with this timely intervention, as Ulrike Schiesser expresses during our interview. She speaks about this tension between timely intervention and the preservation of constitutional rights in the following manner:

> So, the state needs to withstand extremism, this is vital, because, simply, otherwise we are not a democracy anymore, also sovereign citizens, with all their ideas. In principle, you need to withstand it, however, at the point when it spins out of control, when we need to be alert, that this extremism does not turn into hostility to the state, when it begins to attack democracy itself, at this point a democracy must defend itself, which it has done in the face of sovereign citizens (EI-1, pos. 39; own translation).

Here, Schiesser speaks to the **robustness** of the nation state: democracies need to be able to absorb extremism to a certain degree. The threshold, as Schiesser expresses, is the point in time when democracy *per se* is threatened. The robustness of democratic practices and ideals is positioned to be threatened by several different issues, as the analysis of the data has shown. Most prominently, I identified conspiracy theories, which are demarcated as belief systems, while still being treated as impactful as the knowledge constructs which they represent for publics.

6.1.5 The Issue of Empowerment and Inclusion of Publics

Having touched on the issue of materiality and temporality identified in the institutional politics of demarcation in the previous subchapter, in this chapter, I trace two interrelated issue which constitute publics: the issues of empowerment and inclusion. I expand on the discussion of issues which prevent the empowerment and inclusion of publics (in addition to materiality and temporality) to contextualise the issue of empowerment not as a deficit of publics, who actively disengage from legitimate forms of knowledges, but to suggest it is more a holistic problem of access.

[58] *Sparkling Science* and its follow-up programme *Sparkling Science 2.0* are programmes by the BMBWF to support research institutions and schools in collaborating on so-called "citizen science" projects. Almost 300 projects had been funded in the first iteration of the programme (OEAD, 2022; DC1-36).

In the next subchapter, I narrow the focus on the material and temporal issues which occur in institutional politics of demarcation.

Different forms of expertise and knowledges, which can also be located in publics, have been recognised through policies as well as academic disciplines for several decades now (Knowledge society_report European Commission, 2007; Irwin & Wynne, 1996; Michael, 2009). On the other hand, however, explicit approaches which focus on involving publics in matters of science and technology have done so historically with the understanding that publics experience a deficit, which needs to be filled adequately (2.1.6; Felt & Fochler, 2010). Prominently, it rests on the assumption that when an information deficit has been filled (i.e., people have been exposed in enough ways to the sciences), scepticism and disinterest will diminish accordingly. In 6.1.1 and 6.1.2, I showed that this idea rests on inconclusive presumptions; despite this inconclusive evidence of the effectiveness of this approach, the theoretical commitment to this imperative remains prevalent (Simis et. al 2016). Realising this theoretical commitment, however, actants encounter material obstacles: Reports such as the *Knowledge society*-report published by the European Commission in 2007 discuss that the expressed commitment to the involvement of publics stands in stark contrast to the imperative of the sciences to "translate fresh research insights rapidly into globally marketable commodities, and to reorganise science accordingly" (European Commission, 2007, p. 14; DC1-37). The integration of publics in material instances such as public fora, and the integration in decision-making processes are complicated and longwinded, hindering this objective. Citizen science projects such as *Sparkling Science* speak to the difficulty of executing these commitments to inclusion and participation. One example for tackling the material and temporal issues recognised in practices of knowledge production are citizen science initiatives, which seek to include publics in these institutionalised processes. An example for an initiative is the *Sparkling Science 2.0* programmes of the BMBWF (DC1-35; DC1-36).

This programme, which calls for extending communication efforts of the sciences (a line of argumentation that DC1-16 and DC1-18 follow as well) defines the publics which should be targeted. In practical terms, it is necessary to specify the subgroup of "the" public for whom the activity is geared towards in precise terms, which is usually done by constructing a deficit or a disadvantage of this segment of the public ("bildungsferne Schichten" in DC1-16). In Felt et. al (2021), a study on the situation of science communication in the city of Vienna, the authors point out that in the analysed science communication activities, there are rarely references made to consider publics and their feedback during development of the sciences and technology (DC1-38, p. 38). As pertains to a funding call issues by the City of Vienna called *Vom Wissen der Vielen* (English: "From the Knowledge of the Many"), addressees of the call (i.e., anyone engaged in science communication activities) are

encouraged to help with the development of "critical publics" (DC1-39). To mention these two aspects alongside in a public funding call points towards the sensitivity that the emergence of these publics can only occur if **adequate material space** is given to the development of their issues. Both affect the implementation of new activities in science communication and activities, particularly when directed towards pupils: the integration of new projects or topics into the rigidity of the school system is an arduous endeavour, one which necessitates a largescale integration into the school year and curriculum (DC1-35).

Participation appears to remain a difficulty as science policies continue to argue for the improvement in areas of communication efforts, and thereby the communication of boundaries between legitimate and illegitimate knowledges. Citizens are required to be able to deal with information critically and thus being able to reach conclusions from engaging with these pieces of information: "All members of a society should be capable of dealing with information and backgrounds openly and critically in order to be able to form an opinion for themselves" (DC1-29, p. 29). The onus is on the **responsibility** of publics for being liable for the dissemination of information as active actants in a knowledge society. Additionally, the sharing in responsibilities for a legitimate process of knowledge production within a knowledge society takes place elsewhere as well: in manufactured process of dialogues with "the public" on pertinent issues. As an example: the so-called *Corona-Aufarbeitungsprozess* (DC1-15), a study published in December 2023 by the ÖAW, is structured into two main segments: The first part comprises numerous social scientific case studies, ranging from "polarisation in the media and the public" to "science scepticism"; the second part is a report of a "Dialogprozess" which was held during three weekends in October and November 2023 in every federate district in Austria. During this "dialogue process", the participants were encouraged to voice their reflections on the "Corona-Krise" and work on recommendations for overcoming future crisis situations. As a document, this is a report on the process of reflecting and taking stock of the measures deployed by the Austrian Federal Government to curb the effects of the COVID-19 pandemic, starting in March 2020. In particular, the report on the "process of dialogue" stands out as an opportunity to make various members of different publics heard, and thereby envision a new entity of a public, which is constituted through these various dialogues held as part of the process. In the last part of the workshop, the attendees of "Österreich am Wort" were tasked with formulating recommendations for future crises (non-specified). After digitisation of these recommendations from all participating groups was processed, one week later all attendees were given these recommendations again with the request to prioritise certain recommendations which would be suitable to "reduce polarisation" (DC1-15, p. 125; own translation). Of these 38 recommendations given to the attendees (condensed from the original 185), the report identifies the following two as

the most relevant to the attendees: "transparent and independent sciences and independent media" (p. 137; own translation).[59] The report concludes that although the recommendations were grouped according to the institutions (or "actants", which was the term used) concerned (politics, media, the sciences or "the" public themself), all recommendations are essentially addressed towards political spheres of influence, demanding responsibilities from politicians and demanding resources to be able to change crisis management according to the recommendations. The report illustrates that there are efforts pursued to discuss the role of knowledges in a highly scientised public arena. How these knowledges are discussed becomes most apparent in moments of crisis. The polarisation on account of differing opinions and approaches towards the mitigation of the COVID-19 pandemic, which has been retrospectively identified as detrimental for the conduct of a republic during an active crisis, therefore warrants a careful sociological analysis – the report itself can be seen as an addendum to the document DC1-12.

On a city-level, science communication activities, and thereby the commitment to communicate legitimate forms of knowledges and make their importance visible have been implemented by various actants, as well, although to varying degrees of including diverse publics. In a report (DC1-38) on the status quo of science communication activities in 2021, Ulrike Felt et al.[60] qualitatively assess the distribution of activities and make recommendations for the future direction of politics in positioning science communication as a salient part of a city's public image. These recommendations are made to support the aims of the coalition agreement of the then current and currently presiding (March 2024) municipal government: An important part of this coalition agreement is to further the City of Vienna as an economic and scientific location, an endeavour in which science communication is identified as crucial. The report postulates that the narratives about the sciences, which are transported by these activities carry significant weight within "science and innovation centric societies" (DC1-38, p.6; own translation). These recommendations focus on improving the accessibility of these activities, regardless of the language-barrier, socio-economic background, time-constraints, or age barriers which might occur. The authors structure their analysis according to eight dimensions (where, whom, why, what, how, who, when, who is providing the financial resources). The reason "why" institutions practice science communication illustrates a common self-understanding of institutions for pursuing politics of demarcation at all: "To remove a perceived divide / a potential mistrust between science and society; […] to enshrine a positive picture of science; […]; to secure future scientific personnel; […]; to empower citizens" are some of

[59] In the following, the report draws attention to its case study on "science scepticism", which determined that scepticism does not arise due to an inherent rejection of scientific methods but due to the perception that the sciences and politics & economy are intertwined.
[60] Disclosure: I was involved as a research assistant in the production of this report.

the reasons identified among others. In terms of situating this report in the issue formation of politics of demarcation gaining traction in the examined time frame, it is significant that this report was followed up by a funding call (DC1-39; own translation) by the City of Vienna, welcoming applications for the funding of projects which have the following purpose: "The aim is to foster a better understanding of the public of science and the processes behind it and therefore an increased trust in fact-based knowledge. This development is to be encouraged by a critical stance against pseudo-knowledge" (DC1-39, n.p.; own translation). This funding call, however, was not institutionalised, meaning funding was only distributed in the year 2021. In 2015, the *Joanneum Research Policies* issued a report entitled *Landkarten der Wissenschaftskommunikation – Bestandsaufnahme unterschiedlicher Formate der gesellschaftlichen Vermittlung von Wissenschaft, Forschung und Innovation* (DC1-40).[61] The authors mention the limitation of this study: children and young adults, with a focus on science communication activities for the STEM disciplines. The study is situated in the context of the importance of the sciences, as due to societal changes, the role of science communication is to reflect on these changes and secure future workforces (DC1-40, p. 5). Further, as the sciences play a leading role in the economic constitution of a state, the lack of these discourses about the sciences would threaten "innovation potentials" (DC1-40, see p. 6). The study concludes that there are major regional differences in Austria in the offer of activities and the frequency of activities; a continuous institutionalisation of science communication activities, particularly in the funding strategies, are lacking. In addition, the *Austrian Research and Technology Report* (DC1-22) illustrates the pervasive way in which the production of knowledge in research and development (R&D) is conceptualised through the lens of *innovation*. The report demonstrates succinctly the economic dimension of most politics of demarcation: scientific output is supported and thus funded as it pertains to the utility for innovative knowledge politics, sustaining multiple sectors of industry.

However, it continues to prove difficult to achieve the required level of inclusion that would be necessary for a stable *knowledge democracy*. The 2022 *Demokratiemonitor* report concludes similarly that curbing the crisis of **representativeness** in democratic participation is necessary, and that a focus should be put on establishing more transparent processes, and to work towards engaging all of those who are affected by democratic processes (see DC1-19, p. 28). The report questions whether the focus on opportunities for participation is even effective in engaging those who are not yet politically engaged, as those segments of the public will remain largely disengaged if not already engaged. Instead, the report reinstates that there should be efforts to improve *representativeness* in political processes, as it is suggested that improving these relations would

[61] English: "Maps of science communication. A survey of different formats to communicate the societal communication of science, research, and innovation".

advance the issue of non-participation and even animosity (see DC1-19, p. 28). Similarly, Klaus Taschwer suggests in our interview that the focus of universities and research institutions should be focused on the obligation to engage in science communication beyond third mission commitments, as he questions the efficacy of the heavy focus on university PR activities to engage publics. Further, Taschwer mentions the increased 'scientification', meaning that the sciences play a bigger role in everyday lives of contemporary publics, simply because the degree of scientification of societies has steadily increased (see EI-2, pos. 44). Expressions of disinterest or perceived ignorance from publics, then, are likely estimated as being more detrimental. This perceived harmfulness extrapolates from the understanding that the sciences touch most relevant areas of contemporary societies today, and are indispensable to tackle problems such as pandemics, climate change, etc. Helga Nowotny, for instance, postulates that there needs to be a drastic rethinking in how communication on the sciences and other legitimated knowledges is facilitated: More focus needs to be put on conveying to publics how the sciences might be able to solve certain societal problems (DC1-10, p. 12).

The issue of empowerment is therefore of interest to institutional knowledge practices, for instance through the development of **self-agency and self-confidence** in pupils. In education policies, the aim is to facilitate pupils to become political agents and therefore self-sufficient publics. In a project at the *Demokratiezentrum Wien*, for instance, the ramifications of conspiracy theories surrounding the death of Austrian politician Jörg Haider[62] are discussed. The materials provided for use in educational settings encourage pupils to reflect on the ways in which these alternative conspiratorial, explanations of Haider's death can be exploited for the continuation of the personality cult during his lifetime (DC1-31, pp. 12-13). Thereby, this didactic material is rooted in sharpening media literacy skills. Further, the material encourages participants to consider the intentions behind why certain pieces of information or knowledges are disseminated. Rather than condemning bodies of information as illegitimate or legitimate, the focus is on highlighting the contentiousness of these conspiracy theories and their potential for causing harm. The aim is to create awareness of the contentiousness and impacts of these knowledges. By highlighting the pervasiveness of the tendencies of conspiracy theories (and other illegitimate knowledge practices) to undercut democratic principles, this didactic material (as well as DETECT, which I discuss in 6.2) follows the principle of instilling confidence in democratic processes. This approach speaks to other documents, for instance the document DC1-29. In this strategy paper, the argument is brought forth that "if a society can firmly trust in its democratic system, this confidence can serve as a fundamental protective shield against extremism in all its various manifestations. If citizens are given the

[62] Jörg Haider was a party member of the far-right Freiheitliche Partei Österreich (FPÖ), twice the governor of Carinthia, as well as founder of the Bündnis Zukunft Österreich (BZÖ), a splinter-group from the FPÖ, in 2005. He died in a car accident on 11.10.2008 (Parlament Österreich, n.d.).

opportunity to actively participate in democratic processes, extremist tendencies can be proactively counteracted" (DC1-29, p. 16). The *Beratungsstelle Extremismus* frames this in the context of a holistic "Lebensweltorientierung" (eng. "lifeworld orientation"), which centres on addressing all facets – material experiences, emotional wellbeing etc. – and giving space to their expressions. Media literacy is given prevalence in this context as "Online-Welten" (eng. "online worlds") have become part of the daily lives of most people; by strengthening media competency (discussed 5.2.), it is posited that the dissemination of "polarising, misanthropic and extremist" content can be prevented (Beratungsstelle Extremismus, 2020, p. 2; DC1-41; own translation).

6.1.6 Summarising Words

The analysis of the first data cluster has shown that there is an awareness of the plethora of different contexts within democracies in which people find themselves able and called on to respond to knowledges which are deemed illegitimate (i.e., harmful).

The issue of trust is pertinent as trust is understood as a prerequisite for the correct procedures of institutional knowledge politics. The adherence to illegitimate knowledges such as conspiracy theories, which are positioned as detrimental illegitimate knowledges based on mistrust, is problematised due to its effect on the relations with democracies. The issue of **distrust** and **disinterest** has been grouped together due to its relatedness within the data analysed. Both distrust and disinterest are positioned as threats to the realisation of institutionalised, legitimate knowledges or democratic ideals (which is hindered by extremism); for instance, unease with certain scientific developments has been discussed as a risk factor for the conduct of knowledge politics. In addition to the issue of distrust in legitimate knowledges such as the sciences or political practices, disinterest appears as an issue for the labour market: disinterested publics are not engaging with the knowledge economy in an adequate manner. As the notion has materialised that the engagement with legitimated knowledges does not necessarily correlate with levels of trust, just as disinterest does not automatically correlate with distrustfulness, the rationale of initiatives such as TruSD are complicated. Relatedly, the formation of (science) **scepticism** as an issue started with a broad scale diagnosis of large segments of publics on account of a few events, only to be discussed more narrowly and in a nuanced manner in documents which followed. Subsequently, both positive and negative interpretations of the notions of scepticism were integrated in the discussion, culminating in an analytical (preliminary) endpoint: Scepticism, as it pertains to the polarisation of segments of publics and promotes a sentiment of rejection and disinterest, should be curbed by institutional politics of demarcation. In the issue of **extremism** and **harmful group-dynamics**, diverse illegitimate knowledges are demarcated during politics of demarcation: first, conspiracy theories, is demarcated on the ground of being a belief rather than a coherent theoretical concept, and further

based on their proximity to populist sentiments, which include anti-knowledge ideals, and negatively affect institutional knowledge politics. **Material** and **temporal** barriers are referred to as an issue in practicing politics of demarcation for a variety of reasons, such as the belief that knowledge politics necessitate long-term engagement to develop and are thus cited as hindering the realisation of the **empowerment** and **inclusion of publics.**

6.2 Constituting Engaged Publics

The following second data cluster traces the issues in the data which address the issue of knowledge and information which emerge in engaging publics. The data addresses how to adequately equip publics with skills and tools to navigate modern information systems. As such, this cluster of documents diverges in one crucial aspect from the previous data cluster: these documents highlight how knowledge and information literacy is essential in constituting engaged publics, and which issues emerge which can be identified that harm the constitution, evolution, and development of these publics.

6.2.1 The Issue of Knowledge and Information Literacy

The issue formation in documents which discusses the issues of knowledge and information literacy argumentatively structures into two segments: First, the publics which engage, disengage or inadequately engage with various types of information; and second, the (in)adequacies of the information systems in general. Thus, both the resilience of publics against manipulation, biases, and inaccurate information is evoked (ultimately, this resilience should yield as a protective shield), but also how information systems contribute to knowledge politics.

Frameworks such as the *Dig. Comp 2.2.: The Digital Competence Framework for Citizens* provide a manual of competencies which are necessary for citizens to be equipped with to deal with the challenges of digitisation. The ability of managing (digital) data is put into close relation to the identity of a citizen. Further, the identification of potential gaps in knowledge and competencies, as well as being able to close these identified gaps and "keep up-to-date with the digital evolution" (European Commission, 2022, p. 49; DC2-1), is argued for as essential. Specifically, five main competence areas are listed: 1. Information and data literacy, 2. Communication and collaboration, 3. Digital content creation, 4. Safety, 5. Problem solving. In 2019, the European Commission interpreted "digital competence" as a "key competence", defining it as follows: "Digital competence involves the confident, critical, and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society (European Commission, 2019, p. 10; DC2-2). For understanding how institutions such as the European Commission partake in institutional politics of demarcation, the first competence area in the *Dig. Comp 2.2* needs to be looked at more closely: In

1.2 Evaluating Data, Information and Digital Content, the focus is on the citizens to evaluate the information they encounter, recognise, detect and assess relevant sources of data. Further, the dangers and challenges of digitality are integrated into the understanding of citizenship, necessitating an **'active digital citizenship'.** By combining *active* and *digital*, the necessity of the acquisition of new skills ("active") is integrated into the notion of citizenship itself. Thus, the notion of citizenship is inextricably linked to the *digital*. One area of competence discusses "engaging citizenship through digital technologies", which positions active citizenship as interlinked with skills of navigating the digital services as a prerequisite to participate in contemporary society (DC2-1, p. 19 onwards). Media literacy, therefore, is consistently positioned as indispensable to the constitution of citizenship, which includes certain demands placed on publics to educate themselves and be aware of knowledge production in the digital realm. By positioning these skills as essential to the understanding of the modern citizen, it becomes obligatory for publics to be able to assess the veracity of information themselves.

Apart from acquiring the necessary skills, navigating these information systems is further intricately linked to the development of personal trait marks. Civic educational programmes, such as *DETECT – Enhancing Digital Citizenship*, for instance, facilitate the learning of these skills by making "democracy accessible". This means that publics are taught the tools of democratic practices, which in turn should provide them with the necessary confidence to envision themselves as publics with agency within democracies. Notions such as resilience and being active agents are intricately linked to publics which can navigate modern information landscapes safely by way of their resilience in the face of adverse actants (in the sense of an 'active digital citizenship') (DETECT, 2021a, p. 5; DC2-3). *MediaManual*, an initiative to build media literacy skills in Austrian pupils, further equates media education/training for media literacy to *character formation* (German: 'Persönlichkeitsbildung') (DC2-4): To ensure the success of this media education, character attributes such as *self-efficacy* ("Selbstwirksamkeit") are identified as a prerequisite. This means that in civic education, which is often concerned with information literacy, the primary aim is to equip publics with competencies which make them autonomous, active citizens, who can assess information and reach maturity to act accordingly to this competency. As Arne Schrader (EI-3) from the *Demokratiezentrum Wien* expresses in our interview, if civic education is conducted well, it should be able to provide tools for pupils/citizens which they can use to navigate within knowledge systems:

> If you follow along a few principles of civic education, then those are, in my opinion, those which have the goal in mind to yield mature citizens, someone who independently and autonomously grapples with political topics, who forms their own opinions about it, and who exhibits agency (EI-3; pos. 8; own translation).

Therefore, the focus is on sensitising citizens to the fact that some beliefs and sentiments encountered in a diverse media landscape ought to be critically reflected upon and assessed according to certain criteria.

The responsibility does, however, not solely rest on the pupils: *SaferInternet.at*, an initiative which provides instructional materials for school settings and teachers, identifies teaching staff as often being identified as responsible for inadequate information literacy: "If a person who is in the process of doing their Matura does not know how to find a good source on the Internet and how to cite it, then this reflects on the supervising teacher. […] Digital Natives are, just like any other Internet users, challenged to continue learning"(Saferinternet, n.d, p. 5; DC2-5). *SaferInternet.at* has been realised within the framework of the Digital Europe Programme, the initiative assists with materials to enable the acquisition of information competencies and ensures the Austrian development and compliance to this programme. This progress is documented in the report "Bericht über die Maßnahmen zur Förderung und Entwicklung von Medienkompetenz", in which the *Kommunikationsbehörde Austria*[63] reports on a) organisational measures as well as b) awareness raising measures ('Sensibilisierungsmaßnahmen') (KommAustria, 2023, DC2-6). As part of the latter, the report lists the yearly *Media Literacy Week*. Having been hosted by *MediaManual* for 23 years, as of February 2024, the initiative was no longer supported by the BMBWF and instead integrated into school curricula by way of a new mandatory subject called *Digitale Grundbildung* (mediamanual, 2024; DC2-7). Partly, this decision was attributed to the newly issued *Medienerlass* (Bundesministerium für Bildung, Wissenschaft und Forschung, 2022b; DC2-8), which further integrated media literacy and competency training as part of enforcing the *Media Literacy Guidelines* by the EU, which centres media literacy in the following manner:

> Media-literate people are able **to make informed choices**, understand the nature of content and services and **take advantage of the full range of opportunities** offered by different communication technologies. They are better able to **protect themselves** and **their families** from harmful or illegal content. Media literacy can also serve as a valuable **tool of combating the spread of disinformation** by enabling users to critically assess the source of information and thus detect false or misleading content. […] Media literacy therefore **empowers people to participate in a more open and informed democratic debate** (European Commission, 2023, p. 1; DC2-9; own emphasis).

As a legislative communication from the (European) commission, member states of the European Union are obligated to report to the commission on their progress and all the steps taken to ensure the promotion of media literacy standards which are mandated in the policy document.[64] Since 2014,

[63] The KommAustria is an "independent controlling and regulating authority free of instructions for the electronic audio-visual media in Austria" (RTR, n.d.; own translation).

[64] These sections are included in the report: a. *Legal and/or policy measures* […], b. *Organisational measures*, c. *Public funding and other media literacy financing arrangements*, d. *Engagement and awareness-raising activities*, including media literacy curricula, e. *Evaluation measures and methods*.

this **critical assessment** of mass media includes raising the awareness that users of the Internet are encouraged to be consumers by mass media as well, however these possibilities also enable new spheres of influence in participating "in economic, political and cultural life" (DC2-8, p. 3; own translation). This critical assessment includes an awareness and reflection of the intentions of communication, and an acute understanding of the impossibility of value-free communication.

Further, the already mentioned report DC2-6 highlights the initiative *German Austrian Digital Media Observatory* (GADMO). GADMO is part of *European Digital Media Observatory* (EDMO), which "works to strengthen and enable collaboration among a multidisciplinary community of stakeholders tackling online disinformation", as stated on their website (EDMO, n.d.; DC2-10). GADMO describes itself as:

> the largest anti-disinformation alliance of fact-checkers and academic researchers in Germany and Austria. We provide the central platform for fact-checks in German. Our team observes and researches disinformation campaigns, their spread and possible countermeasures by large technology corporations. Furthermore, we actively strive to improve the media literacy of internet users in Germany and Austria" (GADMO, n.d_a.; DC2-11).

GADMO unites campaigns against disinformation, media literacy, and actively partakes in the demarcation of knowledges by issuing fact-checks themselves. Their resource "So wirst du zum Faktencheck-Profi, Kapitel 2: So erkennst du Desinformation" (eng.: "How you can become a fact-check expert, Chapter 2: This is how you spot disinformation") highlights that constructing emotional slogans is an important aspect in the dissemination of illegitimate knowledges, listing this aspect in the first place of their recommendations how to ascertain illegitimate knowledges such as disinformation (GADMO, n.d._b; DC2-12).

Once made 'information literate', these educational programmes convey the hope that these publics are then prepared to engage with illegitimate information in a critical manner. Rather than solely highlighting the benefits of this information literacy for the individual, but as collective responsibility, the following sentiment is imparted as part of the *DETECT – Enhancing digital literacy programme*: "It is important to recognise disinformation, on the one hand to prevent being manipulated yourself, and on the other hand to avoid further dissemination of disinformation in social networks." (DETECT, 2021b, p. 8; DC2-13). Thus, the issue of information literacy identified by institutional politics of demarcation links seamlessly to the issue of disinformation.

6.2.2 The Issue of Disinformation

In the following subchapter, I ascertain how the issue of disinformation (2.2.1) is constituted, and its effects are problematised and negotiated within the data. Accordingly, I trace different initiatives and policy papers which define the issue of disinformation and offer approaches towards curbing the effects of disinformation on diversified information landscapes and the publics who use them.

Actants such as the EU express the worry that disinformation campaigns (from non-state and state actants both inside and outside of the EU) threaten democratic processes during and after election processes. In the *Actionplan against Disinformation*, issued by the European Commission, the identification of danger occurs concurrently with the naming of specific actants (e.g., the Russian Federation), as well as stating clear mandates which aim to tackle this threat with diverse systems of tools and strategies (European Commission, 2018, DC2-14). Hence, their argumentation to prevent disinformation campaigns is rooted in the worry that disinformation contributes to jeopardising democratic processes such as elections. The ability to access information which is not disseminated to intentionally mislead is identified as essential for the opinion formation of European citizens. Disinformation, then, significantly jeopardises this process of democratic opinion-formation and threatens the European Union "as a whole" by threating each individual Member State (DC2-14, p. 2). Once identified as a crucial security concern, the policy paper addresses the efforts pursuits to tackle the challenges and threats to an increasingly digital network of information and communication (i.e., EU), as can be seen in the pillars outlined in the action plan:

> (i) improving the capabilities of Union institutions to detect, analyse and expose disinformation
> (ii) strengthening coordinated and joint responses to disinformation
> (iii) mobilising private sector to tackle disinformation
> (iv) raising awareness and improving societal resilience (DC2-14, p. 5).

For (iv), the action plan demands that "Member States should rapidly implement the provision of the revised Audio-visual Media Service Directive requiring them to promote and develop media literacy skills" (DC2-14, p. 10). In this directive and further in DC2-9, prominence is given to disinformation, both on an individual level as well as a technical one. As pertains to the latter, the necessity of the protection of oneself and one's family is evoked by being media-literate:

> They are better able to protect themselves and their families **from harmful or illegal content**. Media literacy can also **serve as a valuable tool** of combatting the spread of disinformation by enabling users to **critically assess the source of information and thus detect false or misleading content**, […]. Media literacy therefore empowers people to participate in a more open and informed democratic debate (DC2-9, p. 1; own emphasis).

Media literacy, in this excerpt, is related to the ability to participate in informed democratic debates. Further, the communication refers to the *European Democracy Action Plan* (EDAP) and the *Media and Audiovisual Action Plan* (MAAP), highlighting that the need for media literacy is "recognised" in both plans; as such, the ability to navigate complex information systems is recognised both in relation to **democratic ideals** as well as to the **technical systems** which undergird the information systems in which these ideals are negotiated: "Media literacy should not be limited to learning about tools and technologies, but should aim to equip people with the critical thinking skills to exercise judgment, analyse complex realities and recognise **the difference between opinion and fact"** (DC2-9, p. 1, own emphasis). The ability of differentiating between "opinion and fact" is highlighted a

prerequisite to be able to deal with disinformation as well. This directive directly shapes national laws such as the already mentioned DC2-8, as it provides the foundation of any implemented measures in school curricula.

Returning to DC2-14, the fourth pillar states the utility and importance of fact-checkers, as these "multi-disciplinary independent fact-checkers and researchers with specific knowledge of local information environments to detect and expose disinformation campaigns across different social networks and digital media" should be supported (DC2-14, p. 11). In Austria, there are a number of organisations which do some form of fact-checking: news organisations such as *Profil* (Factiv), the *Austrian News Agency* APA, organisations such as *Mimikama*, *BAIT* (organisation DIGITALER KOMPASS), or initiatives such as *Medizin Transparent* (Universität für Weiterbildung Krems). Of these organisations and initiatives, APA and *Medizin Transparent* are current signatories of the *International Fact-Checking Network* (IFCN),[65] which means that they must adhere to a *Code of Principles*. Fact-checking practices are checked by this network, ensuring that standards of accountability, criticalness, and ideological independency of organisations which issue fact-checking statements are met and adhered to. The "key goals" of the IFCN *Code of Principles* are:

> 1. To ensure users see and understand how the organizations operate, and do not have to take their word on trust
> 2. To ensure fact checks are done in such a way that users can replicate the fact checks for themselves
> 3. To thus assist the fact-checking organizations to earn trust; helping to distinguish them from other partisan actors. (IFCN, n.d., p. 3; DC2-15)

The reason for media outlets such as the *Austrian Press Agency* (APA) to issue fact-checks can be found in the concerns raised about the effects of disinformation on their immediate readership. The APA issues fact-checks due to the increased risk of disinformation campaigns and the aggravated possibilities of dissemination due to technical advances (see DC2-16). Further, these fact-checks provided by APA should transparently demonstrate to the readership the process of weighing information and journalistic processes of assessment while navigating diversified information landscapes. APA also adheres to its own rules of correction if errors occur during these fact-checks. These corrections are issued to prevent misunderstandings which could also lead to harm; the objective is to communicate a transparent journalistic practice (see DC2-17). Medizin-transparent, an initiative which was mentioned during the interview with Ulrike Schiesser, on the other hand, issues fact-checks and discussions specifically on biomedical issues and contentious media discussions of medical issues. Their aim is to fact-check myths disseminated through media or advertising. Their *Methodenpapier* (eng.: "method paper") illustrates their approach: apart from

[65] Both are also verified by the *European Fact-Checking Standards Network* (EFCSN), the verified members can be found here (last checked: 29/06/2024).

issuing fact-checks and discussions when specific issues are brought to the teams' attention, they also cover health-related issues which have garnered media attention: "In every article published by Medizin-transparent we try to answer one or more questions raised by claims in the media, on the Internet or in advertising, as well as by disseminated health myths" (Medizin Transparent, 2018, p. 7; DC2-18; own translation). Disinformation is sought to be rectified by levelling the playing field: assessments are made according to different parameters, which are transparently communicated, and the results are transparently communicated on their website, with a clear indication with how much certainty or uncertainty each assessment has managed to prove or disprove of the "myth" (ranging from "possibly" to "probably not"). Medizin-transparent also adhere to the guidelines *Empfehlungen zur Verbesserung der Gesundheitskompetenz in Österreich* (DC2-19), by the platform *Österreichische Plattform Gesundheitskompetenz*, which are focused on facilitating a joined effort to improve Austria's health literacy. Health literacy, in this context, means honing and advancing digital (health) competencies of publics to be more resilient in the face of illegitimate health information that might be spread by different actants. As such, these guidelines recognise the diversified information knowledge systems, in which illegitimate and legitimate knowledges compete and which publics need to navigate.

6.2.3 The Issue of Diverse Knowledge and Information Systems

As media and information systems have become increasingly digital or enhanced by digital gadgets during the period of growing prevalence of the Internet, adapting pedagogical methodologies in a timely manner has reached unprecedented levels of difficulty. At the same time, notions about the importance of digitality have shifted: once considered only an adjacent element to many segments of public life, digitality and the skills associated with software are now considered a *central* feature of contemporary societies. Therefore, in the following subchapter I focus on tracing the issues identified of this changed aspect of information systems, and how this new landscape is arguably affecting institutional politics of demarcation.

The attributes of the Internet which are highlighted as positive – endless possibilities to share information, store information, and disseminate information – can become a potential problem if these attributes are used to propagate fear to support other aims: Due to the sheer capacities of preserving information, initiatives such as DETECT critically discuss the engagement and dissemination of harmful (i.e., illegitimate information) (for instance, DC2-3, or DC2-20). To navigate these information systems meaningfully has become increasingly difficult for publics. This is aggravated by the fact that publics can disseminate information themselves and 2) the amount of information and knowledge disseminated, as this didactic material by *SaferInternet* suggests: "Due to the possibility of not only retrieving information, but to publish information yourself, the extent of

available information rises continuously: For every topic or term, hundreds, thousands, indeed, millions of online sources exist. Filtering suitable information from this quantity becomes increasingly harder“ (DC2-5, p. 4; own translation). Similarly, an information campaign on the consequences of disseminating ‘fake news’ by the City of Vienna discusses explicitly that publics have a responsibility to not engage with fake news and disseminate it further. The information piece states, in the section on what anyone can do to help prevent the effects of fake news from taking off:

> The most important thing is that you do not contribute to the spread of fake news. This means that you should not comment on, like, or disseminate it further. In addition, you can report fake news to the respective social media platform or turn to initiatives such as Mimikama. In individual cases, it can be effective to comment on fake news, to alert others that the piece of information is false. Contacting friends and acquaintances, who share these posts directly might be even better. Thereby, the post does not reach any more engagement. (Stadt Wien, n.d._b; DC2-21; own translation).

The informational piece clearly attributes roles to publics: 1. Do not spread fake news further and 2. Intervene and take on the responsibility to make others aware of this fake news by contacting fact-checking initiatives such as Mimikama and people you know privately if you see them spread fake news. As such, publics are assigned definitive roles of conduct in these newly diversified information landscapes. Phenomena such as filter bubbles[66] amplify the effects of fake news even further: filter bubbles signify the formation of like-minded online spaces through algorithmically filtered information bubbles, which occur through the selectively sorted filtering of information based on user behaviour (Scheufele & Krause, 2019). In DC2-3, it is suggested that these filter bubbles, due to creating an environment geared towards the user, foster confirmation bias. [67] The result is the separation between different groups:

> These filters approach the users and are difficult to avoid (Pariser, 2011, 9). Vivian Rose (2018) further argues that these filter bubbles promote confirmation biases, and enlarge the segregation between different groups of people, because users are lumped together in interest groups (326).” (DC2-3, p. 19; own translation).

The formation of digital communities based on user behaviour is ultimately problematised, also because these digitally mediated phenomena are increasingly difficult for the individual to spot and navigate in a way that is mindful of the active position of each and individual Internet user: inherent in campaigns such as the one on fake news from the City of Vienna and DETECT is the understanding that publics occupy these spaces as prosumers of information and knowledge (see Introduction).

Documents such as DC2-8 acknowledge that the formation of political judgement (“politische Urteilsbildung”) is vastly influenced by digital spheres. This means that didactic approaches of civic education are tasked with the feat of considering the specificities in which digital (information)

[66] The Merriam Webster dictionary defines “filter bubbles” as “an environment and especially an online environment in which people are exposed only to opinions and information that conform to their existing beliefs” (Merriam-Webster, n.d.).
[67] In DC2-3, it is phrased in the following manner: “This means that we rather trust information which tends to support our own worldview and adheres to our political and cultural values than opposing information.” (p. 21)

systems contribute to knowledge acquisition and the dissemination of these knowledges. Already in 2014, it is argued by the *Bundesministerium für Bildung und Frauen* that these realities must be reflected in didactic approaches: "The share of media in the world and the perception on it increases steadily – a new dimension developed in accord with highly developed technologies. […]. Pedagogy is required to be media pedagogy at the same time" (Bundesministerium für Bildung und Frauen, 2014, p. 1; DC2-22; own translation). If reality is increasingly mediatised and digitised, pedagogical approaches necessarily need to reflect these realities, i.e., shift from understanding pedagogy also as media pedagogy.

Mediamanual.at, which was the host of the annual "Media Literacy Award"[68] from 2001-2023, expressed succinctly what "information literacy" must entail, and how (new) media and technologies influence this understanding: "We need media literacy to be able to choose between different media, to be able to critically assess content and information and to be able to communicate throughout diverse media" (DC2-4, p. 1; own translation). Apart from technical competencies which includes being able to handle digital technologies, the aim is to make possible that publics can deal with the specificities of information which is disseminated digitally as well, as Arne Schrader puts it in our interview: "On the one hand, media literacy, meaning how I can handle these tools, on the other hand, 'digital possibility', meaning how I can navigate the Internet, and I am capable of recognising threats like anti-democratic sentiments such as conspiracy theories relatively quickly" (EI-3, pos. 20; own translation). Maturity and self-sufficiency in dealing with information in the digital sphere is thus the end goal. This is achieved in a two-step process: 1) the acquisition of knowledge about the technicalities of utilising these spaces, and then how legitimate and illegitimate knowledges permeate these spaces, and how to deal with these polarities.

The demarcation of knowledge cannot be achieved by focusing solely on the facticity of the information that is disseminated. In **assessing the veracity of information**, it is often necessary to ask additional questions, as it is formulated in DC2-5: "To assess the trustworthiness, it is helpful to ask oneself: Who issued this information? How is the content presented? What is the intention behind it? What is the general impression? Where does the information come from?" (DC2-5, p. 14; own translation). In asking these questions, extra-textual information is assessed. The focus is put on ascertaining whether the process of knowledge creation can be trusted in general. The veracity of the knowledge assessed is an additional feature in these considerations, but not the only one. The demarcation of knowledge is therefore often not done by assessing the information oneself, but by

[68] A description by the *Bundesministerium für Arbeit und Wirtschaft* of the award can be found here.

looking at the credentials of the person or institution who has disseminated the information themselves.

6.2.4 Summarising Words

By tracing how knowledge and information literacy, disinformation, and the issue of a diversified information system are evoked as issues in relation to the engagement of publics in knowledge politics, I have identified the following sensitivities which contribute to argumentation that the demarcation of illegitimate knowledges from institutionalised, legitimate knowledge is pertinent:

1. A general commitment to **strengthen knowledge societies through education in knowledge and information concerns**, an endeavour which intrinsically links citizenship with notions of resilience in the face of a diverse information landscapes,
2. A concurrent **revision of the notion of citizenship and the demands placed on citizens** in modern knowledge and information systems,
3. A consideration of the **effects, challenges, and pitfalls of contemporary knowledge and information landscapes,** which indicates a necessity for continuous adoption and development of strategies on how to approach institutional politics of demarcation in light of new challenges and responses by governmental, non-governmental and civic entities.

7. Discussion

In the following, I discuss the issues that have emerged during the analysis of the data. I structure the discussion according to the three sub-questions: In 7.1, I discuss the most salient issues encountered in the issue formation of institutional politics of demarcation in Austria in the timeframe between March 2022 and December 2023. Hence, I answer the first sub-question: "Which issues can be identified that establish the need to demarcate between legitimate and illegitimate knowledges?" In 7.2, I discuss how publics and their duties are constituted in the issue formation as well as how recurring demands are placed on publics in a contemporary Austrian knowledge society. By addressing these questions, I answer the second sub-question: "How are different publics constituted during practices of institutional politics of demarcation, and how are their duties within a knowledge society established?" Finally, in 7.3, I discuss the different approaches of institutions and examine their self-understanding in practicing institutional politics of demarcation: "How does the self-understanding of institutions contribute to how they practice institutional politics of demarcations?" I connect my empirical findings, where applicable, to findings in the literature, and discuss them through the lens of my theoretical frameworks of both epistemic communities as well as boundary work and boundary objects.

7.1 The Issue Formation: Emergent Issues during Politics of Demarcation

I start by discussing the first sub-question: **"Which issues can be identified that establish the need to demarcate between illegitimate and legitimate knowledges?"** In the literature review, I traced how information and knowledge have become ubiquitous to (European) societies, and how this has affected the institutions which constitute these societies. In my case study, I analysed Austrian politics of demarcation between March 2022 and December 2023.

7.1.1 Level of Scientification of Knowledge Societies

During the data analysis, the epistemisation or a "scientification" (German original: 'Verwissenschaftlichung') of arenas in Austrian knowledge production – arenas which had previously not been constituted by knowledge – crystallised as a significant feature during the practices of institutional politics of demarcation. In the process of epistemisation, value questions become *epistemic questions*, which aids in being able to reach conclusions of these questions through the consultation of expertise, knowledge and experts (see 2.1.5, and Bogner, 2021). For one, the level of epistemisation of societies is reflected in the issues which are then integrated into arguments of legitimate knowledge. For instance, if the Austrian job market hinges on highly specialised workers of which a high level of academic education and commitment is required to perform well, arguments

for the legitimacy of knowledge workers are integrated in institutional politics of demarcation by arguing for the continuation and maintenance of a knowledge society. As such, the Austrian citizenry is encouraged, explicitly as well as implicitly, to participate in legitimate processes of knowledge production (see DC1-9). In turn, the production of legitimate knowledge in a scientific society becomes salient to an extent that illegitimate knowledges actively challenge the stability of entire national and transnational constructs. Consequently, the duties of publics in these epistemised arenas are increasingly manifold: they need to possess the ability to navigate these systems, showcase flexibility in dealing with technologies and software, demonstrate an aversion to disseminate harmful knowledges, and to participate actively in knowledge societies.

7.1.2 Inability to Interact Meaningfully with Diverse Knowledge Systems

In 1985, the Royal Society, a learned society in the United Kingdom, synthesised the role that mass media plays in systems of knowledge in the following manner: “The mass media are a powerful influence on public understanding of science. The scientific community and the media work in very different ways and are, on the whole, often **ignorant** of each other’s procedures and constraints” (Royal Society, 1985, p. 33; own emphasis). In 2.1.6, I used this report as an example to illustrate the advent of a shift in understanding how publics should be implicated in knowledge systems. During the course of the last decades, due to numerous instances, for instance the recent COVID-19 pandemic, or developments to the set-up of information landscapes such as a pervasive digitality in communications (K. Collins et al., 2016; Haythornthwaite, 2005), the demand is placed on publics to actively participate in these information landscapes. These landscapes are structured by institutional politics of demarcation which provide the framework for participating in these knowledge systems. An unobstructed flow of knowledge and information, even within cultures that demand a high degree of knowledge production from its publics, represents a distinctly two-sided and difficult endeavour: on the one hand, it is important for publics to express their opinions and concerns, to participate in knowledge production. On the other hand, if the amount of knowledge and information becomes too ubiquitous and ever-changing, it also becomes increasingly harder for publics to assess knowledge and information in a timely manner (DC2-13). The difficulty of processing information in a meaningful manner stands in oppositions to the expressed hope that the Internet, and in particular, the access to knowledge and information would usher in a period of democratisation of information access, presenting a net positive development (UNESCO, 2005). A (policy) shift has occurred from advocating for providing everyone Internet access (European Commission, 2008) to demanding the necessary skillsets to navigate these information communication systems safely and to be able to assess knowledge and information oneself (DC1-7). As such, the disengagement from or even the showcasing of mistrust of the knowledge systems

which facilitate information and knowledge production is identified as harmful. Behaviours which could signify being overwhelmed (conspiracy theories), lack of access to educational materials (media literacy) or value concerns by publics (which then concentrate themselves in expressions of political or scientific extremism) are only engaged within institutional politics of demarcation insofar as they present a barrier which needs to be overcome. I posit that the practices of institutional knowledge politics are not equipped to negotiate some of the concerns which affect publics. To the contrary, institutional politics of demarcation might even hinder the engagement with these concerns, as the rationales of legitimate knowledges are geared towards the preservation of institutions, and not publics. The primary aim is to maintain the trust/interest of publics to keep their self-engagement high which is necessary for the maintenance of knowledge societies. The concerns of publics, which affect how they maintain their engagement with these knowledge politics, remains vague at best and inconceivable at worst. To include these concerns in the conduct and practices of these knowledge politics would necessitate a reworking of institutional processes and procedures. Instead, the more actionable approach taken in the observed timeframe is a focus on the importance of stable trust and interest levels in institutions. As a lack of trust and interest has been identified (DC1-9, DC1-10), these issues are integrated accordingly into the rationales to practice institutional politics of demarcation. One reason for this is the fact that stable levels of trust are expected to uphold a citizenry's ability to interact meaningfully with the systems which shape their lives and are vital for the legitimation of knowledge production of various stakeholders. Not only is **trust** in structures such as the political system important for adequate engagement (DC1-19), but a **provisional extension of trust** is also necessary for the operation of processes of infrastructures such as education, healthcare, or administrative affairs to proceed seamlessly. Therefore, when a large group of people refuse participation in these institutionalised rules, a politics of demarcation seeks to reestablish clear boundaries between legitimacy and illegitimacy and to reinstate trust levels. The causes of the issue of media literacy, or lack of ability to engage with these diverse knowledge and information systems also remains elusive in the data; apart from the identification of the issue per se, no salient engagement with the multiple causes have been integrated into institutional politics of demarcation in the observed timeframe. Instead, the core *responsibilities* of low trust levels are attributed to publics. As a result, the responsibility of publics to adhere to legitimate knowledges is enforced as well. However, there is reason to believe that this approach, which adheres to demarcating accurate from inaccurate, legitimate from illegitimate knowledge, might be unhelpful in adequately addressing the realities of encountering knowledge in the twenty-first century. For instance, Massimo Bucchi (2017) discusses the challenges that practicing science communication encounters in a rapidly changing information landscape and draws attention to the fluidity of science

communication in the digital information age. In doing so, Bucchi questions how useful the notion of *accuracy* (for knowledge, information etc.) still is: "We probably need a new notion of accuracy; we certainly need a broader notion of quality, encompassing not only accuracy but also openness to scrutiny and dialogue, independence and fairness" (Bucchi, 2017, p. 891). Bucchi identifies that the duty to communicate accurately falls to the researchers and their institutions themselves, while they might struggle to deal with the communicative challenges in which science communication primarily takes place: in digital environments, and in communication with what Bucchi calls 'end users', i.e., publics. In highlighting the different needs of publics (entertainment vs. information-seeking) when navigating these information landscapes, which also influence the way people engage with knowledge and information, he inadvertently complicates the notion of an *ignorant* public.

7.1.3 Scepticism & Disinterest Towards Legitimate Knowledges

Despite the fact that it has become clear to me during the analysis of the data that the issue of demarcating knowledges cannot solely rest with publics, as the knowledge infrastructures in which these knowledge politics are essential features in enabling an adequate engagement with knowledges, the focus of institutional politics of demarcation in Austria has rested on identifying behaviours which point to engagements with illegitimate knowledges on the part of publics. The issue of showcasing scepticism towards institutionalised, legitimated knowledges is identified as potentially threatening to the constitution and maintenance of knowledge systems. This results in a specific term that proliferates in the data: "science scepticism" (German original: "Wissenschaftsskepsis"). As such, this term relays an *epistemic* problem for a nation state such as Austria, as it hints at a specific type of scepticism which becomes visible when phenomena such as the climate crisis (long term), the COVID-19 pandemic-crisis (comparatively short term) or changes to the ways in which information processing occurs. In the data, I encountered the notion of *a sceptic public* when it was utilised to problematise instances ranging from feelings of unease to the rejection of scientific solutions. *Scepticism*, then, becomes a shorthand for *rejecting or problematically engaging with the sciences*, and because a shorthand minimises the complexity of a phenomenon, the *sceptic public* becomes a totalising assessment of behaviour which is deemed problematic – which might, however, not be related to epistemic problems at all, but rather to value conflicts (Bogner, 2021; Kumkar, 2022). For instance, the phenomenon of COVID-Schwurbler*innen (which I have mentioned here) united a conglomeration of publics under the label of "science sceptics". In some cases, the label certainly was accurate in describing the aversion some publics had to the technology of mRNA vaccinations – a vaccination technology that had become synonymous with COVID-19 vaccinations – yet inaccurate in describing the diverse concerns which had united in these protests that became a regular fixture. The violent nature that some of these protests took, as well

as the coalition with pro-Putin groups when Russia started its war of aggression against Ukraine in February 2022, might explain the increasing volatility of the label science sceptic. As such, the label unites publics who expressed criticism of authority (e.g., distancing measures during the COVID-19 crisis), but also publics who were apprehensive and sceptic of the speed with which the development of the vaccine progressed and those groups which might share characteristics of the former two, but whose involvement in the protest movements primarily hinged on previous political activism (for instance, against the then current Federal Government in Austria). The label was only partially accurate in diagnosing a scepticism of some of these publics against a specific scientific/technological measure (an issue of an epistemic problem related to the validity of the technology/knowledge), but failed to capture the value concerns (political, societal) which were expressed through this countermovement.

The lines of argumentation shown oscillate between discussions of *semantics*, meaning whether the noticed scepticism can be regarded as positive (DC1-21) or being interpreted as a sign of rising populism (DC1-23). This is reflected in the research done by the ACPP, as after various survey waves, the term *science-related populism* (German: "wissenschaftsbezogener Populismus") was used to delineate the correlations between populist sentiments and attitudes towards the sciences and their practices. Hence, this term seeks to capture specific tendencies when political populism is geared towards the legitimacy and practices of the sciences. As discussed in 2.2.4, a science-related populace would reassert the supposed "will of a populace" which is considered absent in the conduct of scientific practices and the production of (institutional) knowledges. Despite doubts that a more democratic manner of knowledge production is possible than within the bounds of institutions if a homogenous populace enforces their will (whose will should be reasserted, and who decides), it is notable that the efforts of including publics by institutions of knowledge production[69] appear to have left no impression on those who think about the practices of knowledge production or deem themselves to be excluded by them. It is also telling that the necessity of politics of demarcation on account of a pending science scepticism was so vehemently constituted after the Eurobarometer survey 2021 results had caused policy discussions and follow-up studies. The argument was made that the lack of engagement and knowledge with processes of knowledge production are the reasons for these results. Resultingly, the EU-Barometer report results have been circulated and generated policy documents in Austria, which were aimed at rectifying these diagnoses of distrust and non-knowledge in the Austrian public by increasing science communication initiatives (DC1-9; DC1-10). As the problem of science scepticism was elevated to the

[69] Still, a shift in the practices of including the issues of publics has been underway for decades (2.1.6), and have been a part of policy matters (DC1-37).

level of ministries, the BMBFW commissioned a study on science scepticism. The premise of the study indicates that there is a bounded phenomenon whose origins can be analysed and traced back to root causes. In its terms of references (DC1-1), the declining trust in science and democracy is problematised, putting the distrust of the sciences in relation to stability levels of an Austrian democracy. Interim results of the study, presented in January 2023, however, highlight that there are various iterations of the term *scepticism*, which are used in a (original: "unspezifisch und unreflektiert") in various discussion in the media, by political actants etc. (DC2-23). The interim results proposed to re-shift the *narrative* on scepticism: preliminary results have highlighted that **disinterest** in the sciences and technology are more prevalent than **scepticism**. This shift encompasses discussions on whether scepticism as a concept generally requires a more nuanced approach, resulting in a differentiation between positive (scientific, constructive) and negative (unscientific, anti-democratic) scepticism.

In discussing the first sub-question, it became clear that the following issues are most prevalent in the analysed data and thereby also in the Austrian politics of demarcation as practiced in the timeframe March 2022 to December 2023: the issue of an increasing level of scientification in trans-scientific arenas, the issue of the predicted inability of publics to interact meaningfully with knowledge systems as well as the issue of a perceived scepticism and disinterest towards institutionally legitimated knowledge. Examining the latter has resulted in insufficient conclusions towards the salience of the phenomenon itself; however, as a discursive tool, in particular the term "science-scepticism" has generated discourses around the relationship between the sciences and its publics and utilised to argue for a reassessment of the latter on a policy-level.

7.2 Constituting Publics

To answer the second sub-question - "**How are different publics constituted during practices of institutional politics of demarcation, and how are their duties within a knowledge society established?"** - I proceed by discussing how publics are constituted in the data, and which duties are invoked to describe their place in an Austrian knowledge society.

In general, 'the public' is referred to in opposition to institutions such as the political arena, or other institutions of knowledge production. As a homogenising tool, "the public", despite the centring in "public", refers to a group of individuals, a collective, which is envisioned as existing in a distinctly *private* as opposed to *public* arena. As such, this collective is not associated with organisations, or an official position which would associate the individual to a more overarching, representative function. In the data, the idea of a "broader public" refers to a holistic entity more ready to be enamoured by the sciences' appeal and by the legitimate information more generally;

thereby, it also follows the deficit-model of science communication, which also juxtaposes the "sciences" and the "public" (2.1.6). Although research as well as science studies have consistently argued against this simplistic approach for decades (Irwin & Wynne, 1996; Suldovsky, 2016), reference to this model is implicit in appeals to a holistic public consciousness as well as the aim to involve "the public" in processes of knowledge production.[70] More access and exposure to legitimate knowledge is then expected to increase the adherence of publics to these knowledges.

7.2.1 Trusting vs. Critical Publics

The first way publics are constituted is by identifying the inadequacy of **trust levels**, as stable trust in the processes of institutional knowledge production is required to maintain their functionality. As such, to be trusting is identified as an integral characteristic of a *scientific citizen*. For example, the initiative *TruSD – Trust in Science and Democracy,* spearheaded by the BMBFW, elevates the characteristic of being trustful in science and democracy to an issue of policy concern. While the initiatives encompass a multitude of projects, building on established initiatives such as *Sparkling Science* (citizen science) as well as introducing new formats such as a database containing Austrian science communication activities (https://www.dnaustria.at/), the onus is on strengthening trust in democratic and scientific institutions. However, a publics' adherence and involvement to these processes of knowledge production, which necessitates a certain level of trust, are significantly complicated on account of seemingly opposing demands: During the analysis of the data, I found a tension between how publics are encouraged by various stakeholders to remain *critical*, while at the same time highlighting that there is the necessity to increase the **trust levels of publics** in (democratic) institutions. These two notions need not be mutually exclusive, however, the simultaneous request to remain trustful as well as critical requires constant negotiation on the side of publics. Further, it means that publics are required to demonstrate a high level of self-reflexivity as well as temporal investment in the negotiation of these tensions, high levels of interests and engagement with knowledge processes which might be not immediately relevant. The maintenance of such **trustful criticalness** would require an open collaboration of several institutional practices: the political processes, critical media relations as well as the processes in institutions of knowledge production. Many processes are already in place, yet the tension between openness and affirming boundaries which are necessary to maintain the justification of these institutions in the first place remains present. Indeed: as access to information is no longer gatekept by institutions and is freely accessible in various formats, particularly online, the identification of the problem might move from

[70] One reason for its persistence in the science-policy landscape might be found in the simplicity with which it can be utilised to argue for an increase of science communication efforts (Simis et al., 2016).

"**lack of information" to "access to correct types of knowledge/information"** This hypothesis is supported by survey results which affirm that those who tend to showcase conspiratorial beliefs do not correlate with the segment of publics which are most *disinterested* in science, technology and politics at large. On the contrary: those publics are in the segment which showcase high interest rates in these topics (DC1-15; DC1-12). Instead of problematising the lack of knowledge/information exhibited by publics, the line of argumentation lies somewhere between acknowledging that there are still improvements to be made in increasing the opportunities offered to publics to interact with the sciences and technologies, as well as affirming that the disinterest shown by publics towards these matters is growing to be a problem itself. The fact that traditional methods of knowledge/information dissemination, utilised by institutions of knowledge production, might be ill-equipped in capturing the attention of publics is relevant here. Yaron Ezrahi's theory of "out-formations" speaks to the idea that increasingly, knowledge is less important in constituting the contemporary democratic order than a "collective imagining" (Ezrahi, 2004, p. 260). The term "out-formations" expresses that the *visual* information, which is abound in information-landscapes, has superseded *information* in the traditional sense. As such, this new type of information "directly engage[s] our emotional, aesthetic and more generally our sensual selves" (Ezrahi, 2004, p. 260). Further, Ezrahi proposes that this "[…] collective imagining is a more participatory medium for constructing the political universe than public reason" (ibid.). Hence, institutions of knowledge production face a specific challenge as they seek to include publics: efforts to get publics to participate on account of knowledge might not be as engaging and easy as engaging publics with *non-knowledge* (disinformation, conspiracy theories etc.), or through mediums of information processing such as short-form video creation (e.g. TikTok) which are inherently ill-suited to engaging in complex knowledge matters. I have already touched on the appeal of coherent narratives (some conspiracy theories, if they utilise half-truths, can be subsumed under this label) over scientific reasoning in (see 2.2.2). Gess (2021) argues that this flattening achieved by telling half-truths makes it difficult to debunk the claims, as these half-truths are organised on a narratological level, one which is more concerned with believability (German: "Glaubwürdigkeit") than with facticity; the reliance on narratological *cohesiveness* rather than *facticity* is indicative of an attempt to "[…] [confirm] previous convictions, [avoid] cognitive dissonance, [confirm] 'perceived reality' and [reduce] contingency and complexity" (2021, p. 48). As such, half-truths are not committed to a lie (which is bound, *ex negativo*, to the truth), they disregard facts and aspirations to facticity entirely.[71]

[71] This is why, as Gess argues, these half-truths should be countered by the expertise of *fiction theory* rather than pursuing *fact*-checks, as the former would appear to be more apt to examine the appeals to coherence and narratological structures, without awarding half-truths the status of *truth/fact* by examining it as such.

Still, within a knowledge society based on the production of knowledge, a state needs citizens which are willing to work towards the maintenance of this knowledge society. Thus, arguments for increasing trust and engagement with a knowledge society, and as well as the importance of legitimate knowledge, are integrated into arguments for its maintenance. As such, publics are encouraged, demanded and implicated in the continuation of this knowledge society. This means that maintaining trust and fostering interest in democracy and by extension, the sciences and other legitimate bodies of knowledges occur mutually. Thus, the institutions of a state demand of its publics to perform a certain ideal of **scientific citizenship**. I argue that this marks a shift in the assessment of legitimate knowledges, as the demand on publics to abstain from disseminating harmful and illegitimate knowledges such as anti-democratic knowledges (e.g. conspiracy theories) or false information (e.g. disinformation), is – in part – outsourced to publics. The implications of these demands need to be juxtaposed to institutional politics of demarcation, which, despite calls to openness, are deemed necessary by institutions to solidify the utility of legitimate knowledges as opposed to illegitimate ones.

7.2.2 Engagement & Inclusion of Publics

Possessing any sort of level of expertise, however, requires engagement and interest. If issues such as innovation, progress and maintenance are implicated in the project of maintenance of a knowledge society – and thereby legitimated - any practices and knowledges which seek to support the knowledge society must therefore also be legitimated. Notably, as mentioned above, the idea that certain knowledges are involved in the envisioned citizenship of publics and thus need to be utilised and enforced is not a new phenomenon of the twenty-first century: as early as 1947, the (British) *Association of Scientific Workers* identified the importance of public understanding of the sciences and technologies in a three-fold manner: 1) technical literacy is crucial for maintaining a future work force, 2) a basic scientific understanding is necessary for the *cultural* understanding of the times and 3) the understanding of the sciences is indispensable for 'democratic reasons' (see Association of Scientific Workers, 1947, p. 30). In fact, despite a continuous sense of urgency which prevails throughout the data, this triangular concern can be understood as a symptom of a *knowledge society*, and not of a present moment. These concerns prominently feature in discussions on legitimate knowledges, illustrating the theoretical shift away from understanding publics as mere vessels to receive knowledge (public understanding of science - PUS) to an understanding that to include publics, they must be met eye-to-eye, which includes engagement and interest with practices of knowledge production (*Public Engagement with Science and Technology* – PEST). Programmes such as *Sparkling Science 2.0*, or the involvement of publics in processes such as *ÖAW_Corona Aufarbeitungsprozess* demonstrate that the engagement of publics to legitimise

knowledge production is actively sought in institutional politics of demarcation in Austria. However, this inherently complicates the notion of the boundedness of legitimate and illegitimate knowledge, as already mentioned above. Scholars such as H. M. Collins & Robert Evans (2002), for instance, discuss the relationship between democratic processes and expertise: they showcase that it is impossible to achieve both the integration of the wants of publics as well as techno-scientific interests during processes of technical decision-making (H. M. Collins & Evans, 2002). They trace which concerns have dominated during what they label the Wave One and Wave Two of science studies: The first was dedicated to understanding the success of the sciences (the positivist understanding of scientific knowledge as being superior) and the second, particularly through introducing social constructivism and sociology of scientific knowledge (SKK), was geared towards inserting the aspect of the social into the study of knowledge-production. Wave Three, which they term "Studies of Expertise and Experience (SEE)" is a reluctant reconstruction of some boundaries, as Collins and Evans articulate: "Wave Three involves finding a special rationale for science and technology even while we accept the findings of Wave Two - that science and technology are much more ordinary than we once thought" (2002, p. 240). They propose this third wave as a necessary step to tackle the problem of "technical decision-making", and to solve the "Problem of Extension" (the process of democratising knowledge production and the inclusion of publics in technical decision-making), decisions which cannot be made without a group of specialists, as Collins & Evans propose. The boundedness of legitimate knowledges requires specialised knowledges, as well as those who hold expertise, but the inclusion of publics demands an openness to recognise the challenges, and high-level demands on publics in terms of engagement, and the perceived distance between issues of the publics in processes of institutional knowledge production.

In discussing the second sub-question, two main issues crystallised which contribute to the constitution of publics during institutional politics of demarcation and shape the demands that are placed on them: the first is issue of publics being failing to be trusting, while simultaneously demanding of them to remain critical and showcase skillsets to assess knowledge and information. The second characteristic in the constitution of publics is the issue of engagement and inclusion. A notable aspect of this characteristic is the reorganisation of roles within knowledge societies: as agency is ascribed to publics, publics need to develop a certain level of expertise. The legitimacy of bounded arenas and their epistemic communities are thus destabilised, introducing challenges like how to adequately include publics in technical decision-making (DC1-15). Ultimately, publics are simultaneously excluded from processes of knowledge production (to ensure legitimacy) in moments when they adhere to illegitimate knowledges and included when the maintenance of an Austrian knowledge system must be ensured.

7.3 Self-Understanding of Institutions: Ensuring Stability & Innovation Through Politics of Demarcation

Throughout the analysis of data, I came to understand institutions as practicing their politics of demarcation primarily through *document work*. Through this document work, they negotiate the politics of demarcation between illegitimate and legitimate knowledges. However, among the institutions, the objectives for practicing demarcation differ (which operate to a similar concept such as the aforementioned indexicality or trans-scientific arguments), despite very similar approaches such as issuing reports, engaging in policy work, engaging in transdisciplinary networks, disseminating educational materials. Thus, in the following subsection, I aim to answer the third sub-question, "**How does the self-understanding of institutions contribute to how they practice institutional politics of demarcations?".**

7.3.1 Preventing extremism, preventing polarisation

While in the data, the notion of *media literate publics* implies a demand *on* publics (6.2), the notion of a duty of institutions (with their practices and the knowledge they constitute) to aid in protecting publics *from* harm is also present. For instance, the issue of **disinformation** has been acknowledged in 2018 with the European Commission's Action Plan on Disinformation (DC2-14), primarily identifying Russia's disinformation campaigns as a central threat to the outcome of elections. Centrally, disinformation is identified as undermining democratic ideals, projects, and long-term trust in democratic institutions such as politics and the media, which must be counteracted with *legitimate* information and knowledge provided from within bounded institutions. Quintessentially, the harmfulness of disinformation operates on a *trans-epistemic* logic of argumentation: the illegitimate nature of this information affects the democratic relations within the EU. Here, the tool of **fact-checking** is present in demarcating legitimate from illegitimate types of information. The example of GADMO shows that there are intersections between providing access to knowledge and information from an institutional perspective, and the ability to recognise harmful, illegitimate knowledge by publics: while organisations provide access to educational materials, conduct research on the intersecting issues, publics are committed to engage with these fact-checks. Providing mere access to more information is insufficient as a practice of demarcating knowledge; beyond institutional capacities, a larger network of actants - in which publics are acutely intertwined – act upon and affect the notion of 'being media literate'. These fact-checks constitute *boundary objects* which mediate between diverse *epistemic communities* and should ultimately enable publics to check the information behind statements and build trust with institutions of knowledge-

production (DC2-15). As such, these initiatives showcase an **emancipatory** stance as part of their politics of demarcation.

A more **protectoral** stance is offered by ministries such as the *Bundesministerium für Inneres* (BMI): in DC1-29, preventing and dealing with anti-democratic tendencies such as extremism are considered an interrelated state endeavour, involving a variety of actants and organisations. Executive authorities are working closely in monitoring developments, trends, and material manifestations of what is deemed extremist, and share their expertise in a manner that involves institutions such as the Bundesstelle. Their production of legitimate knowledge, then, is closely tied to the protective stance of democratic processes, which is prevented from being disrupted. The legitimacy of their knowledge production exists in trans-scientific arenas, in which the stabilisation of democracy plays a significant role. By utilising lines of argumentation which are grounded in the legitimacy of knowledges, the demarcation of anti-democratic sentiments by various actants in the sciences becomes *epistemised* in the process. The issue of extremism and harmful group dynamics (6.1.3) then, becomes a problem of illegitimacy (in terms of knowledge) in addition to an issue of being harmful to social cohesion.

7.3.2 Teaching Self-Sufficiency and Agency of Publics

I have already briefly touched upon the difference between *protective* and *emancipatory* institutional stances in practising their politics of demarcation: Some institutional practices foster both (fact-checking organisations), while others focus on one over the other (like the protective stance in the case of the BMI). Initiatives or institutions aiming for media and civic education programmes focus on the emancipatory stance: the aim is to educate pupils and students in a way that helps them in becoming active agents within political (knowledge and information) landscapes (e.g. DC2-5, DC2-3). Encouraged by a focus on media literacy education, the onus is put on publics themselves to develop opinions based on logically sound argumentation. To do so, they need to assess information critically and apply those skills to assess information dissemination tactics, the veracity of information, as well as the environments where they encounter this information. These skills are framed as duties for publics within a knowledge democracy, duties which publics should enact and develop to avoid dissemination of illegitimate knowledge. Therefore, the institutional efforts in these practices of demarcation are primarily *emancipatory* towards the capabilities of publics. The argumentation for the legitimacy of these skills rests on *indexical* reasoning: like the production of knowledge is shaped by external factors, the rationale that makes these skills legitimate is also geared towards an outside reason. Namely, being able to shield oneself against harmful information which might have political inclinations.

In addition, the instillment of agency in publics requires institutions to observe the relevance of including publics in processes of knowledge production. On a conceptual level, this has meant a reckoning and ongoing discussion about the roles of the sciences in constituting public life (DC1-9, DC1-10). On a more practical level, initiatives such as *Responsible Research and Innovation* (RRI), science communication efforts (DC1-39) or citizen science (DC1-36) have been implemented at scientific institutions or adopted towards its policy. These activities, however, still imagine publics as separated from the endeavours of scientific pursuits, which is demonstrated by argumentation that these distinct spheres should be brought closer together. Publics are envisioned as occupying trans-scientific arenas as opposed to playing an integral part in the dissemination of knowledges, the uptake and acceptance rates. Thereby, institutional perspectives remain closed off to the integration of issues of publics and relucted in considering the necessity to adapt their politics of demarcation to enable emancipatory inclusion of publics in knowledge politics.[72]

6.3.3 Stabilising the knowledge economy and its related labour markets

Institutions, in drawing on other **trans-scientific** arguments such as economic stability to legitimate the knowledges they produce, enact boundary-work as originally conceptualised by Gieryn (5.2). To validate the extraordinariness of scientific knowledges and to legitimate the preferential treatment it receives, Gieryn suggests that extra-scientific reasons need to be drawn on to justify the focus on scientific knowledges. **Economic** as well as **democratic** stability constitute trans-scientific arguments to establish the 1) need for institutional politics of demarcation practices, and at the same time, the 2) constituting reasons to centre institutionally validated, scientific knowledges over pseudo-scientific, esoteric or anti-democratic ones. The entanglement of the sciences with economic interests makes it clear that the adherence to legitimate knowledges cultures is not only enforced for epistemic reasons, but to support economic long-term objectives on a national as well as transnational (EU)-level.[73] This is illustrated by the effects of survey results like the Eurobarometer survey 2021, which were integrated into lines of argumentation arguing for an increase in science communication efforts as well as interactions of publics with the sciences and technologies (DC1-7).

In discussing the third sub-question, applying the lenses of *indexicality* and *trans-scientific arguments* has been helpful in analysing how institutional politics of demarcation were practiced by Austrian institutions: it has become clear that the arguments for the *legitimacy of* knowledges are contingent on the specificity of the Austrian landscape of knowledge production, and in particular

[72] To be clear: without compromising on the legitimacy of these institutionally, scientifically validated knowledges, but with the concession that knowledges are validated by different processes in different epistemic communities.

[73] When the dissemination of illegitimate knowledges such as disinformation is financially viable for large platforms which hold a significant hold over the information landscape (for instance, Meta), as legitimacy of knowledge/information is not necessarily the most important factor, but engagement levels with the pieces of information is.

on the specific timeframe, which was arguably heavily influenced by discussions on COVID-19 prevention and safety measures. Diverging epistemic communities were adamant in making their knowledges relevant, and these communities were structured around three overlapping self-understandings of being an *institution*: of having to prevent extremism and polarisation, to teach self-sufficiency and agency in dealing with diverse knowledge systems, and to stabilise the economy. In posing the research question discussed in this sub-chapter, I hypothesised that there are distinct reasons to practice and/or to argue for a politics of demarcation (meaning, research institutions such as the IHS and the Bundesstelle would have different reasons), I found that the self-understanding on what to offer as an institution of knowledge production does overlap, which results in similar lines of argumentation, and methods utilised to pursue a politics of demarcation.

8. Summary, Hypothesis, and Outlook

In the introduction, I opened with the possible consequences of an institutional return to a strict politics of demarcation (Noortje Marres) could potentially herald: as a way of neglecting the public concerns which inherently feed into the occurrence, dissemination and popularity of illegitimate, non-institutionalised knowledges. On the example of initiatives of fact-checking, Marres postulates that these "fact-checking efforts shift the focus back to the properties of content itself (Bounegru et al. 2017). What is said to need attention and intervention is the 'veracity' of online statements and the potential duplicity of online sources" (Marres, 2018, p. 427). Marres understands this as a misguided effort in addressing the problems occurring in contemporary knowledge societies and thus argues "that we should not want our facts back, but instead develop new strategies to secure a central role for knowledge in public life, ones that address transformations of the very category of 'public fact' in today's digital societies" (Marres, 2018, p. 425).[74]

Accordingly, in analysing the case study of this thesis, I utilised the concept of a politics of demarcation as a manner of critically keeping in mind the public issues concerned in engaging in knowledge politics. The case study of this thesis was concerned with tracing the issues which emerge when institutional politics of demarcation are practiced within Austria. To establish a data corpus, I focused on analysing documents which were particularly salient to public discourses about knowledge politics in a specific timeframe (March 2022 – December 2023). These documents were chosen by employing the method of *following the issues* (Asdal & Reinertsen, 2022), thus, a variety of written materials like policies, reports, didactic materials, or extracts from websites were incorporated. To further aid in analysing this emerging *issue formation*, I conducted three expert-interviews with three stakeholders in the Austrian knowledge politics. The data corpus was analysed with tools of discourse analysis and was grounded particularly in the sensitivities of Grounded Theory and Situational Analysis. In the literature review (Chapter 2), I ascertained how the development of an economic knowledge society had progressed: which institutional efforts had been necessary, and which approaches, processes of institutionalisation, and demarcation from other knowledges were made to establish a scientific approach to knowledge as the privileged one. In doing so, I focused on the role of expertise and those who wield it, and the role of publics in these knowledge politics. In the second section of the literature review, I provided a typology of the four

[74] Further, Marres gives the example of the Brexit bus which was utilised in the 2016 Brexit referendum campaign by pro-Brexit parties to insinuate that "Brexit will make available 350 million pounds per week for the NHS" (p. 438), Marres proposes the utility of 'experimental facts' in addition to demarcationism, or "those statements whose veracity is unstable and whose epistemic status changes over time. […]. The Brexit bus transformed as a vessel to discuss and insinuate "serious issues such as living standards, immigration, public services, and the NHS" (p. 438). Practising a politics of demarcation was insufficient to account for the meaning of this statement, despite being factually false, as a circulated knowledge claim within the referendum campaign.

most salient illegitimate knowledges which I encountered in the analysis of my data corpus: 1. Disinformation, 2. Conspiracy Theories, 3. Ignorance, Distrust, and Anti-science sentiments, as well as 4. Political and Science-Related Populism and Extremism. After sections 3 and 4 (research questions and methodologies), in Chapter 5, I focused on the theoretical framework of the thesis, which guided the discussion to make sense of the case study as a convergence of different interests of epistemic communities who practice their politics of demarcation differently, as well as the concept of boundary work to yield an analysis in which arenas knowledge politics constitutes themselves: generally, by situating legitimacy in proximity to the scientific or otherwise institutionalised knowledges, while framing illegitimate knowledges as an attack to the foundations of legitimacy itself. These legitimate rationales can be both scientific as well as democratic in nature. In Chapter 6, I followed the issues ascertained by the analysis and thus structured my findings of the data analysis into two main sub-sections: 1) constituting & strengthening democracy, as well as 2) constituting engaged publics. In section 6, I discussed the implications of these findings. The discussion (Chapter 7) was structured according to the three sub-questions of my main research question, which focused on ascertaining the pertinent issues of institutional politics of demarcation in Austria during the timeframe of March 2022 to December 2023, to understand how publics themselves and their duties are constituted during these practices, and how the conduct of these politics of demarcation are influenced by the different self-understandings of institutional responsibilities.

In this last section of the thesis, I explain some issues raised in the discussion by returning to my main research question - "How are illegitimate knowledges demarcated from legitimate ones by *institutional politics of demarcation* in Austria?" - focusing on some implications of those findings, presenting a hypothesis drawn from my findings, and lastly, by situating my research in the context of previous research. I close with an outlook on subsequent research agendas by pointing towards those eras of interest to knowledge politics and specifically institutional politics of demarcation which had to be sidelined for this thesis endeavour, and a general outlook on knowledge politics in the coming years, transnationally and nationally.

Before the inclusion of publics in knowledge politics had become essential for the maintenance of them, drawing boundaries was an essential part of legitimising the production of legitimated knowledges (see 2.1.2 and 2.1.5). Transnationally, as well as in Austria, this boundedness no longer holds true, which makes the following hypothesis suitable to understand the rationale of institutional politics of demarcation as practiced in Austria: Institutional knowledge practices are guided by the pervasiveness with which publics must be implicated in knowledge politics to sustain the legitimacy of their practices. The imminent threat if publics disengage *en masse* (i.e., lose interest

and trust) or partially reject legitimated knowledge practices structures their *politics of demarcation* accordingly. It follows that the issues which are raised during these politics of demarcation in the timeframe of March 2022 to December 2023 can be sorted into 1) those issues which are threatening to the constitution and & strengthening of democratic ideals in Austria (**DC1**) and 2) those which are identified as threatening the engagement as well as constitution of *scientifically* engaged publics (**DC2**). In these two issue clusters, an economic rationale is inherent to the conduct of these institutional *politics of demarcation.* Resultingly, these three intertwined issues can be seen as three particular rationales, which build on each other. These rationales structure the Austrian *institutional politics of demarcation* and inform how knowledges are made legitimate during the observed timeframe:

I. Trust/interest in institutional knowledge politics	**III. self-empowered. Self-empowerment is a**	**V. the stability and innovation** of institutional knowledge politics,
II. Is a **requirement** for publics to become	**IV. prerequisite for the necessary engagement** which ensures	**VI. Which is needed** for the maintenance of the Austrian economy

Table 5: The rationales of institutional knowledge politics in Austria; a hypothesis

From the involvement with written materials issued by institutions, and the expert interviews I conducted with stakeholders, I formulate the hypothesis that these three rationales structure and are inherent in the legitimate knowledges which institutions seek to further:

1) Trust/interest in knowledge politics (democratic relations),
2) the self-empowerment of publics to engage in these politics (engagement),
3) the maintenance of a stable and innovative knowledge politics which furthers the Austrian economy (economics).

In the following, I expand on these rationales. The issues of *trust and interest* are embedded in all issues in institutional politics of demarcation. Interest levels in institutionalised knowledges are required for engagement, which is understood as contributing to the economic and epistemic aims of knowledge politics. Most saliently, the tension between **trust vs. ignorance** needs to be highlighted. 'Ignorant publics' are demarcated as harmful as they actively compromise the realisation of an institutional knowledge politics. However, the rationale of improving trust levels necessitates, at least to an extent, an extension of trust, which is based in ignorance in the sense that it enables institutions. To understand the functionality of ignorance as an enabler of these institutional practices is to understand ignorance as its own type of knowledge practice (McGoey,

2019). The approaches towards institutional politics of demarcation are challenged by seemingly contrasting aspects: a knowledge politics, and subsequently, an institutional knowledge politics, which is increasingly dependent on the engagement of publics for its continuation and seamless workings as well as the necessary positioning in proximity to legitimated knowledges to maintain the singularity and preeminence of its knowledges. While **trust** and **interest** had remained an issue in the conduct of institutional knowledge politics, meaning their lack thereof in publics remained an issue throughout the observed time period, however, the issue of *scepticism* was discussed in a more varied manner between March 2022 and December 2023. The issue formation has developed from discursively *lumping together* members of specific publics who opposed and rejected institutionalised knowledge politics to a more diverse discussion on the public concerns which are shown in these expressions. Further, an understanding had developed that these are select disagreements with specific knowledge politics, and in some cases, signs of disengagement with some aspects of these politics, or expressed populist sentiments (DC1-12). Further, the inherent tension of highlighting scepticism as inherently harmful is disingenuous in the face of a knowledge politics which is dependent on opposition and rational scepticism to further its knowledges and to solidify their position in knowledge societies.

To initiate publics to become empowered necessitates institutions to recognise their role in facilitating this engagement. To demand of publics to participate, engage, and contribute to their knowledge practices requires extending leeway towards a strict politics of demarcation, as the implication of publics in knowledge politics requires a certain openness. More specifically, an openness to draw boundaries less rigorously between institutions of knowledge productions and the publics which engage with their knowledges. Institutional politics of demarcation ideally strike a balance between placing demands on publics while offering the opportunity to realise public concerns with the conduct, the implementation as well as the demands placed on them in knowledge politics. Further, the analysis of the issue formation in the observed timeframe has shown that there is a concession visible in the institutional knowledge practices to include the advancements of skills which are necessary for publics to navigate diverse knowledge and information landscapes in their knowledge politics. This includes a concession towards furthering short-term and long-term initiatives which are aimed at increasing interest levels. This aim is furthered by a *networked* approach to practice knowledge politics by the actants observed during the analysis of the data: there are many convergences of different communities, in diverse fields of knowledge production. The issue of disinterested publics, who do not participate in knowledge economies, can be identified as the most salient issue in the economic maintenance and innovation practices of knowledge societies. “Securing a central role for knowledge in public life” as Marres

phrases it, should be the focus of a politics of demarcation (Marres, 2018, p. 425). This is in part already deliberately pursued to stabilise and maintain the knowledge economies which operate on knowledge and thus depend on the production of knowledge; however, a predominantly short-termed approach towards these knowledge politics is noticeable and demands further reckoning with the aims of institutional knowledge politics to secure – in the long-run – the continuation of an Austrian knowledge society.

In closing, I provide a general outlook on the development of (Austrian) knowledge politics. I discuss some areas of future research which I identified as lacking when tracing and researching the issue formation of institutional politics of demarcation. Over the course of this research process, some developments in the Austrian knowledge politics have occurred: First, a sustained network and lobbying work has resulted in the development of a *Science Communication Center* in Vienna, plans for its realisation are being developed at the time of writing (January 2025) (Taschwer, 2024). The centre is a collaboration between the University of Vienna, the ÖAW and the *Technical University of Vienna*. As such, it addresses some challenges of institutional politics of demarcation: providing accessible, material spaces for diverse publics where communication about the knowledge production of the sciences can take place. To explore the triangular force of **democratic relations—engagement—economics** on publics, further research would require looking at this project as a manner of constructing the **scientific citizen**. In addition, accompanying research on how publics understand and perform their roles in this iteration of knowledge politics would yield insights into how this project is understood in the wider arena of institutional knowledge politics. The nature of my qualitative research brings about natural limitations: While this thesis was shaped by prolonged qualitative engagement with a discourse field, the integration of quantitative data analysis, such as utilising networked issue mapping tools, could highlight developments in the issue formation in a shorter time span. Further, utilising a partially sociological approach to discourse analysis during this thesis (Sociology of Knowledge Approach to Discourse) has demonstrated the usefulness of combining linguistics with sociology; further research could address the development of the issue of **science scepticism** or **ignorance of knowledge in publics** with combined tools of corpus linguistics and STS insights. I have found that the research that centres publics and their experiences of knowledge politics focus on long-term survey studies, however beyond these (international) studies, there is a lack of research into the particularities of experiences of publics in Austrian knowledge systems. Further, little research is done into how and which issues are articulated by publics within knowledge systems, and which are sidelined. If the participation of publics is necessary in knowledge systems, however, the recognition of publics as a mass of heterogeneous, diverse individuals needs to be integrated in further research more intentionally. This appears to be particularly salient

considering the increasing demands placed on publics to participate in the demarcation between illegitimate and legitimate knowledges, a long-term engagement with publics. In this context, any initiatives in the realms of Open Science (Open Access, Open Infrastructures, Open Research Data, etc.) should ideally be supplemented with an analysis of the subsequent effects on knowledge politics, and supplementary research could include an assessment of the implications on publics, and how their concerns and issues are realised through these endeavours. Generative Artificial Intelligence (GenAI), which has developed to a relevant issue of knowledge politics during the writeup of this thesis, has not been considered in this thesis. GenAI is already used as a mundane tool for non-research activities in public life with over 300 million users on a weekly basis as of December 2024 (Roth, 2024). As GenAI has established itself as a tool for research in fields such as medicine (Gou et al., 2024), or as an aid in facilitating the work of researchers and academics (*Scopus AI: Trusted Content. Powered by Responsible AI.*, n.d.), further research is necessary to ascertain the role of institutions in pursuing a knowledge politics cognisant of the effects of GenAI on the cornerstones of knowledge itself. Lastly, a distinctly STS-approach in analysing the intersections between knowledge politics, the engagement and inclusion of publics in them and **political populism** could yield insights into the role of knowledge in the contemporary rise of political populism of the 2020s. A continued engagement with the issue of adequately demarcating knowledges should be realised, as disinformation campaigns, particularly in ongoing conflicts such as in the Middle East or the war in Ukraine, are recognised by actants such as the EU to utilise *knowledge* as a tool in conflict (European Council, 2023).

At the time of writing (January 2025), Meta has just announced the decision that they would stop utilising fact-checkers across their various platforms after almost a decade, and instead introduce a "Community notes" system, resembling the one that has been implemented on Twitter/X to moderate content by the users themselves.[75] Mark Zuckerberg states that this decision was made because "the complex systems to moderate content [had made] just too many mistakes and too much censorship. **The recent elections also feel like a cultural tipping point towards, once again, prioritizing speech**" (Hendrix, 2025; own emphasis). This decision presents a move away from fact-checking as a tool of demarcation as well as from other protections on speech conduct. However, while the reasons expressed by Zuckerberg centre the apparent concerns of publics and the fear that fact-checking has become too political, which these decisions seek to undo, the changes to Meta's policy are inherently political itself: they align itself seamlessly with the political imperatives of the new U.S. administration "to push back on governments around the world" which seek to "go after

[75] In addition, Meta announced that the platform would circle back on numerous restrictions made against using misogynistic, racist or transphobic speech on the platforms, as well as putting a stop to suppressing some forms of discussions on current events (Newton, 2025; Hendrix, 2025).

American companies and pushing to censor more" (Hendrix, 2025). It remains to be seen how the nexus of relinquishing the curbing of speech directed at marginalised communities as well as the alignment of knowledge politics with geopolitical interests will affect the concerns of publics, and which publics might be able to voice their concerns on Meta's platforms, and whether Zuckerberg remains the only technocrat to move against the institutionalised politics of demarcation as practiced by actants such as the EU.

9. References

Anton, A., Schetsche, M., & Walter, M. K. (Eds.). (2014). *Konspiration: Soziologie des Verschwörungsdenkens*. Springer VS.

APA/dpa. (2024, March 7). *Frauentag – Effekt von MINT-Förderprogrammen hinter Erwartungen*. https://science.apa.at/power-search/12470894655314385319

Asdal, K., & Reinertsen, H. (2022). *Doing document analysis: A practice-oriented method* (1st edition). SAGE Publications Ltd.

Association of Scientific Workers. (1947). *Science and the Nation*. Penguin.

Avramov, K., Gatov, V., & Yablakov, I. (2020). Conspiracy Theories and Fake News. In M. Butter & P. Knight (Eds.), *Routledge Handbook of Conspiracy Theories* (1st ed., pp. 512–524). Routledge. https://doi.org/10.4324/9780429452734-2_8

Barkun, M. (2015). Conspiracy theories as stigmatized knowledge. *Diogenes*, *62*(3–4), 114–120. https://doi.org/10.1177/0392192116669288

Bauer, M. W. (2016). Results of the essay competition on the 'deficit concept'. *Public Understanding of Science*, *25*(4), 398–399. https://doi.org/10.1177/0963662516640650

Bauer, M. W., Allum, N., & Miller, S. (2007). What can we learn from 25 years of PUS survey research? Liberating and expanding the agenda. *Public Understanding of Science*, *16*(1), 79–95. https://doi.org/10.1177/0963662506071287

BBC News. (2016, November 16). *'Post-truth' declared word of the year by Oxford Dictionaries*. BBC News. https://www.bbc.com/news/uk-37995600

Bloor, D. (1991). *Knowledge and social imagery* (2nd ed). University of Chicago press.

Bogner, A. (2021). *Die Epistemisierung des Politischen: Wie die Macht des Wissens die Demokratie gefährdet*. Reclam.

Briet, S. (2006). *What is documentation? English translation of the classic French text*. Scarecrow press.

Brown, J. D. (2004). Knowledge, uncertainty and physical geography: Towards the development of methodologies for questioning belief. *Transactions of the Institute of British Geographers*, *29*(3), 367–381. https://doi.org/10.1111/j.0020-2754.2004.00342.x

Bucchi, M. (2017). Credibility, expertise and the challenges of science communication 2.0. *Public Understanding of Science*, *26*(8), 890–893. https://doi.org/10.1177/0963662517733368

Bundesministerium für Finanzen. (2023). *Nationaler strategischer Fahrplan für die Digitale Dekade Österreich*.

Burkert, G. R. (2021). *Die vernetzte Universität: Von der Kritik der Ökonomisierung zur Neuausrichtung auf die Gesellschaft* (Deutsche Erstausgabe). Passagen Verlag.

Butter, M. (2019). Verschwörungs(theorie)panik: »Filter Clash« zweier Öffentlichkeiten. In H. Hastedt (Ed.), *Deutungsmacht von Zeitdiagnosen* (pp. 197–212). transcript Verlag. https://doi.org/10.1515/9783839445921-013

Chalmers, A. F. (2013). *What Is This Thing Called Science* (4th ed). University of Queensland Press.

Charmaz, K., & Bryant, A. (2011). Grounded theory and credibility. In D. Silverman (Ed.), *Qualitative Research* (3rd ed., pp. 291–309). Sage.

Chen, J. (Ed.). (2009). Blogs, Wikipedia, Second Life, and beyond: From Production to Produsage. *The Electronic Library*, *27*(2), 350–352. https://doi.org/10.1108/02640470910947700

Chilvers, J., & Kearnes, M. (2020). Remaking Participation in Science and Democracy. *Science, Technology, & Human Values*, *45*(3), 347–380. https://doi.org/10.1177/0162243919850885

Clarke, A. E. (2005). *Situational analysis: Grounded theory after the postmodern turn*. Sage. https://ubdata.univie.ac.at/AC04520218

Clarke, A. E. (2012). *Situationsanalyse*. VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-93320-7

Colebatch, H. K. (2009). *Policy* (3. ed). Open Univ. Press.

Collins, H. M., & Evans, R. (2002). The Third Wave of Science Studies: Studies of Expertise and Experience. *Social Studies of Science*, *32*(2), 235–296.

https://doi.org/10.1177/0306312702032002003

Collins, H. M., & Evans, R. (2007). *Rethinking expertise*. University of Chicago Press.

Collins, K., Shiffman, D., & Rock, J. (2016). How Are Scientists Using Social Media in the Workplace? *PLOS ONE*, *11*(10), e0162680. https://doi.org/10.1371/journal.pone.0162680

Czepel, R. (2022, May 24). *Gesucht: Vertrauen in die Wissenschaft*. science.ORF.at. https://science.orf.at/stories/3213297/

Douglas, M. (2011). *How institutions think* (11. Dr.). Syracuse Univ. Press.

Elam, M., & Bertilsson, M. (2003). Consuming, Engaging and Confronting Science: The Emerging Dimensions of Scientific Citizenship. *European Journal of Social Theory*, *6*(2), 233–251. https://doi.org/10.1177/1368431003006002005

Eliot, T. S. (1934). *The Rock*. Internet Archive. https://archive.org/details/in.ernet.dli.2015.3608

Epstein, S. (1996). *Impure science: AIDS, activism, and the politics of knowledge*. University of California Press.

European Commission. (n.d.). *ERA History*. Retrieved 14 October 2024, from https://european-research-area.ec.europa.eu/era-history

European Commission. (2001). *White Paper on Governance: Report of the Working Group on Democratising Expertise and Establishing Scientific Reference Systems*. Commission of the European Communities.

European Commission (Ed.). (2002). *Science and society: Action plan*. Office for Official Publications of the European Communities.

European Commission. (2008). *Strategy for an innovative and inclusive European Information Society. General Factsheet*. European Commission.

European Commission. (2018). *Aktionsplan gegen Desinformation*. https://www.eeas.europa.eu/sites/default/files/aktionsplan_gegen_desinformation.pdf

European Commission. Directorate-General for Research and innovation, & von Schomberg, R. (2011). *Towards responsible research and innovation in the information and*

communication technologies and security technologies fields. Publications Office. https://data.europa.eu/doi/10.2777/58723

European Council. (2023, January 20). *The fight against pro-Kremlin disinformation*. Consilium. https://www.consilium.europa.eu/en/documents-publications/library/library-blog/posts/the-fight-against-pro-kremlin-disinformation/

European Union. (2018, February 20). *Fight against terrorism – definitions of terrorist crimes and support to victims / EUR-Lex*. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=legissum:4322328

Eyal, G. (2019). *The crisis of expertise*. Polity.

Ezrahi, Y. (2004). Science and the political imagination in contemporary democracies. In S. Jasanoff (Ed.), *States of knowledge: The co-production of science and the social order* (pp. 254–273). Routledge.

Fairclough, N. (2003). *Analysing discourse: Textual analysis for social research*. Routledge.

Feather, J. (2017). *The Information Society: A study of continuity and change* (6th ed.). Facet Publishing.

Felt, U. (2003). Scientific Citizenship: Schlaglichter einer Diskussion. *Gegenworte. Hefte Für Den Disput Über Wissen*, *11*, 16–20.

Felt, U., & Fochler, M. (2010). Machineries for Making Publics: Inscribing and De-scribing Publics in Public Engagement. *Minerva*, *48*(3), 219–238.

Felt, U., & Fochler, M. (2012). Re-ordering Epistemic Living Spaces: On the Tacit Governance Effects of the Public Communication of Science. In S. Rödder, M. Franzen, & P. Weingart (Eds.), *The Sciences' Media Connection –Public Communication and its Repercussions* (Vol. 28, pp. 133–154). Springer Netherlands. https://doi.org/10.1007/978-94-007-2085-5_7

Fischer, R., & Jarren, O. (2019). Medienvertrauen als demokratische Notwendigkeit. *Vhw Forum Wohnen Und Stadtentwicklung*, *6/2019*, 317–320. https://doi.org/10.5167/UZH-184747

Fleck, L. (1979). Introduction to Thought Collectives. In *Genesis and Development of a Scientific Fact*

(pp. 38–51). University of Chicago Press.

Foley, J. (2017, January 25). *The War on Facts Is a War on Democracy*. Scientific American Blog Network. https://blogs.scientificamerican.com/guest-blog/the-war-on-facts-is-a-war-on-democracy/

Frei, N., Schäfer, R., & Nachtwey, O. (2021). **Die Proteste gegen die Corona-Maßnahmen**: Eine soziologische Annäherung. *Forschungsjournal Soziale Bewegungen*, *34*(2), 249–258. https://doi.org/10.1515/fjsb-2021-0021

Frickel, S., & Moore, K. (2006). Prospects and Challenges for a New Political Sociology of Science. In *INSTITUTIONS The New Political Sociology of Science: Institutions, Networks, and Power* (pp. 3–31). University of Wisconsin Press. https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=202643&site=ehost-live

Fukuyama, F. (2012, December 10). *The End of History?* Archive.Ph. https://archive.ph/a3xW

Geertz, C. (2008). Thick Description: Toward an Interpretive Theory of Culture. In T. S. Oakes & P. L. Price (Eds.), *The cultural geography reader* (1. publ, pp. 29–39). Routledge.

Gess, N. (2021). *Halbwahrheiten: Zur Manipulation von Wirklichkeit*. Matthes & Seitz.

Gibbons, M. (1999). Science's new social contract with society. *Nature*, *402*(S6761), C81–C84. https://doi.org/10.1038/35011576

Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. (2011). *The new production of knowledge: The dynamics of science and research in contemporary societies* (Reprinted). Sage Publ.

Gieryn, T. F. (1983). Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists. *American Sociological Review*, *48*(6), 781. https://doi.org/10.2307/2095325

Gieryn, T. F. (1999). *Cultural boundaries of science: Credibility on the line*. University of Chicago Press.

Glaser, B. G., Strauss, A. L., & Hildenbrand, B. (2010). *Grounded theory: Strategien qualitativer Forschung* (A. T. Paul & S. Kaufmann, Trans.; 3., unveränderte Auflage). Verlag Hans Huber.

Goertzel, T. (2010). Conspiracy theories in science: Conspiracy theories that target specific research can have serious consequences for public health and environmental policies. *EMBO Reports*, *11*(7), 493–499. https://doi.org/10.1038/embor.2010.84

Gou, F., Liu, J., Xiao, C., & Wu, J. (2024). Research on Artificial-Intelligence-Assisted Medicine: A Survey on Medical Artificial Intelligence. *Diagnostics*, *14*(14), 1472. https://doi.org/10.3390/diagnostics14141472

Grundmann, R. (2017). The Problem of Expertise in Knowledge Societies. *Minerva*, *55*(1), 25–48. https://doi.org/10.1007/s11024-016-9308-7

Han, B.-C. (2017). *Psychopolitics: Neoliberalism and new technologies of power* (E. Butler, Trans.). Verso.

Harambam, J., & Aupers, S. (2021). From the unbelievable to the undeniable: Epistemological pluralism, or how conspiracy theorists legitimate their extraordinary truth claims. *European Journal of Cultural Studies*, *24*(4), 990–1008. https://doi.org/10.1177/1367549419886045

Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Communication & Society*, *8*(2), 125–147. https://doi.org/10.1080/13691180500146185

Hecker, S., Haklay, M., Bowser, A., Makuch, Z., Vogel, J., & Bonn, A. (2018). *Citizen Science: Innovation in Open Science, Society and Policy*. UCL Press.

Hendrix, J. (2025, January 7). *Transcript: Mark Zuckerberg Announces Major Changes to Meta's Content Moderation Policies and Operations | TechPolicy.Press*. Tech Policy Press. https://techpolicy.press/transcript-mark-zuckerberg-announces-major-changes-to-metas-content-moderation-policies-and-operations

Hepfer, K. (2021). *Verschwörungstheorien: Eine philosophische Kritik der Unvernunft* (3rd ed.). transcript Verlag. https://doi.org/10.14361/9783839459317

Hirschi, C. (2021). *Umstrittene Expertise: Zur Wissensproblematik der Politik* (S. M. Büttner & T. Laux,

Eds.; 1. Auflage). Deutsche Gesellschaft für Soziologie, Baden-Baden. Nomos.

Hofstadter, R. (1996). *The paranoid style in American politics and other essays*. Harvard Univ. Pr.

Hofstadter, R. (2008). *The paranoid style in American politics, and other essays* (1st Vintage Books ed). Vintage Books.

Hołyst, J. A., Mayr, P., Thelwall, M., Frommholz, I., Havlin, S., Sela, A., Kenett, Y. N., Helic, D., Rehar, A., Maček, S. R., Kazienko, P., Kajdanowicz, T., Biecek, P., Szymanski, B. K., & Sienkiewicz, J. (2024). Protect our environment from information overload. *Nature Human Behaviour*, *8*(3), 402–403. https://doi.org/10.1038/s41562-024-01833-8

Hornidge, A.-K., Keller, R., & Schünemann, W. J. (2018). Introduction. In R. Keller, A.-K. Hornidge, & W. Schünemann, *The Sociology of Knowledge Approach to Discourse* (1st ed., pp. 1–15). Routledge. https://doi.org/10.4324/9781315170008-1

Hümmler, H. G., & Schiesser, U. (2021). *Fakt und Vorurteil: Kommunikation mit Esoterikern, Fanatikern und Verschwörungsgläubigen*. Springer.

Irwin, A. (1995). *Citizen science: A study of people, expertise, and sustainable development*. Routledge.

Irwin, A. (2001). Constructing the scientific citizen. Science and democracy in the biosciences. *Public Understanding of Science*, *10*(1), 1–18. https://doi.org/10.1088/0963-6625/10/1/301

Irwin, A., & Wynne, B. (Eds.). (1996). *Misunderstanding science? The public reconstruction of science and technology*. Cambridge University Press.

Jäger, S. (2015). *Kritische Diskursanalyse: Eine Einführung* (7., vollständig überarbeitete Auflage). Unrast.

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

Jasanoff, S. (2003). (No?) Accounting for expertise. *Science and Public Policy*, *30*(3), 157–162. https://doi.org/10.3152/147154303781780542

Jesse, E. (2012). Linkspopulismus—Das Beispiel der deutschen LINKEN. In A. Pelinka & Sir Peter Ustinov Institut (Eds.), *Populismus: Herausforderung oder Gefahr für die Demokratie?* (pp.

75–90). nap, New Acad. Press.

Johnson, M., Mozaffar, H., Campagnolo, G. M., Hyysalo, S., Pollock, N., & Williams, R. (2014). The managed prosumer: Evolving knowledge strategies in the design of information infrastructures. *Information, Communication & Society*, *17*(7), 795–813. https://doi.org/10.1080/1369118X.2013.830635

Kaiser, R. (2021). *Qualitative Experteninterviews: Konzeptionelle Grundlagen und praktische Durchführung*. Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-30255-9

Kaltwasser, C. R. (2017). Populism and the Question of How to Respond to it. In C. R. Kaltwasser, P. Taggart, P. O. Espejo, & P. Ostiguy (Eds.), *The Oxford handbook of populism* (pp. 489–507). Oxford university press.

Keller, R. (2018). The sociology of knowledge approach to discourse—An introduction. In A.-K. Hornidge, W. J. Schünemann, & R. Keller (Eds.), *The Sociology of Knowledge Approach to Discourse: Investigating the Politics of Knowledge and Meaning-making* (1st ed., pp. 16–47). Routledge. https://doi.org/10.4324/9781315170008

Kleffner, H., & Meisner, M. (Eds.). (2021). *Fehlender Mindestabstand: Die Coronakrise und die Netzwerke der Demokratiefeinde*. Herder.

Kleinman, D. L., & Vallas, S. P. (2001). Science, Capitalism, and the Rise of the 'Knowledge Worker': The Changing Structure of Knowledge Production in the United States. *Theory and Society*, *30*(4), 451–492. https://doi.org/10.1023/A:1011815518959

Knorr Cetina, K. (2007). Culture in global knowledge societies: Knowledge cultures and epistemic cultures. *Interdisciplinary Science Reviews*, *32*(4), 361–375. https://doi.org/10.1179/030801807X163571

Knorr-Cetina, K. (2014). *The Manufacture of Knowledge: An Essay on the Constructivist and Contextual Nature of Science*. Elsevier Science.

Knorr-Cetina, K. (2016). *Die Fabrikation von Erkenntnis: Zur Anthropologie der Naturwissenschaft*

(Erweiterte Neuauflage, 4. Auflage). Suhrkamp.

Kriesi, H. (2014). The Populist Challenge. *West European Politics*, *37*(2), 361–378. https://doi.org/10.1080/01402382.2014.887879

Krischer, A. (2020). *Willkürherrschaft und Strafe Gottes. Wie eine Epidemie schon einmal zu Verschwörungstheorien und religiösen Bestrafungsphantasien führte*. https://doi.org/10.13140/RG.2.2.10372.76163

Kumkar, N. C. (2022). *Alternative Fakten: Zur Praxis der kommunikativen Erkenntnisverweigerung* (Erste Auflage, Originalausgabe). Suhrkamp.

Latour, B. (2005). From realpolitik to dingpolitik. Making things public. *Atmospheres of Democracy*, *1444*.

Latour, B., & Woolgar, S. (1987). *Laboratory Life: The Construction of Scientific Facts* (J. Salk, Ed.). Princeton University Press. https://doi.org/10.1515/9781400820412

Lewandowsky, S., Cook, J., & Lombardi, D. (2020). *Debunking Handbook 2020* [Dataset]. Databrary. https://doi.org/10.17910/B7.1182

Lewenstein, B. (2016). Can we understand citizen science? *Journal of Science Communication*, *15*(01), E. https://doi.org/10.22323/2.15010501

Lynch, M. (2017). STS, symmetry and post-truth. *Social Studies of Science*, *47*(4), 593–599. https://doi.org/10.1177/0306312717720308

Mach, L. (2020). Paradigmenwechsel im Extremismus. *Soziologiemagazin*, *13*(1–2020), 41–63. https://doi.org/10.3224/soz.v13i1.04

Marres, N. (2018). Why We Can't Have Our Facts Back. *Engaging Science, Technology, and Society*, *4*, 423–443. https://doi.org/10.17351/ests2018.188

Marres, N., & Lezaun, J. (2011). Materials and devices of the public: An introduction. *Economy and Society*, *40*(4), 489–509. https://doi.org/10.1080/03085147.2011.602293

Maxwell, N. (2017). *Karl Popper, science and enlightenment*. UCL press.

McGoey, L. (2012). The logic of strategic ignorance: The logic of strategic ignorance. *The British*

Journal of Sociology, *63*(3), 533–576. https://doi.org/10.1111/j.1468-4446.2012.01424.x

McGoey, L. (2019). *The unknowers: How strategic ignorance rules the world*. ZED.

Mede, N. G., & Schäfer, M. S. (2020). Science-related populism: Conceptualizing populist demands toward science. *Public Understanding of Science*, *29*(5), 473–491. https://doi.org/10.1177/0963662520924259

Merkley, E. (2020). Anti-Intellectualism, Populism, and Motivated Resistance to Expert Consensus. *Public Opinion Quarterly*, *84*(1), 24–48. https://doi.org/10.1093/poq/nfz053

Merriam-Webster. (n.d.). *Definition of FILTER BUBBLE*. Retrieved 10 January 2025, from https://www.merriam-webster.com/dictionary/filter+bubble

Merton, R. K. (1973). *The sociology of science: Theoretical and empirical investigations*. University of Chicago Press.

Meyer, M., Alfano, M., & Bruin, B. de. (2021). Epistemic vice predicts acceptance of Covid-19 misinformation. *Episteme*, 1–22. https://doi.org/10.1017/epi.2021.18

Michael, M. (2009). Publics performing publics: Of PiGs, PiPs and politics—Mike Michael, 2009. *Public Understanding of Science*, *Vol. 18(5)*, 617–631. https://doi.org/10.1177/0963662508098581

Michaels, D., & Monforton, C. (2005). Manufacturing Uncertainty: Contested Science and the Protection of the Public's Health and Environment. *American Journal of Public Health*, *95*(S1), S39–S48. https://doi.org/10.2105/AJPH.2004.043059

Mumford, L. (1964). Authoritarian and Democratic Technics. *Technology and Culture*, *5*(1), 1. https://doi.org/10.2307/3101118

Nefes, T. S., & Romero-Reche, A. (2020). Sociology, Social Theory and Conspiracy Theory. In M. Butter & P. Knight (Eds.), *Routledge Handbook of Conspiracy Theories* (1st ed., pp. 94–107). Routledge. https://doi.org/10.4324/9780429452734-1_7

Nelkin, D. (1975). The Political Impact of Technical Expertise. *Social Studies of Science*, *5*(1), 35–54. https://doi.org/10.1177/030631277500500103

Newton, C. (2025, January 8). *Meta surrenders to the right on speech*. Platformer.

https://www.platformer.news/meta-fact-checking-free-speech-surrender/

Nichols, T. M. (2017). *The death of expertise: The campaign against established knowledge and why it matters*. Oxford University Press.

Nölleke, D., Leonhardt, B. M., & Hanusch, F. (2023). "The chilling effect": Medical scientists' responses to audience feedback on their media appearances during the COVID-19 pandemic. *Public Understanding of Science*, 09636625221146749. https://doi.org/10.1177/09636625221146749

North, D. C. (1990). *Institutions, institutional change, and economic performance*. Cambridge University Press.

Nowotny, H., Scott, P., & Gibbons, M. (2003). INTRODUCTION: 'Mode 2' Revisited: The New Production of Knowledge. *Minerva*, *41*(3), 179–194. https://doi.org/10.1023/A:1025505528250

O'Mahony, C., Brassil, M., Murphy, G., & Linehan, C. (2023). The efficacy of interventions in reducing belief in conspiracy theories: A systematic review. *PloS One*, *18*(4), e0280902. https://doi.org/10.1371/journal.pone.0280902

Österreichische Akademie der Wissenschaften. (n.d.). *ÖAW startet Anlaufstelle für angefeindete Wissenschaftler:innen*. Retrieved 5 May 2023, from https://www.oeaw.ac.at/news/oeaw-startet-anlaufstelle-fuer-angefeindete-wissenschaftlerinnen

Owen, R., Macnaghten, P., & Stilgoe, J. (2012). Responsible research and innovation: From science in society to science for society, with society. *Science and Public Policy*, *39*(6), 751–760. https://doi.org/10.1093/scipol/scs093

Oxford English Dictionary. (2023). *Post-truth, adj., sense 2*. Oxford University Press; Oxford English Dictionary. https://doi.org/10.1093/OED/7768605775

Parlament Österreich. (n.d.). *Dr. Jörg Haider*. Retrieved 9 January 2025, from https://www.parlament.gv.at/person/490

Pelinka, A. (2012). Populismus—Zur Karriere eines Begriffes. In A. Pelinka & Sir Peter Ustinov Institut

(Eds.), *Populismus: Herausforderung oder Gefahr für die Demokratie?* (pp. 9–20). nap, New Acad. Press.

Pinch, T. J. (1979). Normal Explanations of the Paranormal: The Demarcation Problem and Fraud in Parapsychology. *Social Studies of Science*, *9*(3), 329–348.

Popper, K. R. (1969). *Conjectures and refutations: The growth of scientific knowledge* (3rd ed. (revised)). Routledge & K. Paul.

Pörksen, B. (2018). Die Deregulierung des Wahrheitsmarktes.Von der Macht der Desinformation im digitalen Zeitalter. In P. Strohschneider, G. Blamberger, & A. Freimuth (Eds.), *Vom Umgang mit Fakten* (pp. 11–22). Brill | Fink. https://doi.org/10.30965/9783770563814_003

Portes, R. (2017, May 3). *"The people of this country have had enough of experts"*. London Business School. https://www.london.edu/think/who-needs-experts

Powell, W. W., & Snellman, K. (2004). The Knowledge Economy. *Annual Review of Sociology*, *30*(1), 199–220. https://doi.org/10.1146/annurev.soc.29.010202.100037

Prior, L. (2007). Documents. In C. Seale, G. Gobo, J. F. Gubrium, & D. Silverman (Eds.), *Qualitative Research Practice* (pp. 345–360). Sage.

Proctor, R. (2008). Agnotology. A Missing Term to Describe the Cultural Production of Ignorance (and Its Study). In R. Proctor & L. L. Schiebinger (Eds.), *Agnotology: The making and unmaking of ignorance*. Stanford University Press.

Psychology Today. (n.d.). *Parapsychology*. https://www.psychologytoday.com/us/basics/parapsychology

PUSH-Memorandum. (1999). Stifterverband. https://www.stifterverband.org/ueber-uns/geschichte-des-stifterverbandes/push-memorandum

Reisigl, M., & Wodak, R. (2001). The Discourse-Historical Approach (DHA). In R. Wodak & M. Meyer (Eds.), *Methods of Critical Discourse Analysis* (pp. 87–121).

Roth, E. (2024, December 4). *ChatGPT now has over 300 million weekly users*. The Verge. https://www.theverge.com/2024/12/4/24313097/chatgpt-300-million-weekly-users

Royal Society (Ed.). (1985). *The public understanding of science*. The Society.

RTR. (n.d.). *Die Kommunikationsbehörde Austria (KommAustria)*. RTR. Retrieved 9 January 2025, from https://www.rtr.at/medien/wer_wir_sind/KommAustria/KommAustria.de.html

Rummens, S. (2017). Populism as a threat to liberal democracy. In K. Cristóbal Rovira, T. Paul, E. Paulina Ochoa, & O. Pierre (Eds.), *The Oxford handbook of populism* (pp. 554–570). Oxford university press.

Scheufele, D. A., & Krause, N. M. (2019). Science audiences, misinformation, and fake news. *Proceedings of the National Academy of Sciences*, *116*(16), 7662–7669. https://doi.org/10.1073/pnas.1805871115

Schiebinger, L. (Ed.). (1996). *The mind has no sex? Women in the origins of modern science* (1. Harvard Univ. Press paperback ed., 6th print). Harvard Univ. Press.

Schrenk, J., Hoepke, S., Nagl, M., Rachbauer, S., Wammerl, P., Kada, K., Kleedorfer, R., & Foschum, M. (2021, March 13). *Ein Jahr Lockdown: Der Tag, an dem die Leere nach Österreich kam*. https://kurier.at/chronik/oesterreich/der-tag-an-dem-die-leere-nach-oesterreich-kam/401217030

science.ORF.at/Agenturen. (2023, March 23). *Sorge über „Ignoranz wissenschaftlicher Evidenz“*. science.ORF.at. https://science.orf.at/stories/3218349/

Scopus AI: Trusted content. Powered by responsible AI. (n.d.). Retrieved 4 January 2025, from https://www.elsevier.com/products/scopus/scopus-ai

Searle, J. R. (2005). What is an institution? *Journal of Institutional Economics*, *1*(1), 1–22. https://doi.org/10.1017/S1744137405000020

Serrano Sanz, F., Holocher-Ertl, T., Kieslinger, B., Sanz García, F., & Silva, C. G. (2014). *White paper on citizen science for Europe*. European Commission. http://www.socientize.eu/?q¼eu/content/download-socientize-white-paper

Shapin, S. (1992). Why the public ought to understand science-in-the-making. *Public Understanding of Science*, *1*(1), 27–30. https://doi.org/10.1088/0963-6625/1/1/006

Silverman, D. (2006). *Interpreting qualitative data: Methods for analyzing talk, text and interaction* (3. ed.). Sage Publ.

Silverman, D. (2019). *Interpreting qualitative data* (6th edition). SAGE Pub.

Simis, M. J., Madden, H., Cacciatore, M. A., & Yeo, S. K. (2016). The lure of rationality: Why does the deficit model persist in science communication? *Public Understanding of Science*, *25*(4), 400–414. https://doi.org/10.1177/0963662516629749

Sismondo, S. (2010). *An introduction to science and technology studies* (Second edition). Wiley-Blackwell.

Smithson, M. J. (2008). Social Theories of Ignorance. In R. Proctor & L. L. Schiebinger (Eds.), *Agnotology: The making and unmaking of ignorance* (pp. 209–229). Stanford University Press.

Star, S. L., & Griesemer, J. R. (1989). Institutional Ecology, `Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science*, *19*(3), 387–420. https://doi.org/10.1177/030631289019003001

Stehr, N., & Ericson, R. V. (1994). Part 1: The Culture and Power of Knowledge in Modern Society. In N. Stehr & R. V. Ericson (Eds.), *The Culture and Power of Knowledge: Inquiries into Contemporary Societies* (pp. 3–22). Sage.

Suldovsky, B. (2016). In science communication, why does the idea of the public deficit always return? Exploring key influences. *Public Understanding of Science*, *25*(4), 415–426. https://doi.org/10.1177/0963662516629750

Suryanarayanan, S., & Kleinman, D. L. (2013). Be(e)coming experts: The controversy over insecticides in the honey bee colony collapse disorder. *Social Studies of Science*, *43*(2), 215–240. https://doi.org/10.1177/0306312712466186

Tabellini, G. (2019, October 29). *The rise of populism | CEPR*. https://cepr.org/voxeu/columns/rise-populism

Taking European knowledge society seriously. (2007). Publications Office.

https://op.europa.eu/en/publication-detail/-/publication/5d0e77c7-2948-4ef5-aec7-bd18efe3c442

Taschwer, K. (2021, November 10). *Österreichs fatale Wissenschaftsskepsis*. DER STANDARD. https://www.derstandard.de/story/2000131037835/oesterreichs-fatale-wissenschaftsskepsis

Taschwer, K. (2024, September 27). *Wien bekommt statt Helnwein-Museum neues Zentrum für Wissenschaftsvermittlung*. https://www.derstandard.at/story/3000000238284/wien-bekommt-statt-helnwein-museum-neues-zentrum-fuer-wissenschaftsvermittlung

Thalmann, K. (2019). *The stigmatization of conspiracy theory since the 1950s: 'a plot to make us look foolish'*. Routledge, Taylor and Francis Group.

UNESCO. (2005). *Rapport mondial de l'UNESCO: Vers les sociétés du savoir*. Editions UNESCO.

United Nations. (1992). *Report of the United Nations Conference on Environment and Development*. United Nations. https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf

van Prooijen, J.-W., Krouwel, A. P. M., & Pollet, T. V. (2015). Political Extremism Predicts Belief in Conspiracy Theories. *Social Psychological and Personality Science*, *6*(5), 570–578. https://doi.org/10.1177/1948550614567356

Vohland, K., Land-Zandstra, A., Ceccaroni, L., Lemmens, R., Perelló, J., Ponti, M., Samson, R., & Wagenknecht, K. (Eds.). (2021). *The science of citizen science*. Springer. https://doi.org/10.1007/978-3-030-58278-4

von Hippel, K. (2017, July). *The rise of populism*. British Council. https://www.britishcouncil.org/research-insight/rise-populism

Wehling, P. (2001). Jenseits des Wissens?: Wissenschaftliches Nichtwissen aus soziologischer Perspektive. *Zeitschrift Für Soziologie*, *30(6)*(2001–12), 465–484.

Weingart, P. (1998). Science and the media. *Research Policy*, *27*(8), 869–879.

https://doi.org/10.1016/S0048-7333(98)00096-1

Wolff, S. (2007). Dokumenten- und Aktenanalyse. In U. Flick, E. von Kardorff, & I. Steinke (Eds.), *Qualitative Forschung: Ein Handbuch* (5. Auflage, Originalausgabe, pp. 502–513). rowohlts enzyklopädie im Rowohlt Taschenbuch Verlag.

World Health Organisation. (2020, September 23). *Managing the COVID-19 infodemic: Promoting healthy behaviours and mitigating the harm from misinformation and disinformation*. https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation

World Summit on the Information Society. (2003). *Declaration of Principles. Building the Information Society: A Global Challenge in the New Millenium.* https://www.itu.int/net/wsis/docs/geneva/official/poa.html

10. Appendix

10.1. Documents (DC1 & DC2)

10.1.1 Document Cluster 1 (DC1) – Constituting & Strengthening Democracy

ID	Type of Document	Source
DC1-1	Study outline	Bundesministerium für Bildung, Wissenschaft und Forschung. (2022a). *Terms of Reference. Studie zu den Ursachen von Wissenschafts- und Demokratieskepsis in Österreich*. https://www.bmbwf.gv.at/dam/jcr:3cd43917-6263-4096-971d-ace235c4121e/2022_06_14_BMBWF_Terms%20of%20Reference_Ursachenstudie.pdf
DC1-2	publication (webpage)	Bundesministerium für Bildung, Wissenschaft und Forschung. (2023). *TruSD: 10-Punkte-Programm zur Stärkung des Vertrauens in Wissenschaft und Demokratie in Österreich*. https://www.bmbwf.gv.at/trusd22. *Internet Archive*. https://web.archive.org/web/20220922123903/https://www.bmbwf.gv.at/Ministerium/Veranstaltungen/TrusD22.html
DC1-3	essay	Bogner, A. (2020). *Was kann die Wissenschaft bei Pandemien leisten?* https://www.oeaw.ac.at/fileadmin/NEWS/2021/PDF/Bogner_Alexander_de_PF_2020-26_final-CD-1.pdf.
DC1-4	method report	Kittel, B., Kritzinger, S., Boomgaarden, H., Prainsack, B., Eberl, J.-M., Kalleitner, F., … Schlogl, L. (2021). The Austrian Corona Panel Project: Monitoring individual and societal dynamics amidst the COVID-19 crisis. *European Political Science*, 20(2), 318–344. https://doi.org/10.1057/s41304-020-00294-7
DC1-5	publication (webpage)	Eberl, J.-M., Partheymüller, J. (2021, January 16). *Im Tempel des Sarastro: Sollen Expert*innen politische Entscheidungen treffen?*. https://viecer.univie.ac.at/en/projects-and-cooperations/austrian-corona-panel-project/corona-blog/corona-blog-beitraege/blog96/

DC1-6	publication (webpage)	Krejca, F., Kritizinger, S., Partheymüller, J. (2022, June 28). *Vertrauen in der Corona-Krise: Ein Update*. https://viecer.univie.ac.at/corona-blog/corona-blog-beitraege/blog-152-vertrauen-in-der-corona-krise-ein-update/
DC1-7	report	European Commission. (2021a). *European citizens' knowledge and attitudes towards science and technology*. https://europa.eu/eurobarometer/api/deliverable/download/file?deliverableId=76996
DC1-8	publication (journalistic)	Taschwer, K. (2021, November 10). *Österreichs fatale Wissenschaftsskepsis.* https://www.derstandard.at/story/2000131037835/oesterreichs-fatale-wissenschaftsskepsis
DC1-9	policy brief	Starkbaum, J., König, T., Taschwer, K. (March 2022). *Impulse für einen Neustart der Wissenschaftskommunikation in Österreich.* IHS Policy Brief 1, 21 p. https://irihs.ihs.ac.at/id/eprint/6082/
DC1-10	policy brief	Nowotny, H. (2021). *Policy Brief. Wege aus der Pandemie: zur Neubestimmung des Verhältnisses von Wissenschaft und Gesellschaft*. https://www.helga-nowotny.eu/downloads/helga_nowotny_b359.pdf
DC1-11	report	Rechnungshof Österreich. (2019). *Forschungs- und Wissenschaftskommunikation. Bericht des Rechnungshofes.* https://www.rechnungshof.gv.at/rh/home/home/Forschungs-_und_Wisssenschaftskommunikation_2019_41.pdf
DC1-12	report	Starkbaum, J., Auel, K., Bobi, V., Fuglsang, S., Grand, P., Griessler, E., ... Unger, M. (2023). *Ursachenstudie zu Ambivalenzen und Skepsis in Österreich in Bezug auf Wissenschaft und Demokratie - Endbericht*. https://pubshop.bmbwf.gv.at/index.php?article_id=9&type=neuerscheinungen&pub=1042
DC1-13	press release	Österreichische Akademie der Wissenschaften. (2022a, December 21). *ÖAW-Wissenschaftsbarometer: Rund ein Drittel vertraut Wissenschaft kaum.* https://www.ots.at/presseaussendung/OTS_20221221_OTS0068/oeaw-wissenschaftsbarometer-rund-ein-drittel-vertraut-wissenschaft-kaum
DC1-14	report	Österreichische Akademie der Wissenschaften. (2022b). Wissenschaftsbarometer Pilotstudie. https://www.oeaw.ac.at/fileadmin/NEWS/2022/PDF/23725_OEAW_Wissenschaftsbarometer_extended.pdf

DC1-15	report	Bogner, A. (2023). *Nach Corona. Reflexionen für zukünftige Krisen. Ergebnisse aus dem Corona-Aufarbeitungsprozess.* https://www.bundeskanzleramt.gv.at/dam/jcr:0668fa51-0122-4efe-a49e-6270a3a05840/82a_1_bei_NB.pdf
DC1-16	funding call / funding guideline	Wirtschaftsagentur (n.d._a). *Richtlinie Kommunikation/18-22+.* https://cockpit.wirtschaftsagentur.at/Kontext/Webservice/SecureFileAccess.aspx?fileguid=%7B758eb2c5-9174-48fd-aaaa-d56bf8ec9eeb%7D
DC1-17	funding call / funding guideline	Wirtschaftsagentur (n.d._b). *Wissenschaft verstehen (2024-2026).* https://cockpit.wirtschaftsagentur.at/Kontext/Webservice/SecureFileAccess.aspx?fileguid={176f6b0d-f775-41a3-9794-a2b28f09f328}
DC1-18	funding call / funding guideline	FWF - Wissenschaftsfonds. (n.d.). *Antragsrichtlinien für das Wissenschaftskommunikationsprogramm.* https://www.fwf.ac.at/fileadmin/files/Dokumente/Antragstellung/WissKomm/wkp-antragsrichtlinien.pdf
DC1-19	report	SORA/Zandonella, M. (2022). *Demokratie Monitor 2022. Fokusbericht.* https://www.parlament.gv.at/dokument/fachinfos/publikationen/SORA-Endbericht-Demokratie-Monitor-2022.pdf
DC1-20	publication (webpage)	Plescia, C., Krejca, F.; Kalleitner, F. (2020). *Die Dynamik der Demokratiezufriedenheit und des Vertrauens in die österreichische Bundesregierung während der COVID-19-Pandemie.* https://viecer.univie.ac.at/corona-blog/corona-blog-beitraege/corona-dynamiken13/
DC1-21	essay	Gourgé, K. (2023). *Die Geburt der Wissenschaft aus dem Geiste der Skepsis.* https://www.oeaw.ac.at/fileadmin/NEWS/2023/pdf/GOURGE_Klaus.pdf
DC1-22	report	Bundesministerium für Arbeit und Wirtschaft; Bundesministerium für Bildung, Wissenschaft und Forschung; Bundesministerium für Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie. (2023). *Austrian Research and Technology Report.* https://www.bmbwf.gv.at/dam/jcr:dea25ae7-85de-4c18-b911-f0ed3a6dd522/ftb_2023_en.pdf
DC1-23	publication (webpage)	Eberl, Jakob-Moritz; Greussing, Esther; Huber, Robert A.; Mede, Niels G. (2021). Wissenschaftsbezogener Populismus: Eine österreichische Bestandsaufnahme. https://viecer.univie.ac.at/corona-blog/corona-blog-beitraege/blog124/

DC1-24	report	European Commission. (2021b). *European citizens' knowledge and attitudes towards science and technology . Country factsheet - Austria.* https://europa.eu/eurobarometer/api/deliverable/download/file?deliverableId=76831
DC1-25	essay	Allgaier, J. (2023). *Zum Gegenangriff gegen Desinformation. Wie gelingt die Förderung gegenüber absichtlich herbeigeführter gesellschaftlicher Wissenschaftsskepsis?* https://www.oeaw.ac.at/fileadmin/NEWS/2023/pdf/ALLGAIER_Joachim.pdf
DC1-26	report	Bundesstelle für Sektenfragen. (2022). *Tätigkeitsbericht 2022.* https://www.parlament.gv.at/dokument/XXVII/III/968/imfname_1571225.pdf
DC1-27	report	Bundesstelle für Sektenfragen. (2021). *Das Phänomen Verschwörungstheorien in Zeiten der COVID-19-Pandemie. Bericht der Bundesstelle für Sektenfragen an die Bundesministerin für Frauen, Jugend, und Integration.* https://www.bmi.gv.at/news.aspx?id=673251595A7342454779673D
DC1-28	press release	Bundesministerium für Inneres. (2021, May 31). *Verschwörungstheorien während der Corona-Pandemie.* https://www.bmi.gv.at/news.aspx?id=673251595A7342454779673D
DC1-29	report	Bundesweites Netzwerk Extremismusprävention und Deradikalisierung. (2018). *The Austrian Strategy for the Prevention and Countering of Violent Extremism and Deradicalisation.* https://dsn.gv.at/216/. *Internet Archive.* https://web.archive.org/web/20230322171654/https://www.dsn.gv.at/216/)
DC1-30	publication (webpage)	Stadt Wien. (2022). *Projektausschreibung "democracy in progress - Beiträge zur Stärkung des Vertrauens in demokratische Institutionen - Call 2022.* https://www.wien.gv.at/amtshelfer/kultur/projekte/subventionen/democracy-in-progress.html
DC1-31	Didactic material	Demokratiezentrum Wien. (n.d_a). *Targeting Extremism and Conspiracy Theories. Was geschah mit Jörg Haider?* https://www.demokratiezentrum.org/wp-content/uploads/2022/01/TEACH_Verschwoerungstheorien_aus_Oesterreich.pdf
DC1-32	report	Demokratiezentrum Wien (n.d._b). *Targeting Extremism and Conspiracy Theories. Relevant Conspiracy Theories in Austria*. https://www.demokratiezentrum.org/wp-content/uploads/2022/01/TEACH_National_Report_Austria.pdf

DC1-33	policy	European Commission. (2020a). A *Counter-Terrorism Agenda for the EU: Anticipate, Prevent, Protect, Respond*. https://home-affairs.ec.europa.eu/system/files/2020-12/09122020_communication_commission_european_parliament_the_council_eu_agenda_counter_terrorism_po-2020-9031_com-2020_795_en.pdf
DC1-34	publication (webpage)	European Commission. (2020b). Security Union: A Counter-Terrorism Agenda and a stronger Europol to boost the EU's resilience. https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2326
DC1-35	report	Technopolis. (2018). *Analyse der institutionellen Wirkungen von Sparkling Science.* https://www.sparklingscience.at/_Resources/Persistent/54e21ee6831ca0b5f4da08794dd2f999a8c3168a/technopolis%20Endbericht_institutionelle%20Wirkungen%20Sparkling%20Science%20November%202018.pdf. *Internet Archive*. https://web.archive.org/web/20240425150918/https://www.sparklingscience.at/_Resources/Persistent/54e21ee6831ca0b5f4da08794dd2f999a8c3168a/technopolis%20Endbericht_institutionelle%20Wirkungen%20Sparkling%20Science%20November%202018.pdf)
DC1-36	funding call / funding guideline	OEAD. (2022). *Sonderrichtlinie Sparkling Science 2.0.* https://www.sparklingscience.at/_Resources/Persistent/d59cb357babc539d46cfc6a8ea81cf815efab874/Sonderrichtlinie_Sparkling_Science%20%281%29.pdf. *Internet Archive.* https://web.archive.org/web/20240415105121/https://www.sparklingscience.at/_Resources/Persistent/d59cb357babc539d46cfc6a8ea81cf815efab874/Sonderrichtlinie_Sparkling_Science%20(1).pdf
DC1-37	report	European Commission: Directorate-General for Research and Innovation. (2007). *Taking European knowledge society seriously. Publications Office.* https://op.europa.eu/en/publication-detail/-/publication/5d0e77c7-2948-4ef5-aec7-bd18efe3c442
DC1-38	report	Felt, U, Bomm, L, Hofer, R., Still, L., Saxinger, F. (2021). *Die Stadt als Wissensraum. Kartograpie der dezentralen Wissenschaftsvermittlungsaktivitäten in Wien.* https://sts.univie.ac.at/fileadmin/user_upload/i_sts/Publikationen/Preprints/Abschlussbericht_Wissensraum_Felt_06_2021.pdf

DC1-39	funding call / funding guideline	Stadt Wien. (n.d._a). *Projektausschreibung Vom Wissen der Vielen - Wissenschaftsvermittlung in Wien - Call 2022*. /https://www.wien.gv.at/amtshelfer/kultur/projekte/subventionen/wissenschaftsvermittlung.html. *Internet Archive.* https://web.archive.org/web/20220210160834/https://www.wien.gv.at/amtshelfer/kultur/projekte/subventionen/wissenschaftsvermittlung.html
DC1-40	report	Reidl, S, Kulmer, V., Hafellner, S. (2015). *Landkarten der Wissenschaftskommunikation – Bestandsaufnahme unterschiedlicher Formate der gesellschaftlichen Vermittlung von Wissenschaft, Forschung und Innovation*. https://forwit.at/archive/files/rat-fte-pdf/publikationen/2015/1508_Landkarten%20der%20Wissenschaftskommunikation.pdf
DC1-41	Recommenda -tions	Beratungsstelle Extremismus. (2020). *10 Empfehlungen zur Extremismus-Prävention.* https://www.beratungsstelleextremismus.at/ wp-content/uploads/2020/12/bOJA_Empfehlungen_Extremismuspraevention.pdf

10.1.2 Document Cluster 2 (DC2) – Constituting Engaged Publics

ID	Type of Document	Source
DC2-1	policy	European Commission. (2022). *Dig. Comp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes.* https://publications.jrc.ec.europa.eu/repository/handle/JRC128415
DC2-2	policy	European Commission. (2019). *Key comptences for lifelong learning.* https://op.europa.eu/en/publication-detail/-/publication/297a33c8-a1f3-11e9-9d01-01aa75ed71a1/language-en

DC2-3	Didactic material	DETECT. (2021a). *Kompendium: Von Trollen und Bots.* https://demokratiezentrum.org/wp-content/uploads/2021/04/DE_Detect_Compendium.pdf
DC2-4	policy	mediamanual. (n.d). *21 Kompetenzen zur Medienbildung* *Media Literacy Guidelines European Commission.* https://www.mediamanual.at/mediamanual/mm2/pdf/mmt_21-kompetenzen_OK.pdf. *Internet Archive.* https://web.archive.org/web/20231206180608/https://www.mediamanual.at/mediamanual/mm2/pdf/mmt_21-kompetenzen_OK.pdf
DC2-5	Didactic material	Saferinternet.at. (n.d_a). *Wahr oder falsch im Internet? Informationskompetenz in der digitalen Welt.* https://www.saferinternet.at/fileadmin/categorized/Materialien/WEB_Wahr_oder_falsch_im_Internet.pdf
DC2-6	report	KommAustria. (2023). Bericht über die Maßnahmen zur Förderung und Entwicklung von Medienkompetenz. https://ec.europa.eu/newsroom/dae/redirection/document/96032
DC2-7	statement (webpage)	mediamanual. (2024). *Webpage*. www.mediamanual.at
DC2-8	decree	Bundesministerium für Bildung, Wissenschaft und Forschung. (2022b). *Grundsatzerlass Medienbildung, Aktualisierung, Information der Schulen.* https://rundschreiben.bmbwf.gv.at/rundschreiben/?id=1308
DC2-9	policy	European Commission. (2023). *Media Literacy Guidelines*. https://digital-strategy.ec.europa.eu/en/library/media-literacy-guidelines
DC2-10	publication (webpage)	EDMO. (n.d.) *About Us*. https://edmo.eu/about-us/edmoeu/
DC2-11	publication (webpage)	GADMO. (n.d._a). *Gadmo at a glance*. https://gadmo.eu/en/about-us/gadmo-at-a-glance/

DC2-12	Didactic material	GADMO. (n.d._b). *So wirst du zum Faktencheck-Profi. Kapitel 2: So erkennst du Desinformation.* https://gadmo.eu/wp-content/uploads/2024/01/So-wirst-du-zum-Faktencheck-Profi-Kapitel-2.pdf
DC2-13	Didactic material	DETECT. (2021b). *Detect: Enhancing Digital Citizenship. Methodenhandbuch für Schüler*innen.* https://www.demokratiezentrum.org/wp-content/uploads/2021/04/DE_Detect_Student_Manual.pdf
DC2-14	Policy	European Commission. (2018). *Actionplan against disinformation.* https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018JC0036&qid=1736353604517
DC2-15	Code of practice	IFCN. (n.d.). *The commitments of the Code of Principles.* https://drive.google.com/file/d/1br2vpJKurfl0rxysT-PbtanUIpFciziJ/view
DC2-16	Policy	Austrian Press Agency. (2020a). *Die Regeln des APA-Faktenchecks.* https://apa.at/faktencheck/regeln/
DC2-17	policy	Austrian Press Agency. (2020b). *Korrekturregeln und Berichtigung.* https://apa.at/faktencheck/korrekturregeln/
DC2-18	method paper	Medizin-transparent. (2018). *Methodenpapier Medizin-transparent.* https://www.medizin-transparent.at/wp-content/uploads/2022/12/Methodenpapier-Medizin-transparent_v1.0.pdf
DC2-19	report	Bundesministerium für Soziales, Pflege und Konsumentenschutz. (2021). *Empfehlungen zur Verbesserung der Gesundheitskompetenz in Österreich auf Basis der Ergebnisse aus der österreichischen Gesundheitskompetenzerhebung HLS19-AT.* https://oepgk.at/website2023/wp-content/uploads/2023/08/empfehlungen-bzk-beschlossen.pdf
DC2-20	Didactic material	DETECT. (2021c). *Detect: Enhancing Digital Citizenship. Methodenhandbuch für Lehrkräfte.* https://www.demokratiezentrum.org/wp-content/uploads/2021/04/DE_Detect_Teacher_Manual.pdf
DC2-21	publication (webpage)	Stadt Wien. (n.d._b). *Fake News: Die wichtigsten Fragen und Antworten.* https://www.wien.gv.at/medien/fake-news/fragen-und-antworten.html
DC2-22	policy	Bundesministerium für Bildung und Frauen. (2014). *Unterrichtsprinzip Medienerziehung - Grundsatzerlass.*

		https://rundschreiben.bmbwf.gv.at/media/2012_04.pdf
DC2-23	publication (webpage)	Bundesministerium für Bildung, Wissenschaft und Forschung. (2023). *Studie zu den Ursachen von Wissenschafts- und Demokratieskepsis in Österreich: IHS legt dem BMBWF vorläufige Ergebnisse vor.* https://www.bmbwf.gv.at/Ministerium/Presse/20230103.html . *Internet Archive.* https://web.archive.org/web/20230207222259/https://www.bmbwf.gv.at/Ministerium/Presse/20230103.html

10.1.3 Original Data Excerpts

Document / page	Own Translation	Original
DC1-3, p. 2	"[…] a calculable risk, which is to be approached preventatively on the basis of scientific insights"	"[…] kalkulierbares Risiko, dem es auf Basis wissenschaftlicher Einsichten präventiv zu begegnen gilt."
DC1-10, pp. 2-3	"The public is not told that the current iteration of knowledge is only preliminary, each scientific knowledge is continuously advanced by more accurate, more comprehensive knowledge or simply by other knowledge."	„Es wird [der Öffentlichkeit] auch nicht mitgeteilt, dass der jeweilige Stand des Wissens immer nur ein vorläufiger ist, wird jedes wissenschaftliche Wissen doch kontinuierlich durch genaueres, umfassenderes und eben auch durch anderes Wissen ergänzt oder ersetzt."
DC1-12, p. 263	"younger age, lower educational level, dissatisfaction with democracy and orientated towards the right spectrum of politics."	„jüngeres Alter, niedrigeres Bildungsniveau, Unzufriedenheit mit der Demokratie und Orientierung am politisch rechten Spektrum."

DC1-17, p. 5	„Ultimately, the attractiveness of an academic education as well as continuing education in the natural sciences must be increased for the purpose of securing sufficient human resources in the sciences and research."	"Schließlich muss auch die Attraktivität naturwissenschaftlicher Aus- und Weiterbildung im Sinn einer langfristigen Sicherung ausreichender Personalressourcen in Wissenschaft und Forschung gehoben werden."
DC1-12, p. 92	"An institution is not shown trust or scepticism in an isolated manner, on the contrary, other institutions which are understood as related are also affected."	"Vertrauen oder Skepsis wird einer Institution also nicht isoliert entgegengebracht, sondern auch jenen weiteren Institutionen, die als dieser zugehörig wahrgenommen werden."
DC1-3, p. 4	"Also in this case, the performance of the science is measured according to their ability to exercise self-criticism."	"Auch in diesem Fall bemisst sich die Leistungsfähigkeit der Wissenschaft nach ihrer Fähigkeit zur Selbstkritik."
DC1-21, p. 4	"Science needs scepticism. If science wanted to rid itself of scepticism, something that is not even possible theoretically, everything would get even worse. […] The scientific community should not offer this favour to [the conspiracy theorists]. By doing so, it would lose their best weapons against science sceptics: evidence, criticism, argumentation, logic, scepticism, systemic questioning of the present state of knowledge…indeed, good old scepticism."	„Wissenschaft braucht Skepsis. Wollte Wissenschaft die Skepsis loswerden, was nicht einmal theoretisch denkbar ist, würde alles nur noch schlimmer. […]. Den Gefallen sollte [den Verschwörungstheoretiker*innen] die Scientific community nicht tun. Denn damit hätte sie sich selbst ihrer besten Instrumente beraubt im Umgang mit den Wissenschaftsskeptiker:innen: Evidenz, Kritik, Argument, Logik, Zweifel, systematisches Infragestellen des aktuellen Erkenntnisstands…die gute alte Skepsis eben."

DC1-9, p. 3	"[…] that Austria, compared internationally, has a populace that is sceptic towards the sciences and technologies."	"[…] dass Österreich im internationalen Vergleich eine wissenschafts- und technologieskeptische Bevölkerung hat."
DC1-3, p. 8	„Formulated a bit polemically: alternative facts are in great demand when the political landscape – thanks to, largely, an accordance with the sciences – understands itself as without alternatives."	"Etwas überspitzt formuliert: Alternative Fakten haben Konjunktur, wenn sich Politik – dank weitestgehender Übereinstimmung mit der Wissenschaft – als alternativlos versteht."
DC1-10, p. 2	„Disappointments are preprogrammed if the public exclusively gets to see the "day sciences". If the public only gets to see the end-products, from the newest therapies, medications or the latest technological gadgets, then the processes of developing this new knowledge, as well as the oftentimes long way to production, remain invisible."	„Wenn die Öffentlichkeit ausschließlich die 'Tageswissenschaft' zu sehen bekommt, sind Enttäuschungen vorprogrammiert. Wenn ihr nur Endprodukte präsentiert werden, seien es die neuesten Therapien, Medikamente oder die letzten technologischen Gadgets, dann bleiben die Prozesse der Entstehung von neuem Wissen und der oft lange Weg der Umsetzung in die praktische Anwendung ausgeblendet."
DC1-27, p. 53	"Conspiracy theories take on the function of a pseudo-religion for many affected people. They explain the world and introduce order and meaning, complexity gets reduced and replaced by black-and-white-pictures."	"Verschwörungstheorien nehmen für viele Betroffene fast schon eine pseudoreligiöse Funktion ein. Sie erklären die Welt und führen Ordnung und Sinn ein,

		Komplexität wird reduziert und durch Schwarz-Weiß-Bilder ersetzt.“
DC1-25, p. 3	“Unfortunately, the enemies of democracies have found ideal conditions for attacking the main institutions of free societies (of which the sciences are only one among many) in the predominately digital information ecosystem.”	“Bedauerlicherweise fanden die Feinde der Demokratie im neuen vorwiegend digitalen Informationsökosystem nahezu ideale Bedingungen vor, um die tragenden Institutionen freiheitlicher Gesellschaften anzugreifen, von denen die Wissenschaft nur eine darstellt.”
DC1-28, n.p.	“Conspiracy theorists disseminate disinformation consciously and purposefully and try to utilise the insecurities by people for their anti-democratic, ideological aims.”	“Verschwörungstheoretiker betreiben bewusste und gezielte **Desinformation** und versuchen die Verunsicherung der Menschen für ihre **demokratiefeindlich** ideologischen Ziele zu nutzen.“
DC1-12, p. 75	“From the perspective of a democracy, a problematisation can be, principally, evaluated positively. […] However, one can observe despite repeated attempts to moderate these debates, these attempts have run up against the lack of structures and public spaces which are necessary for them to happen, in the sense of ‘res publica’, making it possible to affect the relation between science and the public.”	“Aus demokratiepolitischer Sicht ist eine solche Problematisierung grundsätzlich durchaus als positiv zu bewerten […]. Zu beobachten ist allerdings, dass es zwar immer wieder Versuche gab, diese Debatten zu moderieren, dass es aber an Strukturen und öffentlichen Räumen fehlt, wo sie im Sinne der ‚res publica‘ stattfinden können und sich auf das Verhältnis von Wissenschaft und Gesellschaft auswirken.“
DC1-39, n.p.	“To remove a perceived divide / a potential mistrust between science and society; […] to enshrine a positive picture of science;	“Abbau einer wahrgenommenen Kluft/eines potentiellen Misstrauens zwischen Wissenschaft und

	[…]; to secure future scientific personnel; […]; to empower citizens.”	Gesellschaft; […]; Positives Bild von Wissenschaft verankern; […]; Nachwuchs sichern; […]; Empowerment der Bürger*innen.“
DC1-39, n. p.	“The aim is to foster a better understanding of the public of science and the processes behind it and therefore an increased trust in fact-based knowledge. This development is to be encouraged by a critical stance against pseudo-knowledge.”	“Erreicht werden soll ein besseres Verständnis der Öffentlichkeit für die Wissenschaft und die dahinterstehenden Prozesse und damit ein erhöhtes Vertrauen in faktenbasiertes Wissen. Angeregt werden soll die Entwicklung einer kritischen Haltung gegenüber Pseudowissen.“
DC2-5, p. 5	„If a person who is in the process of doing their Matura does not know how to find a good source on the Internet and how to cite it, then this reflects on the supervising teacher. […] Digital Natives are, just like any other Internet users, challenged to continue learning.“	“Und weiß ein:e Maturant:in nicht, wie man eine gute Quelle im Internet erkennt und zitiert, so fällt dies leicht auf die betreuende Lehrkraft zurück. […] Die Digital Natives sind wie alle anderen Internetnutzer:innen gefordert, dazuzulernen.“
DC2-13, p. 8	“It is important to recognise disinformation, on the one hand to prevent being manipulated yourself, and on the other hand to avoid further dissemination of disinformation in social networks.”	“Es ist wichtig, Desinformation zu erkennen, damit man zum einen nicht selber manipuliert wird. Zum anderen ist dies aber auch deswegen wichtig, damit man nicht zu ihrer Verbreitung in sozialen Netzwerken beiträgt.“
DC2-18, p. 7	“In every article published by Medizin-transparent we try to answer one or more questions raised by claims in the media, on	“In jedem Medizin-transparent-Beitrag versuchen wir, eine oder mehrere Fragen zu beantworten, die sich

	the Internet or in advertising, as well as by disseminated health myths."	durch Behauptungen in Medien, Internet oder Werbung sowie durch verbreitete Gesundheitsmythen stellen."
DC2-5, p. 4	"Due to the possibility of not only retrieving information, but to publish information yourself, the extent of available information rises continuously: For every topic or term, hundreds, thousands, indeed, millions of online sources exist. Filtering suitable information from this quantity becomes increasingly harder."	„Durch die Möglichkeit, Informationen nicht nur abzurufen, sondern auch selbst zu veröffentlichen, steigt der Umfang an verfügbarer Information im Internet immer weiter an: Zu praktisch jedem Thema oder Begriff existieren hunderte, tausende, ja, oft sogar Millionen Onlineinhalte. Aus dieser Menge die jeweils passenden Informationen zu filtern, wird zunehmend schwieriger."
DC2-21, n. p.	"The most important thing is that you do not contribute to the spread of fake news. This means that you should not comment on, like, or disseminate it further. In addition, you can report fake news to the respective social media platform or turn to initiatives such as Mimikama. In individual cases, it can be effective to comment on fake news, to alert others that the piece of information is false. Contacting friends and acquaintances, who share these posts directly might be even better. Thereby, the post does not reach any more engagement."	„Am wichtigsten ist, dass du nicht zur Verbreitung von Fake News beiträgst. Das bedeutet, Fake News nicht zu kommentieren, zu liken oder zu teilen. Zusätzlich kannst du Fake News bei den jeweiligen Sozialen Medien melden oder dich an Faktencheck-Plattformen wie Mimikama wenden. Im Einzelfall kann es auch sinnvoll sein, Fake News zu kommentieren und andere darauf aufmerksam zu machen, dass es sich um falsche Informationen handelt. Besser ist es, man kontaktiert Freunde und Bekannte, die solche Beiträge teilen,

		direkt. Dann verschafft man den Fake News auch keine weitere Aufmerksamkeit.“
DC2-3, p. 19	“These filters approach the users and are difficult to avoid (Pariser, 2011, 9). Vivian Rose (2018) further argues that these filter bubbles promote confirmation biases, and enlarge the segregation between different groups of people, because users are lumped together in interest groups (326).”	„Diese Filter nähern sich dem/der User*in an und sind schwer zu meiden (Pariser, 2001-9-10). Darüber hinaus argumentiert Vivian Roese (2018), dass durch die Filterblase Bestätigungsfehler gefördert werden und sich die Segregation zwischen verschiedenen Gruppen von Menschen vergrößert, weil sich User*innen in Interessengruppen zusammentun (326).“

DC2-3, p. 21	“This means that we rather trust information which tends to support our own worldview and adheres to our political and cultural values than opposing information.”	“Das bedeutet, dass wir tendenziell Informationen, die unser Weltbild stützen und mit unseren politischen und kulturellen Werten übereinstimmen, eher vertrauen als entgegengesetzten Informationen.“
DC2-22, p. 1	„The share of media in the world and the perception on it increases steadily – a new dimension developed in accord with highly developed technologies. […]. Pedagogy is required to be media pedagogy at the same time.”	“Der Anteil von Medien an der Welt/Wirklichkeitserfahrung nimmt stetig zu – eine neue Dimension von Wirklichkeit ist mit dem Aufkommen von hoch entwickelten Technologien entstanden. […] Pädagogik muss gleichzeitig auch Medienpädagogik sein.“
DC2-4, p. 1	“We need media literacy to be able to choose between different media, to be able to critically assess content and information and to be able to communicate throughout diverse media.”	“Wir brauchen Medienkompetenz, um fundiert zwischen verschiedenen Medien wählen zu können, um Inhalte und Informationen kritisch bewerten zu können und in vielfältigen Medien zu kommunizieren.“
DC2-5, p. 14	“To assess the trustworthiness, it is helpful to ask oneself: Who issued this information? How is the content presented? What is the intention behind it? What is the general impression? Where does the information come from?”	„Um die Vertrauenswürdigkeit zu beurteilen, hilft es, zu überlegen: Wer steckt dahinter? Wie ist der Inhalt dargestellt? Was ist die Intention dahinter? Wie ist der Gesamteindruck? Woher kommt die Info?“

10.2 Expert Interviews (EI)

10.2.1 Reference system

Classification	Name & Role of Interviewee	Date, Place, and Length of Interview
EI-1	Ulrike Schiesser, executive director of the Bundesstelle für Sektenfragen (https://bundesstelle-sektenfragen.at/)	31.01.2023 In person, Bundeszentrale für Sektenfragen, 1010 Vienna 01:31:00
EI-2	Klaus Taschwer, DerStandard (https://www.derstandard.at/)	18.11.2022, In person, University of Vienna, Institute for Science- and Technology Studies, 1010 Vienna 01:43:00
EI-3	Arne Schrader, Demokratiezentrum Wien(https://www.demokratiezentrum.org/)	29.03.2023, via Zoom 01:02:00

10.2.2 Original Interview Transcripts

Position in Interview	Own Translation	Original
EI-1, Pos. 4	“Immediately, you have a power-imbalance, and they have influence on what they bring to the table regardless: group	„Sie haben sofort so eine Power-Imbalance, und sie haben, sie haben dann eine totale Zugkraft drauf, auf das was sie sonst

	dynamics, manipulation, this charm from certain leaders, who can capture people, fulfil needs. However, as soon as faith gets added, everything becomes much more comprehensible, and that certainly makes a difference (EI-1, Pos. 4)	schon haben – Gruppendynamik, Manipulation, dieses, dieser Charme von bestimmten Führungspersonen, die Menschen auch gut, ja, gut mitnehmen können, Bedürfnisse scheinbar erfüllen, aber sobald der Glaube dazukommt, ist das Ganze einfach nochmal griffiger, und das macht schon einen Unterschied.“
EI-1, Pos. 18	When I say, ‘5G is killing us, cell-phone radiation is dangerous’, of course, I am then able to sell ‘energetic stickers’ to be put on phones; or when I say, ‘vaccinations are dangerous’, I am able to then able to say, there is a ‘Engelswasser’ to channel the vaccination, you need to spray this three times a day to not get contaminated by the vaccinated people around you.”	“Wenn ich sag, „5G tötet uns, Handystrahlen sind gefährlich“, dann kann ich natürlich verkaufen energetische Sticker, die ich auf’s Handy gib, oder wenn ich sag, „Impfungen sind gefährlich“, kann ich sagen, zum Ausleiten gibt’s da jetzt ein Engelswasser, des müssen sie jetzt dreimal am Tag einsprühen, damit sie nicht vom Impf-, von Geimpften runterherum dekontaminiert (sic!) werden.“
EI-2, pos. 34	“[…] I simply need to describe what happens, and sure, there are also wonderful things happening, someone gets a nobel prize, but I also need to write about it if the sciences do something badly, I need to report critically about aberrations in the sciences, which is precisely how trust in journalists and journalism is established. In this respect, activities which are essentially PR-activities do not guarantee that people believe in the sciences, especially those who are sceptical; therefore I think that the establishment of trust	„[…] ich muss einfach, da beschreiben, was Sache ist, und das da auch tolle Sachen dabei sind, dass jemand einen Nobelpreis kriegt für super Sachen, klar, aber ich muss auch darüber schreiben wenn Wissenschaft einen Blödsinn gemacht hat, muss auch kritisch über Fehlentwicklungen in der Wissenschaft berichten, äh, und, ähm, und genau das ist es aber auch, wodurch Vertrauen in Journalisten, Journalistinnen Journalismus hergestellt wird, äh, insofern sind diese Sachen,

	is substantially connected to the ability to issue criticism, and ideally, with the possibility of interactions and conversation."	die quasi als PR-Aktivitäten laufen, äh, noch kein Garant dafür, dass die Leute an Wissenschaft glauben, grad einmal, grad nochmal die die schon quasi skeptisch sind, also ich glaub das diese Vertrauensbildung ganz wesentlich mit der Möglichkeit von Kritik zu tun hat, und mit und im Idealfall einer Form von Interaktion und Gespräch."
EI-1, pos. 39	"So, the state needs to withstand extremism, this is vital, because, simply, otherwise we are not a democracy anymore, also sovereign citizens, with all their ideas. In principle, you need to withstand it, however, at the point when it spins out of control, when we need to be alert, that this extremism does not turn into hostility to the state, when it begins to attack democracy itself, at this point a democracy must defend itself, which it has done in the face of sovereign citizens."	„Also der Staat muss Extremismus aushalten, das ist ganz wichtig, des ist einfach, sonst sind wir keine Demokratie mehr, auch die Staatsverweigerer, in all ihren Ideen, prinzipiell muss man das aushalten, aber der Punkt ist, wo fängt es an zu kippen, wo wir aufpassen müssen, dass das ähm, das es wirklich staatsfeindlich wird, das es anfängt, die Demokratie an und für sich anzugreifen, dann muss sich die Demokratie auch wehren, was sie bei den Staatsverweigerer gemacht hat."
EI-2, pos. 44	"Also in Austria, which of course is correlated to the scientification of society, more young people are involved in the sciences; if you had done a study [referring to the Eurobarometer survey 2021] with similar questions 100 or 120 years ago, then of course the sciences would not have been so important. I mean, it [the sciences] would not have played a big role in the life of a person living 100 years ago, as it would be today."	„Also auch Österreich, was natürlich einer Verwissenschaftlichung der Gesellschaft, äh, mehr junge Leute, die mit Wissenschaft zu tun haben, auch zusammehängend mit wenn man eine Studie mit den gleichen Fragen vor 100 jahren oder 120 Jahren gemacht hätte, dann wär natürlich Wissenschaft nicht so wichtig gewesen, ich mein das spielt im

		Alltag einer Person, die vor 100 jahren gelebt hat, keine so große Rolle, wie es äh, heute ist.“
EI-3, pos. 8	“If you follow along a few principles of civic education, then those are, in my opinion, those which have the goal in mind to yield mature citizens, someone who independently and autonomously grapples with political topics, who forms their own opinions about it, and who exhibits agency. “	Wenn man sich da an so ein paar Grundsätzen ausrichtet, macht das meines Erachtens gute politische Bildung aus, die das Ziel hat, einen mündigen Bürger und Bürgerin hervorzubringen, also jemand, der sich selbstständig und autonom mit politischen Themen auseinandersetzen (sic!), sich dann ihr eigenes Urteil bilden (sic!) und Handlungsfähigkeiten.“
EI-3, pos. 20	“On the one hand, media literacy, meaning how I can handle these tools, on the other hand, ‘digital possibility’, meaning how I can navigate the Internet, and I am capable of recognising threats like anti-democratic sentiments such as conspiracy theories relatively quickly.“	„Medienkompetenz auf der einen Seite, also wie ich das Ganze bedienen kann, aber dann auch digitale Möglichkeit auf der anderen Seite, dass ich mich sozusagen auch im Netz bewegen kann, und sozusagen solche Gefahren wie anti-demokratische Einstellungen wie Verschwörungstheorien relativ schnell erkennen kann.“

10.2.3 Interview guideline: Example (EI-2)

Theme	Questions
Introduction	- Explain interest in topic: how did I get to the topic of my master's thesis? - Research questions - My own explanation of how I would differentiate between legitimate and illegitimate knowledge and why - What my expectations are for this interview

First question	How would you distinguish legitimate knowledge from illegitimate knowledge?
Work as a science journalist	- How do you treat the demarcation between legitimate and illegitimate bodies of knowledge in your work as a science journalist? - Do you see it as your duty to evaluate knowledge in your articles? How would you assess the handling of this issue in science journalism in general? - Does someone have to have certain qualifications in order to make judgments about the legitimacy of knowledge? Or: How do you see the role of the public, since in science 'control' is primarily done internally - through peer-reviews etc.?
Work as a researcher, policy work	- What role(s) do documents (policy briefs, proposals, etc.) play in working with institutions? Is it the main form of communication among different stakeholders? Through what historically do you think it has become naturalized? - In what ways is the constitution of knowledge by institutions like "the science" necessary? Is the boundary where one really has to intervene against deviant knowledge always extremism first, or are there already transgressions that cannot be tolerated? - You also do research on scientific skepticism - many initiatives, media articles, etc. repeatedly cite the Eurobarometer 2021 results, which diagnose little trust in scientists and scientific processes in Austria. Is scientific skepticism really that enormous, or is the focus on this study in policy work also an essential part of achieving something/being able - to push through demands?
Science Communication in Austria, Constitution of Publics	- In your opinion, what is the current role of institutions in society (for example, large media companies, scientific institutions) (also with regard to the COVID-19 pandemic)? - Apart from public formation, such as that of the lateral thinkers who formed as resistance to COVID-19 measures and grew together with or out of partly extremist movements, institutions also play a role in how publics are first defined, and then also discussed. In science communication research in particular, the notion of publics having an information deficit has been criticized for a very long time. Can participatory science communication that works without any delineation and evaluation of different knowledge cultures succeed at all? - In order to evaluate the effectiveness of science communication initiatives, and to be able to put appropriate measures in place to improve the situation, I think one would also need to engage with those who refuse to engage in large parts of this communication and would generally probably be classified as those who disseminate illegitimate forms of knowledge. How do you think this can be done? Or are there inevitably always

	publics that resist any approach? - In XY, you address various consequences of a lack of science communication in Austria, including a looming legitimacy problem of research and science. At the same time, science PR often has negative connotations among many people who think: "If the benefits of science were so clear, there would be no need for 'advertising' it." How do you - think this problem can be addressed?
Closing question	If you were able to change anything regarding the ways how stakeholders work together on different issues, what would that be?

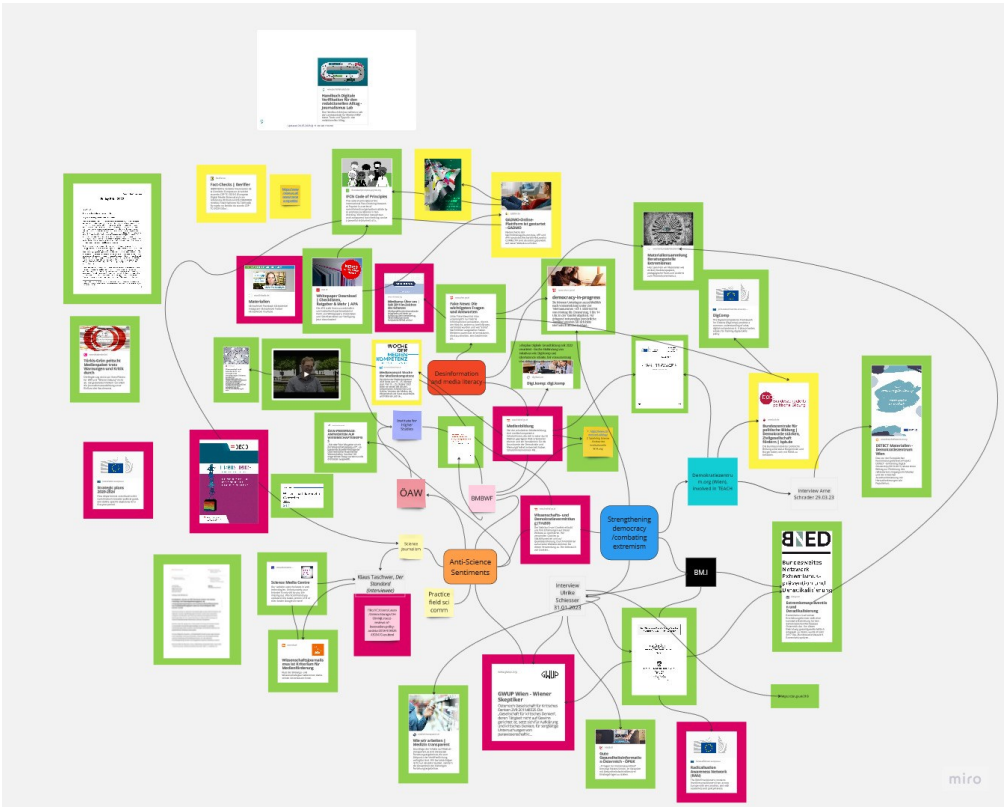
10.3 Other translations

Sections / Page	Translation	Original
Literature Review / p. 16	"Experts are constituted, first, through their position and status as well as the knowledge that is ascribed to them. Second, the expert functions as the carrier of relevant knowledge for scientific analyses." (Kaiser, 2021, pp. 44-45)	"[Es] definieren sich Experten, erstens, über Position und Status sowie über das ihnen zugeschriebene Wissen. […] Zweitens ist der Experte Träger des für die wissenschaftliche Analyse relevanten Funktionswissens." (Kaiser, 2021, p. 44-45)
Literature Review / pp. 25-26	"The factual claim itself is presented within the context of offering a counter statement, the claim is not presented as mere information, but as a correction of something. […] The immediate effect consists of (at least also) **generating, communicatively, uncertainty**, […] one could also	"Die Tatsachenbehauptung selbst wird im Kontext einer Gegenstellungnahme geäußert, sie wird also nicht einfach als Information vorgebracht, sondern als Korrektur formuliert. […]. Die unmittelbare Wirkung besteht (zumindest auch) darin, kommunikativ Unsicherheit zu erzeugen: […] – man könnte auch sagen, die Information, gegen die Stellung bezogen wird, wird

	say that the information, which is taken a stance against, is not corrected but more concealed with 'noise'." (Kumkar, 2022, p. 57; own emphasis)	weniger korrigiert, als vielmehr mit 'Rauschen' verdeckt." (Kumkar, 2022, p. 57)
Theoretical Framework / p. 52	"We are confronted with "arenas of actions" (ger. Handlungsarenen), which are both trans-epistemic as well as trans-scientific. They include "mixed" groups and arguments which cannot be sorted easily into the category of "science" or the affiliated issues of the "special field" on the one hand, and on the other hand also cannot be broken down into the category of "further" business. I use the term epistemic for those considerations which (assumedly) promote the truth-resembling characteristic of scientific results. Trans-epistemic arguments, therefore, would be those, which also include (based on an assumption) considerations going beyond the epistemic. […] I use the term trans-scientific to highlight that beyond including relevant groups such as specialists or scientists for technical	"Womit wir es zu tun haben, sind Handlungsarenen, die sowohl transepistemisch als auch transwissenschaftlich sind. Sie schließen ‚gemischte' Gruppen und Argumente ein, die sich nicht einfach in eine Kategorie der ‚Wissenschaft' oder dem ‚Spezialgebiet' angehöriger Angelegenheiten einerseits und eine Kategorie ‚sonstiger' Geschäfte andererseits zerlegen lassen. Ich verwende den Begriff epistemisch für diejenigen Betrachtungen, die (der Annahme nach) den ‚wahrheits'ähnlichen Charakter wissenschaftlicher Resultate fördern. Transepistemische Argumente wären daher solche, die über (der Annahme nach) ‚wahrheits'fördernde Betrachtungen hinaus auch andere Erwägungen einschließen. […]. Ich verwende den Begriff transwissenschaftlich, um darauf hinzuweisen, daß die für technische Entscheidungen relevanten Gruppen über die Spezialisten bzw. Wissenschaftler einer Disziplin hinaus auch andere Personenkreise einschließen." (2016, p. 154-155).

	decisions, other groups of people are included as well." (Knorr-Cetina, 2016, pp. 154–155)	

10.4. List of Figures



10.5 List of Tables