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'Building a Ship while Sailing It.' Epistemic Humility and the Temporality of Non-knowledge in Political Decision-making on COVID-19

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ABSTRACT

The novel coronavirus pandemic (COVID-19) has had far-reaching effects on public health around the world. Attempts to prevent the spread of the disease by quarantine have led to large-scale global socioeconomic disruption. During the outbreak, public authorities and politicians have struggled with how to manage widespread ignorance regarding the virus. Drawing on insights from social epistemology and the emerging interdisciplinary field of ignorance studies, this article provides evidence that the temporality of non-knowing and its intersection with knowing is a force that leads political decision-making during a crisis. Illuminating the epistemic analysis with statements given by the Finnish government to the media in decision-making documents and in press conferences, this paper proposes that a crisis situation, itself, seems to demand from political decision-makers dynamic action while simultaneously knowing little ('non-knowing') about the different fronts of tackling the pandemic. We conclude that non-knowing must be recognized explicitly as an enduring and central condition in decision-making, which we call 'epistemic humility.'

KEYWORDS

Non-knowing;
decision-making; temporality;
COVID-19

Introduction

At the beginning of 2020, the novel coronavirus pandemic (COVID-19) caused global socioeconomic disruption. During the outbreak, policymakers struggled with how to manage widespread ignorance regarding the virus. Forced to make decisions under this pressure, politicians have had to consider challenges, such as how to protect citizens from the threat of the coronavirus and whether their security measures are oversized or insufficient. How much non-knowledge can decision-makers afford in assessing security without unleashing uncontrollable threats? How does the government take responsibility for decisions that must be made in a state of uncertainty and which can have fatal consequences? What kind of insecurity can they admit to in public and still stay in power?

The purpose of this article is to discuss the temporality of non-knowledge in political decision-making by illustrating an epistemic analysis of actions taken by the Finnish government during the early stages of the COVID-19 crisis. Drawing on insights from social epistemology, political science and ignorance studies, the temporality of non-knowing and its intersection with knowing is a force that leads political decision-making in crisis.

Epistemological discussions of unknowns, ignorance and non-knowing have emerged in the fields of feminist epistemology, social epistemology and science and technology studies (STS) over past two decades (Code 2004; Kerwin 1993; Proctor and Schiebinger 2008; Smithson 1989; Sullivan

and Tuana 2007; Townley 2011) and developed into an emerging interdisciplinary field called ignorance studies (DeNicola 2017; Gross and McGoey 2015; Wehling and Böschen 2015). In ignorance studies, one of the shared research questions has examined how the power/ignorance nexus limits the capacity of groups and individuals in exercising their political agency. Like Foucault's (1995) notion of power/knowledge, the power/non-knowledge nexus is based on the idea that power and ignorance mutually inform and constitute each other. The notion of 'agnotology' captures willful ignorance as socially constructed with generative political effects (Proctor and Schiebinger 2008). The research program of agnotology focuses on the epistemological state that concerns the conscious, unconscious and structural production of ignorance, whether brought about by neglect, forgetfulness, myopia, secrecy or suppression.

Epistemological issues have come forward recently because of the notion of post-truth politics and various populist movements challenging political decision-making based on expert and institutional knowledge in several European countries, the USA and Brazil (Moore 2017; Hyvönen 2018; Siles-Brügge 2019). In Finland, this debate seems to be intensifying and expertise has become increasingly contested (Väliveronon et al. 2020). A growing number of political scientists, sociologists and economists have criticized rational theories and suggested that the nexus of (non)knowledge and power should be seen as constitutive for political decision-making (Beck and Wehling 2012; Daase and Kessler 2007; Innerarity 2012; Rappert and Balmer 2015). Daase and Kessler (2007) argue that non-knowledge cannot be reduced to some lack of knowledge that could be solved by looking harder at the facts or processes of conjecture and refutation. Resilience as a new paradigm has been used especially to tackle complex, unforeseeable and continually changing systems, such as climate change, where non-knowing is not ruled out but is thought to be a basis for successful anticipation, experimenting and adaptive action (Lin and Petersen 2013; Folke 2006). However, resilience has also been accused of fueling ignorance when problems have been denied to create popular consent toward the new normal and submission to existing circumstances, particularly after a nuclear disaster (Ribault 2019). Especially amidst natural disasters, accidents, terrorist attacks and pandemics, making decisions under unavoidable ignorance requires new forms of justification, rationality, legitimation and monitoring consequences so that society can function effectively (Gross and McGoey 2015).

In early 2021, there is still uncertainty about combating COVID-19. We propose that the Finnish government, and especially the prime minister, Sanna Marin, represents a type of politician who does not create the appearance of knowing it all, but who is able to express a more complex epistemological orientation and use it in legitimating decision-making based on what is not yet known. This politician type is not very common in the Finnish political scene. The Prime Minister's frequent statements of uncertainty regarding scientific knowledge about the coronavirus might create an image of an unreliable, insecure and incapable person among many overconfident and omniscient politicians. However, we assume that this political approach shows a new kind of epistemic attitude for dealing with the crisis, a perspective we call 'epistemic humility.' In the context of decision-making, epistemic humility concerns how subjects relate to the truth or rationality of their own beliefs compared to experts' knowledge on the subject matter. Regarding COVID-19, we address special circumstances and requirements that concern how temporality creates a rhythm for the alternation of knowledge and ignorance, setting the essential framework for epistemic humility.

Böschen et al. (2010, 790) suggest that technological change brings up complex challenges that politicians and officials try to tackle by handling non-knowing according to different 'scientific cultures of non-knowledge.' Governments and industries have traditionally preferred controlling orientation to non-knowledge; for example, NGOs relied on more complex orientation, which allows admitting more openly that there are systems that resist knowability and political planning (794–795). Beck and Wehling suggest that reflexive modernity itself drives 'a politicisation of non-knowing' (Beck and Wehling 2012, 34). In other words, non-knowledge can provide the means of making public issues politically contestable or naming them as political for different political actors. Politics is here understood as temporal action where particular decisions, adopted policies and power holders stay in power only until their actions have been put into a new perspective by some challenging

political actor destabilizing the public discussion or questioning the exercised policy, which may even result in a regime change (Palonen 2003). Concordant with Foucault (1990), power must be understood as an epistemology where various relations of power inside a country and globally are controlled with dynamics of knowledge and non-knowledge. During the crisis, political decision-makers fall easily into inaction when pressures boil over due to a lack of (and inaccurate) knowledge, personal stress, administrative chaos and controversies from parliamentary opposition, the EU community, international reference groups and the media. Both knowledge and non-knowledge are used not only in implementing political decisions and justifying them in public, but also for creating room for national and international maneuvers needed to take or stay in power.

The relationship between temporality/futurity, (non)knowledge and power has received relatively little attention in social epistemology. In Adam's (2004) well-known formulation of time, called a 'timescape,' temporality expresses linear, cumulative and cyclic dimensions of time. Other irreducible elements of a timescape include time frame, timing, tempo, duration, sequence and temporal modalities (past, present, future; Adam 2004). Regarding temporal modalities, Adam (2009) argues that the domain of the 'not yet,' which she calls 'futurity,' has become the main capacity to create and control politics that are attached with the burden of responsibility. Anticipation has become a common state of decision-making, shaping regimes of politics. It has been considered as an epistemic and normative value in politics; thus, the actual is displaced by speculative forecasts (Adams, Murphy, and Clarke 2009). Another key concept related to temporality within crisis is the acceleration of time. In his philosophical approach, called 'dromology,' Virilio (1986) discussed the interconnectivity of speed, technology and power to show how accidents, catastrophes and wars take tempo to another level to compress the meter of the clock and to accelerate time. By breaking the normal rhythm and generating a dense presence, the COVID-19 pandemic has formed a special kind of time matrix that is leveraged by a flood of news and intensified social media activity. In this view, speed and temporal thickness breed 'a regime of futurity' that makes all policy decisions urgent within the incessant production of events.

Our epistemological approach highlights the complex assemblage of power, non-knowledge, futurity and the imperative of speed in political decisions. Certainly, attempts to govern by non-knowing are always in danger when undermining the role of knowledge as the foundation of political decisions. Our discussions of non-knowing require closer attention to the permanence and transience of non-knowledge and its political deployment, without subsuming that non-knowledge is always a strategic use of willful ignorance, as the literature on agnotology has tended to do. Feminist epistemologies on ignorance, such as Townley's (2011) studies, have moved beyond the realm of the traditional epistemic approaches, addressing that ignorance can be understood as a positive social enactment. As Code formulates, the notion of non-knowledge is not 'mere absence of knowledge, not as a void but as a force all its own which often blocks knowledge, stands in its place' (Adlam 2014, 154).

Our discussion proceeds in three sections. First, we consider epistemic paradoxes when policymakers are expected to base their judgements on facts and knowledge, but scientific advisors are only able to provide information on risks and uncertainties. These actions are interpreted using media reports, press conferences and formal announcements (i.e., press releases) by the Finnish government during the first weeks after the outbreak of the novel coronavirus in Finland. The first five press conferences held between February 27 and March 18 were uploaded to YouTube, where they are still available. In the second section, we outline how the possibility or impossibility to transform non-knowing into knowledge drives temporally the Finnish government's decision-making on the COVID-19 pandemic. Third, we focus on non-knowledge as a form of futurity-oriented politicization that politicians adopt to legitimate their decisions. The purpose of this epistemic discussion is not, of course, to offer a comprehensive explanation of political decisions on the pandemic, whose causes, consequences and full scale are still highly obscured. Instead, this exceptional situation offers the opportunity to outline new forms of the temporality of non-knowledge in the imperative of speed. We also clarify that it is not our intention to study epistemological concepts in the framework of political theory, as such, but to contribute to epistemological discussions of non-knowledge in the context of political decision-making. The paper's main contribution is theoretical in nature.

'Italy's Actions are Hasty and Oversized.'

When natural disasters, accidents, terrorist attacks and pandemics threaten people's health and security, most politicians look to scientific advisors and experts to gain relevant knowledge and support for their decisions. Paradoxically, knowledge held by experts is highly partial, insecure and incomplete. In the case of the novel coronavirus, the escalation of the pandemic has been a complex process in which the views of experts vary widely, so their assessments regarding necessary operations have sometimes been contradictory. This became evident when, on 24 February 2020, the Finnish Institute for Health and Welfare (THL), an independent expert agency working under the Ministry of Social Affairs and Health, reported that the novel coronavirus was unlikely to come to Finland, or to Europe as a whole. When Italy restricted mobility in ten Italian cities at the end of February, THL called Italy's actions 'hasty and oversized' (Happo 2020). The director of THL's Health Safety Department estimated that the proportion of the infected population in Italy was still relatively small, just over 220 cases. In two weeks, the estimations of experts changed dramatically. Still, there are no certain and definite answers for policy-makers because even the most qualified experts have divergent views of the situation. As a Finnish expert in clinical microbiology, Olli Vapalahti, put it: 'it is difficult to know what will eventually work. There are no good alternatives, and the right answer will not be known until the pandemic's tail lights are visible' (Manner, Nieminen, and Teittinen 2020).

In Europe, the threat of COVID-19 was first underestimated because few experts thought the virus would have a wide impact on public health in European countries. Healthcare experts' failure to estimate the spread of infection shows how difficult it has been to challenge practices of normality, even when the threat of the infection was already concretized in Asian countries. Under normal conditions, the language of probabilities and reasonableness allows experts and scientific advisors to manage uncertainty and calibrate the 'degrees of certainty' in their own production of knowledge. This probabilistic reasoning (Aradau 2017) easily fails when experts – facing a new situation without any similar experiences – have difficulties estimating the scale of the crisis and the dynamics of its escalation. Instead of knowledge, scientific advisors can only provide information on risks and uncertainties in crisis situations. Uncertainty is understood as a form of knowledge in which the occurrence of future events and risks are, to some extent, objectively predictable and controllable on the basis of probability calculations (Innerarity 2012). In this way, experts and advisors transform their ignorance into doubt and uncertainty but not necessarily to unquestionable facts and solid guidelines for political action.

When Prime Minister Sanna Marin's Social Democrat-led coalition took office in December 2019, she was the world's youngest sitting prime minister (see [Image 1](#)). The four other party leaders in the coalition are also women, most of them in their thirties. Finland is one of the European countries where a populist party has strong influence in parliament. The Finns Party has won three successive parliamentary elections (in 2011, 2015 and 2019) and has established itself among the largest parties in Finland. Sanna Marin's left-wing coalition has opposed post-truth politics by pronouncing to make decisions based on scientific research and expert knowledge. On 16 March 2020, the Emergency Powers Act was enacted in Finland for the first time since the Oil crisis. Finland was considered to be in a 'state of emergency' because of the pandemic and in spite of the fact that there were very few people infected there at the time (Department 2020a). The new government, having just begun its work, decided to close the country's borders. Passenger traffic to Finland was suspended, with the exception of returning Finnish citizens and residents. Finland enacted quarantine instructions similar to many European countries in March 2020. The government limited public gatherings to no more than ten persons, and it was recommended that people avoid spending unnecessary time in public places. All museums, theatres, libraries, universities, cultural venues, leisure centers, youth centers, clubs and day care services for the elderly were closed until May 2020.

Research shows that, under threat, uncertainty and non-knowledge, people support authoritarian and charismatic leaders over liberal politicians (Cohen et al. 2004; Weise et al. 2008). It is also widely held that crisis generates a window of opportunity for leaders to introduce drastic measures in budget claims, to reform institutional structures and to make radical policy change through



Image 1. The first press conference of the Finnish government on the coronavirus and related preparations in Finland, 27 February 2020. From left: Minister of Finance Katri Kulmuni, Minister of Family Affairs and Social Services Krista Kiuru, Prime Minister Sanna Marin and Minister of Social Affairs and Health Aino-Kaisa Pekonen (screenshot from YouTube).

legislating (Boin and 'T Hart 2003). In this case, the parliamentary opposition consists of mostly conservative and populist forces, which are usually thought to prefer controlling and authoritarian measures in politics. The political setting made it possible for the government to create consensus behind the Emergency Powers Act without the parliamentary opposition forcefully questioning it.

In crisis situations, political decisions about actions required to save lives cannot depend on scientific knowledge but on justified, rational, democratic and legitimate handling of ignorance. Politicians are in the position to make fast but prudent decisions to protect public health that inevitably cause turbulence to businesses, employment and people's livelihoods. The conditions under which politics has operated during the pandemic can be captured using Jerome R. Ravetz's words: 'facts are uncertain, values in dispute, stakes high and decisions urgent' (Ravetz 1999, 649). When experts have opposing views on restrictions, policy makers face difficult choices, including whose advice they should follow. Thus, they need capabilities to tolerate uncertainty, not just respond quickly to emerging problems. Prime Minister Marin describes the environment of political decisions by saying: '[w]e have to live in uncertainty and make decisions in the midst of uncertainty. That's the way it is' (Ristamäki 2020). Instead of making urgent decisions regardless of the consequences, this view comes close to the idea of prudence or *phronesis* which accentuates the aspect of foresight and thus includes a long-term perspective into vital decisions.¹

In the literature of non-knowledge and ignorance, the characteristics of unknown unknowns has been used to capture unidentified risks that have traditionally been considered outside the scope of risk management. The epistemic area of unknown unknowns includes natural disasters and accidents, such as the 2004 Boxing Day tsunamis and the Fukushima nuclear accident in 2011. According to Kerwin's (1993) taxonomy of ignorance, the term 'known unknowns' refers to a situation in which people know that they do not know something, while the concept of 'unknown unknowns' captures conditions in which people do not know that they do not know whether the subject matter in question is knowable or unknowable. The majority of unknown unknowns is considered to be impossible to estimate since no one can imagine them in advance (e.g., Kim 2017).

COVID-19 and its escalation into a pandemic does not exactly fit into the category of unknown unknowns because the international committee, the World Health Assembly (WHA), convened by the World Health Organization (WHO) considered that a new pandemic would be predictably unpredictable. WHO cautioned in 2009 that the outbreak of a new pandemic is inevitable, but 'the world is ill-prepared to respond to a severe influenza pandemic or to any similarly global, sustained and threatening public-health emergency' (World Health Assembly (WHA) 2011, 136). In its report on the H1N1 pandemic, the committee called for the strengthening of core public health capacities and

increased research, a multisectoral approach, strengthened health care delivery systems, economic development in low and middle-income countries and improved health status. Scientific knowledge on how pathogens spread has developed rapidly in recent years, but governmental practices to control pathogens have remained scant in many countries. In this sense, the current pandemic falls into the epistemic category of known unknowns rather than unknown unknowns.

It is important to remember that part of the legitimacy of political decision-making stems from policymakers' promises to act rationally despite limited information (Innerarity 2012). During the COVID-19 outbreak, public authorities and politicians have struggled to justify their decisions to balance overly aggressive vs. insufficient restrictions in a rapidly changing environment. Despite a temporary lack of information due to crises or other reasons, knowledge has played an increasingly important role in the social legitimation of political and economic decisions. Knowledge societies do not accept known unknowns or unknown unknowns as permanent epistemic states, but when it comes to urgent decision-making (e.g., potential risks to public health), non-knowing becomes a necessary element in decisions.

'The Ship Must Be Built and Sailed at the Same Time.'

When information about the virus is constantly being updated, the temporality of non-knowing affects substantially the rhythms in which political decisions have been made in managing the spread of COVID-19. By the temporality of non-knowledge, Beck and Wehling (2012) describe how the possibility (or impossibility) transforms non-knowing into knowledge over time. Inspired by Beck and Wehling's taxonomy, we propose that the fundamental dimensions of non-knowledge and the potentials of knowing include the following epistemic states: 1) 'not-yet-known' (but very likely to be known later); 2) 'inability-to-know' (due to known complexity, it is not possible to know now, but maybe later); and 3) 'inability-ever-to-know' (due to known obstacles, it cannot be known). In the first case, health authorities and scientists can estimate what is not-yet-known about the virus but very likely to be known later. This type of non-knowledge refers to gaps in knowledge formation (Ibisch, Geiger, and Cybulla 2012), 'half-knowledge' (Adlam 2014), incomplete knowledge or absence of knowledge as a form of 'puzzle solving.' In the case of COVID-19, knowledge about aerosol and fomite transmission of the virus has gradually become more accurate, filling gaps in scientific knowledge. This new knowledge has a huge impact on, for instance, what kind of instructions are given for keeping distance and wearing face masks. In the second case, the epistemic environment is assumed to be more complex within many more variables compared to the first case, so finding out one thing can lead to a systemic change instead of being an example of puzzle solving.² In this manner, experts have an 'inability to know' because interrelationships and interdependencies can change the situation so that the original question becomes nonrelevant and new ones, previously unknown, arise. For example, in February 2020, researchers speculated that a vaccine to combat the coronavirus could be developed within a year, but that might provide only temporary protection because viruses change rapidly. In the third case, 'inability-ever-to-know,' due to complexity or other reasons, the matter to be examined is such that it is impossible to obtain unequivocal or otherwise satisfactory answers. For example, assessing the economic impact of a lockdown is almost impossible due to the lack of a comparable situation: we do not know how the economy would have developed without the COVID-19 pandemic.

Politicians' decision-making follows the rhythm of knowledge production in which phases of 'known,' 'partly-known,' 'not-yet-known,' 'will-be-known,' 'unable-to-know' and 'unable-ever-to-know' vary; this is because assessments of risks and uncertainties change constantly. Sometimes decisions must precede what is not yet known, but if the assumptions prove to be wrong, the decisions must be reversed or corrected. Due to the slow pace of legislative and administrative work, it is difficult to coordinate political decisions with the daily updated information, so the epistemic constellation forms a complex system that needs constant reassessment of previous perceptions and decisions. Non-knowing is tackled in management and in political decision-making, for example, by

adaptive management, where measures are taken stepwise or via integrating various future effect monitoring systems to make decisions (Lin and Petersen 2013; Böschen et al. 2010; Beck and Wehling 2012).

The Finnish government used the Emergency Powers Act by submitting degrees specifying the powers used and the sections of the act from which they were derived (Government Communications Department 2020). Submitting the government degrees forms a series of decisions where policymakers take timely actions according to increasing knowledge engendered internationally and through the experiences of national health officials. In government documents, decisions are supported with the knowledge available at that point, but in press conferences the prime minister more freely addresses uncertainties and non-knowing related to the decisions. In the first press conference, non-knowing was clear. All ministers present noted the problems of disinformation and misinformation and ways to increase knowing. Later, when the government informed viewers of the detailed actions necessary to protect the population and the economy, non-knowing was not noticeable in the press conferences. Still, non-knowing remains in the background and turns up in speeches at press conferences. Minister of Science and Culture Hanna Kosonen illustrated this on March 18: 'And this particular uncertainty, of course, belongs to extraordinary times, you have to learn to live with this uncertainty and you also have to learn to tolerate it' (Finnish Government 2020).

A Finnish scientist, Olli Vapalahti, described this constellation of continuous re-evaluation and decision-making as, 'the ship must be built and sailed at the same time' (Manner, Nieminen, and Teittinen 2020). He refers to a situation in which society's ability to function and provide basic services to citizens must be safeguarded while the necessary repairs and adjustments to laws and institutions must be amended 'in real time'. In anticipation of criticism by the opposition, the government has highlighted its ability to make decisions on a timeline, by asserting that the government 'has made timely decisions in relation to the disease situation in Finland' (Ristamäki 2020). Instead of postponing hard decisions (Weaver 1986), the aim has been to minimize the blame associated with mistaken political decisions and accusations of making decisions too late. Closing schools and restricting people's fundamental rights can be justified rationally only when the threat has sufficiently materialized for citizens. From the perspective of temporality, a capable politician is creating an impression of political competence by taking timely action and thereby avoiding potential accusations of inaction.

'Only in the Future Will We See if We Made the Right Decisions.'

While the appearance of a new pandemic has been predicted for years, the virus that appeared in Wuhan includes plenty of unpredictable dimensions that gave rise to intentional or willful non-knowledge. In addition to the temporality of non-knowledge, Beck and Wehling (2012) consider the intentionality of non-knowing, which is differentiated according to the degree to which it seems to be attributable to the actions or omissions of individuals, social groups or organizations. Intentional non-knowing can refer to the situation when ignorance results, for instance, from actors' lack of interest in or denying or concealing the situation. When the coronavirus was discovered in December by Ai Fen, chief medical officer at Wuhan Central Hospital, she was reprimanded by the hospital management who advised her not to talk about the virus as it would cause panic (Pajari 2020). She was also accused by the Disciplinary Board for spreading rumors and destabilizing society.

The degrees of the intentionality of non-knowing regarding the virus become relevant when the actions of policymakers in different countries are evaluated more carefully in the future. While the non-knowledge of the virus was deliberately manufactured in some countries at the early stages of the pandemic, the potential incapability to handle the crisis (e.g., the lack of health care resources) can also include intentional non-knowing. The other relevant consideration is how policymakers refrained from knowing what was predictably unpredictable and its consequences to public health

until the end of 2019. It is inevitable that, after the crisis is over, many controversial and divergent interpretations will be made concerning what politicians and policymakers in the given situation could or should have known.

Numerous failures to prevent and handle crises are well-documented in the literature of crisis management and are referred to as fiascos, political scandals and human-made disasters (e.g., Bovens and 'T Hart 1996), but there are far fewer stories of successful crisis management cases. Politicians' opportunities to handle crises and "bring things back to normal" are inherently incompatible with the fact that natural disasters, accidents and pandemics irreversibly transform people's living conditions, sometimes permanently. High public expectations, media pressure, playing of the "blame game" by opponents and the political climate in general make it very hard – perhaps even impossible – for leaders to survive crises without being harmed (Boin and 'T Hart 2010). The desire to avoid blame leads policymakers to adopt certain behavior and cognitive styles, such as limiting the agenda and thereby avoiding potentially unpopular proposals, redefining the issue by framing it as a less controversial proposal or finding a scapegoat by blaming others for unpopular measures and outcomes (Weaver 1986). Ironically, when politicians implement crisis prevention, they are chastised for doing too much too soon; if they ignore crisis prevention, they are scolded for having done too little, too late. Thus, errors tend to dominate political conversation as "scandals" and "fiascos," with searches for people who are blamed for the disastrous outcomes. In a crisis, urgent decisions cannot be left unmade despite the possibility of committing errors.

The strategy accepted by the Finnish government, thus, focuses on anticipating and assuming potential errors in crisis management. This strategy expands their normally highly limited political playing field, providing the opportunity to correct wrong decisions without slipping into vicious blame games with the media and the opposition. Since staying in power entails the ability to control beliefs and the actions of a complex ensemble of political actors – including various administrative and institutional bodies, legislation, both internal parliamentary oppositions as well as international actors, private companies, the media and citizens – a big part of the epistemic considerations and calculations is forming a tactic for managing the political settings that are constantly changing. In the case of the COVID-19 pandemic, a strategy game can pave the way for power manipulations necessarily based on ambiguous assertions within conditions of uncertainty. A road map that guides political actors across the unfamiliar and chaotic terrain of the crisis is not always consciously created, but is more often related to leadership styles and political cultures. Epistemic cultures have been demonstrated to play an important role in shaping government's decision-making processes, particularly during crisis episodes when the circle of decision-makers tightens, and leaders are expected to take the initiative (Dyson and Preston 2006).

In seeking a mandate from citizens and the opposition, the Finnish government prepared itself for the coming judgement of 'future court' or 'Official Inquiry,' which will evaluate the decisions being made at the moment. As a regime of futurity suggests, the prime minister needs to justify decisions by politicizing time in promising 'to evaluate afterwards exactly what was done, at what stage, and whether the actions were timely and how the process went.' She also appeals to good governance and learning by errors by saying she is acting 'to be even better prepared for the next epidemic that is at some stage ahead.' Being prepared for criticisms of her wrong assessments of the situation, she defends the administration by saying, 'It is always the case that the decision-makers and the official machinery do not work perfectly' (Luukka 2020). In a crisis situation, politically difficult decisions cannot be postponed, but sometimes politicians shift the blame to the relevant agency or disguise their responsibility for the consequences of the decisions that were made.

Anticipating and assuming potential errors in its crisis management, the Finnish government has emphasized timely intervention and following the epistemic chain of 'already-partly-known,' 'not-yet-known,' 'will-be-known' and 'unable-to-know.' The proactive politicization that openly acknowledges the possibility of failure and being ready for 'Official Inquiry' in the future aims at expanding its normally limited political playground by providing opportunities to correct wrong decisions without slipping into vicious blame games with the media and the opposition. Such a conclusion is appropriate on the

basis of interviews and comments in which the Prime Minister describes the decision-making process of her cabinet by saying, for example, 'Only in the future will we see if we make the right decisions and make them at the right time' (Ristamäki 2020). By emphasizing a timely decision-making process, the government has succeeded in limiting its responsibility for its decisions to the information it had available to implement regulations that are lawful and morally reasonable.

We suggest that the strategy chosen by the Finnish government corresponds in many respects to the epistemic attitude to decision-making we have called epistemic humility. The conceptualization of epistemic humility denotes that subjects acknowledge the limits of their knowledge in the manner that unknown, uncertain, ambiguous and uncontrollable dimensions are accepted as relevant parts of consideration. The concept of humility must not be confused with modesty, though many theorists have treated the terms as interchangeable (Bommarito 2018; Kellenberger 2010). In the case of decision-making, humility as an epistemic state represents a proactive attitude of acknowledging the state of ignorance, while modesty is seen as a reserved behavior in which subjects have a limited understanding of their abilities. The development of the attitude of epistemic humility requires that the subjects identify situations in which their ignorance can cause great harm and danger.

As stated earlier, experts' disagreement about the pandemic highlights the challenges that political decision-makers face. Disagreement arises for different reasons; politicians should respond to experts' views by reconciling their own and others' perceptions. This implies that relying too much on scientific facts can lead to the requirement of overconfidence, and decision-making becomes paralyzed. Overconfidence is considered a form of cognitive bias in the sense that it can obstruct people from recognizing intuition, identifying dangers or seeing their own weaknesses and mistakes (Angner 2006; Parviainen and Lahikainen 2019). For instance, physicians' overconfidence is identified as one of the major factors in making diagnostic errors in the field of medicine (Cassam 2016).

In addition to overconfidence, another dangerous trap that leads politicians to overreact and make risky decisions is the disregard for scientific knowledge and experts' advice. While all epistemic subjects may have their own blind spots that they can rationally accept (Sorensen 1988), politicians who are epistemically arrogant cannot rationally believe that their own ideas are false, even though experts' arguments count as evidence against politicians' preconceptions. Due to epistemic arrogance, there are no limits to how these individuals can relate to their own epistemic states and abilities. They can ignore, belittle or deny perceptions that do not support their views. This is frequently called the 'Dunning-Kruger Effect,' meaning that politicians are unaware of what they do not know and could make highly risky decisions as a result. Using this term, Kruger and Dunning (1999) refer to the situation where the individuals who are least capable in a particular area of knowledge are most likely to overestimate their abilities. The Dunning-Kruger effect happens when someone is ignorant of their own ignorance, but furthermore, is overconfident in their knowledge or abilities. Many populist politicians have questioned political decision-making based on expert and institutional knowledge from official public sources (Davies and McGoey 2012). In this case, epistemic arrogance is used in politicizing knowledge from certain sources to halt the discussion and control the political situation.

Our interpretation of epistemic humility is characterized as a proactive attitude and the capacity to lead people through intellectual confusion and uncertainty to develop their resilience in terms of handling insecurity and avoiding overconfidence (Parviainen and Lahikainen 2019). Epistemic humility as a decision-making strategy stresses that decisions are multi-spherical and multi-directional with several possible consequences. Politicians must bear in mind that the scale of systemic change caused by a single unknown variable can significantly complicate the management of the coronavirus situation and require rapid legislative changes. Policy actors recognize that they are not only confronted with diverging interpretations of a policy problem, but also uncertain about the consequences of decisions. When decision-making in crisis situations is characterized by uncertainty, ambiguity, complexity and urgency, it also requires the ability to be sensitive to the nonlinearity of the consequences. There is not necessarily a direct cause-and-effect relationship between variables; instead, there could be many causes that might bring up unexpected situations. Since epistemic agents cannot

be sure of the outcome of a decision, the complexity of the context and the cognitive limits of the actors prevent them from calculating the associated risks and probabilities. Though actors have limited information, limited available time for decision-making and the whole process is hastened, timely consideration can develop proper actions and activities to respond to the problem. It is, therefore, of extreme importance not to overlook what is not yet known and disregard or underestimate what we have an inability to know, although they would not be solutions for the crisis.

Our epistemic framework suggests that rather than looking for objective, 'hard' facts and deterring ignorance, policymakers must consider their non-knowledge as an essential component of political decisions (Innerarity 2012; Beck and Wehling 2012). Instead of considering uncertain knowledge as a merely plausible, non-scientific form of knowledge, non-knowing as an imperfect phenomenon should be seen as a relevant resource in political decision-making. Epistemic humility as a political strategy can reframe political problems so that the values can be brought to light without expecting new facts to provide significant clarification for their solutions.

Conclusion

Numerous political crises and scandals have resulted when politicians are unable to respond to uncertain information, misinformation, experts' disagreements or non-knowledge or their own ignorance. When policymakers have attempted to avoid errors, they have often relied on one of three strategies: adopting a probabilistic language that calibrates uncertainty and certainty, emphasizing only facts and knowledge by ending up in the trap of overconfidence, or underestimating experts' knowledge and developing an arrogant attitude to other people's views. The language of probabilities and reasonableness have allowed politicians to manage uncertainty and calibrate the 'degrees of certainty,' but in the midst of a crisis, endless calibration slows the decision-making process. Asserting too forcefully that decisions can only be made on the basis of knowledge and facts, politicians can easily become paralyzed and panicked. Populist politicians seem to resort to an arrogant attitude and doubt toward knowledge for politicizing expertise as a source of power.

In this article, we have argued that the above-mentioned three strategies are problematic regarding internal and external ignorance in crisis management. Illustrating our discussion with formal announcements, press conferences and press reports of the Finnish government, we have suggested that Prime Minister Marin and her cabinet have developed a policy that does not legitimate their decisions based on facts and knowledge, but what is not yet known. When information about the virus is constantly updated, the temporality of non-knowing affects substantially the rhythms in which political decisions are made in managing the spread of COVID-19. The special circumstances and requirements that concern the temporality and rhythm of decision-making set the essential framework for futurity-oriented politicization. We suggested that adopting the attitude of epistemic humility allows politicians to tolerate the state of non-knowing and develop reflective attitudes to disagreement and openness to alternative views – in short, capabilities of epistemic resilience to handle complexity, confusion and uncertainty. Thus, non-knowing should not be denied but seen as a means of politicization and creating political leeway in decision-making.

Our discussion has been based on limited empirical material, so we cannot assess how common epistemic humility is in politics and to what extent it can produce a well-functioning government. Based on a few surveys, we can cautiously surmise that epistemic humility in political decision-making can assist in sustaining political credibility in public communication with citizens.³ As politicians deploy heterogeneous modes of knowledge and acknowledge to citizens the limits of their knowledge and expertise to justify their perceptions and decisions, we assume that epistemic humility can have important implications for how citizens can trust legislative work.

Many experts have estimated that political actions, such as quarantine and the enactment of the Emergency Law, which were used to prevent the pandemic, have caused more fundamental changes in society than what the health effects of the virus will bring. Only when the crisis is over will we be able to consider what kind of permanent effects epistemic humility may have on sovereign power,

legislation and democracy. For this reason, it is necessary to continue studying how politicians handle experts' disagreements and partial scientific knowledge in their decision-making. Only with empirical data is it possible to ultimately demonstrate whether sovereign power does not necessarily need to claim knowledge of everything and non-knowing can be recognized as an enduring and central condition in political decision-making.

Notes

1. *Prudentia* is Cicero's Latin translation of the Greek *phronesis*. It refers to practical wisdom (Hariman 2003, iv).
2. By systemic change, we mean a change that pervades all parts of a system, taking into account the interrelationships and interdependencies among those parts.
3. When the National Broadcasting Company asked citizens on March 24–25, 2020, how decision-makers and authorities have dealt with the novel coronavirus situation, the vast majority believed that the prime minister and the government have done well. According to the survey, 85% of respondents said that Prime Minister Marin was 'quite good' or 'very good' at handling the situation. Women's support of the prime minister was higher than men's, with 91% of women respondents saying that Marin's performance was at least 'fairly good,' while only 78% of men thought so.

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