Journal of Futures Studies
2023,Vol. 28(2) 03-19
DOI: 10.6531/JFS.202312_28(2).0001

Article

Defining 'Future Generations': Epistemic Considerations on Conceptualizing a Future-Oriented Domain in Policy and Law-Making

Mikkel Knudsen[1,2*], Toni Ahlqvist[2], Amos Taylor[2]

[1]*Faculty of Social Sciences, Business and Economics, and Law, Åbo Akademi University, Finland*
[2]*Finland Futures Research Centre, University of Turku, Finland*

Abstract

The rights of future generations generates increasing interest among both academics and policymakers. This article identifies two key gaps in the emerging literature. First, based on a systematic literature review, futures researchers' recent contributions to the subfield are surprisingly subdued compared to those of other research fields. The article calls for renewed engagement from futurists. Second, the literature and policy documents are surprisingly vague on epistemic considerations conceptualising the boundaries of future generations. The articles provide novel insights to this theme through a survey of 65 Finnish and international futures scholars and foresight experts. Considering alternative conceptualizations of future generations may help enable for considering future generations' interest in policy and law-making.

Keywords

Future Generations, Policy, Law-Making, Anticipatory Governance

Introduction

The rights of future generations have become a hot topic academically and politically in recent years. Scholars increasingly debate options for political representation of future generations (Gosseries, 2008; Thompson, 2010; Gonzalez-Ricoy & Gosseries, 2016; Mackenzie, 2018; Gonzalez-Ricoy & Rey, 2019; Boston, 2021; Campos, 2021; Caney, 2022). Several nations have also introduced measures to strengthen the recognition of future generations in policymaking, albeit the institutionalization is still at an early stage (Jones et al., 2018; Radavoi & Rayman-Bacchus, 2021; Smith, 2019).

In 2021, the United Nations' call for renewed global governance, the landmark *Our Common Agenda* (United Nations, 2021), took the centrality of future generations to a new level. Our Common Agenda mentions 'future generations' no less than 36 times. Among other suggestions, the report calls for a Declaration on Future Generations and a UN Special Envoy for Future Generations. Whether UN member states heed the call remains to be seen, but future generations, it would be fair to say, clearly sits at the heart of the current United Nations agenda.

Scholars have highlighted various reasons why future generations are now coming to the forefront. Many note how the challenges of political short-termism are becoming ever more apparent, with climate change as the paradigmatic case (Smith, 2021). Humphreys (2023: 2) quips

* *Corresponding author*.
E-mail addresses: mikkel.knudsen@utu.fi (M. Knudsen)

Received: 7 October 2022 and Accepted: 2 June 2023

that the longstanding framing of climate change policy as an obligation owed to future generations "*with roots in twin arcane worlds – of moral philosophy and United Nations (UN) norm building – has gone mainstream"*. Another driver is the strand of literature on existential risks (cf. Tonn, 2018; 2021). Furthermore, until recent decades, empirical reality made it seem almost self-evident that each generation, "*on average and in various ways*" (Ware, 2020: 814), would be better off than their predecessor's generation. The capacity of future generations to handle problems was therefore always greater than present generations', and the need for concern for future generations' problems therefore limited. For good reasons, this mindset seems less prevalent today.

As we want to show in our article, futurists used to be more preoccupied with future generations. We believe it is now about time to bring future generations studies back into futures studies. Firstly, it would help align the academic field of FS with the important future-related work happening in adjacent scholarly fields. Even if futures scholars should not be *the only ones* to discuss the role of future generations, futures scholars should have a role in the discussion *too*. Secondly, the 'rights of future generations' are rapidly becoming a key prism through which national and international political levels assess future implications of present actions *and* a key framework around which corresponding institutions are built. The concept of future generations or intergenerational equity is *"increasingly moving from theoretical debates (...) to practicalities such as how to design institutions better equipped to work as advocates"* (Radavoi & Rayman-Bacchus, 2021).

Future generations also feature in various national constitutions around the world. Some like Bolivia and Ecuador include provisions urging positive action on behalf of the state, while the constitution of South Africa explicitly provide future generations with rights (Boston & Stuart 2015). In a landmark 2021 decision, the German Federal Constitutional Court also extended the fundamental rights to climate protection into the future (Winter, 2022). Similarly, the rights in the Finnish constitution to a safe environment is now considered by officials to encompass future generations (Valtioneuvosto, 2023). How to take the rights of future generations into sufficient account in policy- and lawmaking is, therefore, a topic more and more governments and political systems are *by law* required to tackle. If futures researchers are examining how ideas about futures are inserted into present-day policymaking or legislation, the rights of future generations are therefore also an unmissable phenomenon.

Bringing Futures Studies back in

The topic of future generations has occupied the minds of generations of futures researchers, for whom the concept intuitively appeals. As Jordi Serra del Pino (2007) notes, it should be no surprise that the argument of a moral obligation towards our 'futurecestors' (borrowing from Inayatullah, 1997) finds a receptive audience within a community already keen on assessing the future implications of present activity. Who else but futurists should embrace future-oriented ethics and new future-oriented institutions?

Serra del Pino, however, goes on to argue for separating Future Generations Studies (FGS) from Futures Studies (FS) as two epistemologically distinct fields (Serra del Pino, 2007). FGS is a philosophical inquiry that aims to build ethically sound statements about the well-being of future generations. It seeks to generate normative moral conclusions and recipes derived from behavior based on ethical principles. FS, on the contrary, he argues, seeks to reach conclusions that are valid independently of the ethical positions of those implementing them. Futures studies aspire to obtain insight and contextual knowledge, FGS enlightenment, and absolute knowledge. Del Pino therefore concluded, in 2007, that it was time for FGS to leave the nest and fly on, and futures studies would have to let it go. "*Questions of what should be understood as Future Generations, how their needs*

can be ascertained and how these needs might be articulated within the limits of our present requirements, are too important to be left only to futurists." (Serra del Pino, 2007).

Looking back 15 years later, the call seems to have been answered. Much of what is happening regarding future generations now happens almost fully outside the realm of futures studies. It is bubbling up under the auspices of moral and environmental philosophy, political science, or even legal studies. Futurists could once claim that literature on future generations and future-oriented institutions was largely unknown e.g. in conventional political science (for this claim, see e.g. Dator, 2019: 471), but this is no longer quite as true.

Epistemic considerations of conceptualizing future generations

Once the discussion has progressed to 'practicalities' an important practical question is raised. When discussing the rights of future generations, what exactly is constituted by that term? Explicating the epistemic considerations of what is implied by the term 'future generations' is, as we see it, an important precondition for strengthening the institutional framework around them. With increased practical application comes also the need for a more refined definition. If we want policies to take sufficient regard for future generations' rights or to provide a formal representation of future generations within present political processes, it would be beneficial to be able to explain, what is entailed or encompassed by this group. The challenge can be seen as trying to find a moderate definition that recognizes obligations to future people without imposing extreme demands (Mulgan, 2018).

Ultimately, this article does not provide a clear or succinct definition of future generations. Rather, it seeks to initiate debate and further research by providing an insight into various epistemic considerations.

When talking about rights of future generations, defining 'future generations' is, of course, only one side of the coin. A deeper examination would also require a definition of the concept of *rights*. Entangling the term is worthy of a study in itself, although this is beyond the scope of this article. Suffice to say here that it is too simplistic to talk about rights as a monolithic concept today, nor is there any reason to believe that the interpretation of rights will not change in the future.

Aims and structure of the article

This article thus has two main aims. First, it seeks to provide a systematic overview of previous futures literature on future generations. To the best of our knowledge, no such literature review exists prior to this article. Secondly, the article discusses the difficult topic of *defining* future generations in the context of law- and policymaking. It provides novel material to this discussion through a survey of 65 respondents handpicked based on their expertise in foresight and future generations in lawmaking (Airos et al., 2022). With the empirical data, we are able to provide insights on how experts operating (mostly) in the futures field conceive future generations within the context discussed here. We believe this will be a valuable starting point for (re)engaging the futures field in the future generations discussion.

The article consists of six main parts. First, following this brief introduction, the article provides an explication of grounds for why present generations should care more about future generations. Then, the article provides an overview of the literature on future generations published in futures journals. From here, the text moves to the problem of defining the concept future generations. Subsequently, the rest of the article elaborates on this problem by providing empirical questionnaire data showing respondents' interpretation of the definitional issue. Finally, the article is concluded

with a discussion.

Why we should care for future generations now

The argument for a moral obligation

The central tenet within the recent movement is that political (in)action today affects future generations. Many political and societal topics exemplify the challenge of intergenerational equity. Some reflect intentional decisions like the building of a nuclear plant, others like the paradigmatic case of climate change reflect a collective drift, or are simply just unintentional consequences (Warren, 2022). Since future generations bear the burden of our decisions, people of today are seen to have a moral obligation to act in accordance with the interests of future generations.

The supposed moral obligation can be summed up in a modification of the golden rule (Thompson, 2010): *Do unto future generations, as you would have past generations do unto you*. To use a now popular framing, be as good an ancestor (cf. Krznaric, 2020) to future generations as you would like your ancestors to have been to you. Caney (2014: 323) puts his argument for the moral equality of future generations with present generations equally straightforward, stating simply "*that we have no reason to attribute fundamental moral importance to someone's location in time"*. A society guided by a Rawlsian 'veil of ignorance' – the idea that one should select the principles for the basic structure of society, as if one had no advance information about one's gender, social status, ethnicity, or indeed place in time - must therefore include intergenerational equity.

The argument for a democratic obligation

Mulgan (2006: 1) eloquently puts the moral obligation to 'future people' thus:

> "Our actions have little impact on those who are dead, a considerable impact on those currently alive, and potentially enormous impact on those who live in the future. Perhaps the most significant impact is that our decisions affect who those future people will be, and if there will be future people at all. If we measure the moral significance of an action by the number of people it affects and the impact it has on them, then our obligations to future generations deserve to be the central topic of moral philosophy."

The boundary problem of how to decide who legitimately make up 'the people' constitute an essential part of democratic theory (Dahl, 1990; Goodin, 2007). One answer is the *all affected principle*, i.e., that all those significantly affected by a decision should have their say in the decision-making process for it to be truly democratic. As the quotation of Mulgan above notes, future people are perhaps the most significantly affected by today's decisions, and therefore future generations' interests should be at the core of democratic decision-making processes (Karnein, 2016; Vermassen et al., 2022). While this sound enticing in theory, the philosophical considerations are somewhat more complicated (see e.g. Jensen, 2015), and the practical implications even more so.

The argument for better decision-making for present generations

There is also an argument that caring more about future generations could lead to better decision-making increasing the welfare and quality of life of present generations. Futurists are likely to be receptive to this argument, believing ipso facto that increased future-orientation is helpful now. As Bell (1993: 32) puts it, the "*present generation's caring and sacrificing for future generations benefits not only future generations but also itself"*. Bell puts the onus on character building, extending the notion that showing concern for others benefits one's own character to entire generations. In a similar vein, Slaughter (1994) argues that not caring about future generations diminishes us.

However, caring for future generations could also have other benefits. If political short-termism, democratic myopia, and presentist biases are fundamental problems with current policy-processes (cf. Boston, 2021), changing these would likely yield benefits also in the short term.

The case against future generations

It is, of course, impossible to be *against* future generations in the actual sense of the word: future generations is a concept that can only be dealt as an emergent potentiality and as a rich variety of alternatives. However, there are some arguments against the incessant framing of future generations that merit some considerations.

A major challenge for awarding rights to future generations relates to the boundary problem. As this article shows, there is no clear, shared articulation of the temporal reach of the concept. As futurists know, societal discourse contain ambiguity as to where the present stops and the future starts (cf. Humphreys, 2023). Perhaps even more important in this context, it is similarly challenging to argue when the future 'ends'.

As a reviewer for a previous draft of this article correctly highlighted, the term *generations* is by itself ambiguous. This is also a challenge for the discussion of intergenerational justice, which often draws comparisons between providing generations and recipient generations, while sometimes mixing up the notions of generations (Vanhuysse & Tremmel, 2018). Generations can mean both birth *cohorts*, i.e. people born within a narrow range of years, or *age groups* combining people within the same narrow age bracket at a given moment. Using the latter interpretation, 'future generations' might include future representations of our present selves. The distinction also has important implications for discussions on intergenerational justice. Uneven treatment across different age groups is not necessarily unjust, but unequal treatment perpetuated across different birth cohorts over entire life cycles create intergenerational inequity (Vanhuysse & Tremmel, 2018). Since the definitional distinction can lead to fundamentally different inferred conclusions, colloquial use of the generational term without clarification might be problematic.

There is also ambiguity about the spatial implications of the concept future generations (Humphreys, 2023). Philosophically, it is often invoked to apply universally for all future generations elsewhere; however, it is difficult to see such an interpretation e.g. of the rights of future generations in the Finnish constitution. The spatial implications could be taken even further to underline the immense complexity of the concept: by acknowledging the multitude of spatial contexts and spatially sensitive, localised forms of 'knowing the world' in history and in present, how can we claim to have 'the lens' through which to view the potential multitude of future generations? The answer to this dilemma is, simultaneously, simple and complex: there is no singular lens through which to view future generations. From spatial perspective, the concept of future generations is not global and generic, but local and contextual, built through a multitude of spatial contexts and 'local knowledges' (see Geertz, 2000). In principle, this spatial argument can

be utilised both *against* and *for* the use of future generations concept: We can assert that there is no sense in trying to activate a concept this complex. We can also argue, vice versa, that because of its complexity, the concept should be meticulously exercised, as it can help provide, at least, partial illumination and structure in the midst of otherwise ungraspable complexity.

The suggestion of a moral obligation to future generations is also not quite as self-evident as readers here might think. Persons not sharing a common period of life can hardly acquire obligations from each other from a relationship of mutual benefit (reciprocity), nor through explicit or implicit agreement (Hubin, 1976). It is difficult to see how future generations could come to have a claim toward present generations, just as it is hard to see how we could have claims against our previous generations. Justifying obligations to future generations runs into problems if seen through a contractarian or contractualist social contract framework (Groves, 2014: 45).

Putting the spotlight on far-future generations might also reduce attentiveness to addressing immediate concerns. This is one of the critical points put forward *against longtermism* (Torres, 2021). One way to put it is this: If a resource-strapped Finnish government is also constitutionally bound to safeguard the rights of *future* generations of Finnish citizens, it may need to (or choose to) limit the resources for e.g. development aid or welfare policies today. There is, cf. longtermism, even an argument for using future generations to prioritize growth (thus securing optimal economic conditions for future generations) over alternative pathways that otherwise might be considered more sustainable.

We also see a risk that the concept of future generations can be used to cement the extended present. "*The extended present is a future that is not a future at all in the sense that it is simply an extension, and overlaying, of the present on to the future."* (Sardar, 2021). If future generations are merely seen as extensions of the present 'us', they might effectively serve first and foremost as legitimizing enablers of the status quo. If so, the framework of future generations closes up the future rather than opening it up. *"The future in extended present is mostly a colonized future."* (Ibid.). This could be doubly problematic if the extended 'us' is not an actual inclusive representation, but instead, for example, *"largely devoid of women and non-Westerners as well as feminist issues or issues of particular relevance for women*" (Maze, 2019) as has been shown to often be the case with futures images. One should probably be apprehensive before appointing such exclusive representations of extended 'present us' with difficult-to-change legal rights.

Finally, there is (cf. Serra del Pino) an epistemological argument for not conflating issues related to future generations with issues related to futures studies. These are two distinct fields of study, with distinct foci, and with distinct epistemological approaches.

Taken together, we will argue that the arguments above show that increased nuance and consideration is needed when the term 'future generations' is used, whether it concerns academic usage (in futures studies or elsewhere) or more distinctly political usage of the term. We see these arguments not as an antidote to our focus but rather as corroboration of our calls for taking epistemological considerations seriously and for renewed scholarly attention to the topic among futures researchers.

Future generations in futures studies: A literature review

This section examines previous literature on futures generations within academic futures journals. In addition to this material, a range of other scholarly literature exists by, or partly, by futurists. Allen Tough (Tough, 1997b) has constructed a curriculum for a (future) university course on future generations. Jim Dator (2008; 2019: 470f) has supplied interesting bibliographies on the topic. These lists provide interesting starting points, although one could hope for newer or updated

bibliographies for the futures field soon.

A literature search for the term 'future generations' was carried out (September 2022) in the three academic databases Scopus, Web of Science, and Google Scholar directed toward seven specific journals in the field (Journal of Futures Studies, Futures, Foresight, Technological Forecasting and Social Change, European Journal of Futures Research, World Futures Review, and On the Horizon). Primarily due to various functionalities of the given databases, the search in Scopus contained all matches within the title, abstract, or keywords, the search in Web of Science contained matches within the title, while the search in Google Scholar was for article titles only. Without limiting the search to titles ("allintitle:"future generations"), Google Scholar yielded more than 5,000 results which would be too extensive to manually sort through.

While there was naturally a large overlap between the results, each database provided unique results, wherefore the triangulation proved itself meaningful. Between all three databases, 78 results were found in total. The vast majority of the articles are published in the journal *Futures*. The results are shown in Table 1 below.

Table 1: Articles on "future generations" in Futures Studies journals

Journal	Articles	Earliest article	Latest article	Most articles per year
Journal of Futures Studies	4	1998	2018	
Futures	57	1977	2022	1997 (9), 2010 (4), 2021 (4)
Foresight	7	1999	2022	1999 (2), 2022 (2)
Technological Forecasting and Social Change	7	1986	2022	
European Journal of Futures Research	0			
World Futures Review	0			
On the Horizon	3	2009	2018	2009 (2)
Total	*78*			

Looking through the published literature, there was a notable spike in interest during the second half of the 1990s, followed by an apparent decline in interest, before a recent revival of material on "future generations" within the futures field. This is also illustrated by Figure 1 below.

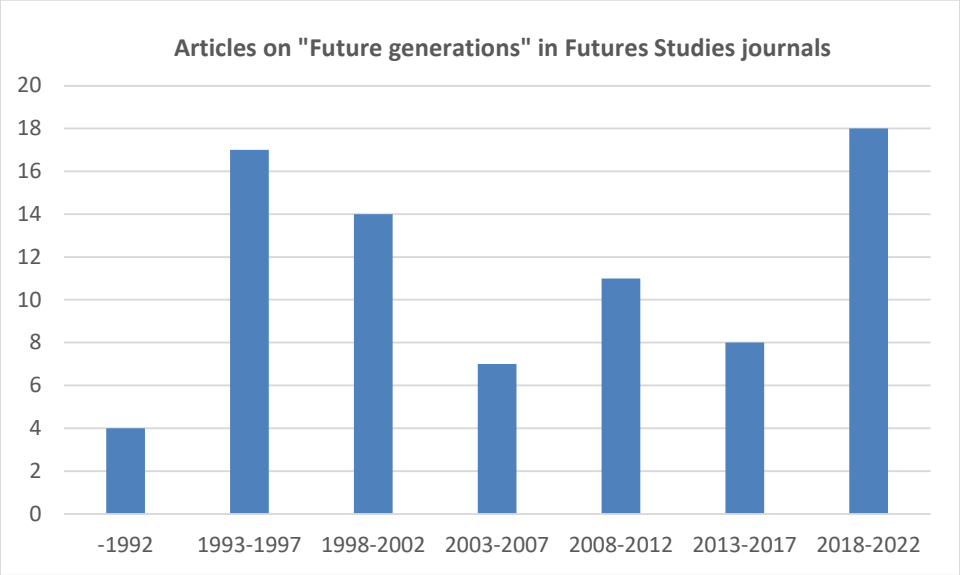

Fig 1: Articles on "future generations" in Futures Studies journals

Another notable thing is the shift in perspective. During the 1990s, several key articles discussed future generations conceptually, and with a view to ethics and the question of moral obligations (Light, 1997; Slaughter, 1994, 1996, 1997; Tough, 1993a, 1993b, 1996, 1997a). As Son (2015: 129) would later note, "*Futures studies must consider moral commitment because its existential rationale is associated with future generations helping their needs."*

Much of the field can be traced back to two groups in Malta and Kyoto, originally operating independently of each other, which separately pursued the need to create an awareness of the ethical questions related to future generations and the social structures that would allow the needs to be taken into account (Dator, 2019; Kim & Dator, 1994). Dator (2019: 231) highlights the influence of these thoughts in shaping the 1997 UNESCO "Declaration on the Responsibilities of Present Generations Towards Future Generations", which supposedly would spread the discussion worldwide. Ironically, though, the 'victory' achieved through the formal international adoption of the declaration seems to have been followed by a decline of interest in the topic.

During the recent uptick of interest, most articles have a more practical focus. The research questions in the futures journals relate less to our conceptual relationship with future generations, but rather to how future generations can be formally embedded in the democratic institutions of the present (see e.g. (Boston, 2021; Jones et al., 2018; Kamijo et al., 2020; Kuroda et al., 2021; Nakagawa & Saijo, 2020; Radavoi & Rayman-Bacchus, 2021; Seo, 2017). Bruce Tonn (see e.g. Tonn, 2018) is a notable exception bridging the preceding futures literature on moral obligations with recent more institutions-oriented literature. The link between future generations and sustainable development can be found imprinted throughout the full period (e.g. (Dahle, 1998).

It is commonly pointed out in the literature that considerations about future generations are a remarkably recent invention in modern Anglo-Saxon human and social sciences scholarly discussions. Justice over time did not exist much as a topic before the 1970s, certainly not before the 1960s (Bell, 1993). Dator (2019: 230) argues that one reason for the absence of the concept in traditional ethical or moral discourse is that, until relatively recently, present generations could do

relatively little by their actions or inactions to make the lives of future generations significantly better or worse than their own. However, it is also commonly pointed out that many traditional cultures have taken a broader view of time, ancestors, and 'futurecestors'. Slaughter (1994), for example, highlights how the Iroquois appointed special chiefs as guardians of future generations. Kramer (2011) refers to Buddhist thought, and how the idea of reincarnation gives direct reason to concerns about the planet and future generations. One strength of future generations research is thus its ability to find links with other civilizational projects (Inayatullah, 1997).

If people today are obliged to act in accordance with the interests of future generations, a key question concerns what those interests are. The epistemic uncertainty related to identifying the interests of future generations is, naturally, a key barrier for conceptualizing their representation within current processes (see e.g. Gosseries, 2015).

In a series of enlightening essays, Allen Tough tackles this by asking what future generations would need from us (Tough, 1993b), and what future generations might say to us (Tough, 1997b). The seven recommendations or needs of future generations are somewhat uncontroversial and related to (1) Peace and security, (2) Environment, (3) Catastrophes, (4) Governance, (5) Knowledge, (6) Children, (7) Learning. If present generations could deliver better on these issues, the challenge of not knowing the exact interests of future generations - and the realization that future generations are unlikely to act as a monolith - has rather limited implications in practice.

The problem of defining 'future generations'

If future generations becomes a new future-oriented domain in policy and lawmaking, it is invariably relevant to consider how future generations can be conceptualized. If future generations must be represented in policymaking, it leads not only to the epistemic uncertainty problem of identifying their interest, but also to the boundary problem of defining *who future generations are*. Enshrining enduring rights to future generations accentuates a similar discussion.

Defining future generations in futures studies

The question of *defining* future generations has received surprisingly little consideration in previous futures literature published in peer-reviewed journals. One notable exception is (Hubacek & Mauerhofer, 2008), who discusses economic, legal, and institutional aspects related to future generations.

From a legal perspective, they see one as one of the key questions dealing with future generations, where do they begin, and where do present generations end? They open the definitional issue up for both of the concept's terms:

- Future: When does the future begin?
- Generations: How is this term defined, and is it limited to human beings? (Human/non-human and/or living/non-living beings)

They do not attempt to provide precise answers to the questions beyond stating that to "overcome this dilemma, a working definition relevant to resource consumption has to be chosen, bearing in mind other conceptions of future generations exist" (Hubacek & Mauerhofer, 2008).

We have identified no other discussion of how to define future generations within the 78 identified articles. Some futurists have tackled the topic elsewhere, e.g. within several of the chapters of the book Co-Creating a Public Philosophy for Future Generations (Kim & Dator, 1999). Acknowledging that by future generations "a number of philosophers and futurists mean those generations who will live in the next twenty-five to thirty years" (Tomov, 1999: 72), most authors

in the book take a more maximalist approach. Garrett (1999: 32) explains that future generations "must be understood to include people we will never meet and to whom we have no connection, people whose welfare we consider not because of close familial bonds but because we recognize the intrinsic value of continued life on Earth." Wendy Schultz (1999: 183) expands the scope even further "to the potential descendants of all humans, of all flora and fauna, of all geological formations, as well as the spiritual energy (either embodied or free-floating) developing on the planet."

While these are remarkable contributions, the book chapter definitions all reflect individual preferences of what future generations should mean more so than intersubjective definitions or the result of careful analysis of how it is applied.

Defining future generations in sustainable development

The importance of future generations is one of the founding principles of sustainable development. Indeed, the very definition of sustainable development adopted by the 1987 Brundtland Commission explicitly contains a reference to future generations. Airos et al. (2022) survey five central international documents from the Stockholm Declaration and Action Plan for the Human Environment (1972) to Agenda 2030 (2015) with its Sustainable Development Goals. Through the documents, it is pointed out nine times, implicitly or explicitly, that the people of today must act in accordance with the interests of future generations. However, none of the documents defines future generations, although they are referred to a total of 42 times. Based on the key international documents, one will therefore find that future generations are used to define sustainable development, but those future generations are themselves not defined at all.

Defining future generations elsewhere

Texts in other fields have provided some definitions of future generations. For example, Hubin (1976: 70) defines future generations as *'generations which do not overlap our own'*. (De-Shalit 1995: 141) similarly defines future generations as '*the people who by definition will live after the contemporary people are dead'*.

While these definitions are rather simple and intuitive, they are still quite vague in practice. It seems likely that there are people (children) alive today, who will live to the year 2150. If the clause of no overlap is taken literally, we will have no future generations within the next 100-year time span. Conversely, there is no endpoint to the definition suggesting that we today have obligations reaching thousands, if not millions of years ahead.

The nuclear energy community is one field where deep-time thinking (cf. Ialenti, 2020) has long been forced to the surface due to necessity, for example when discussing the management of high-level radioactive waste. Still, the notion of future generations is not clearly defined within the community (Kermisch, 2016). The Belgian regulation, for example, separates between short-term (up to 100 years, the word short-term having different connotations regarding nuclear waste compared to most everyday usages) and long-term (after 100 years).

Relating to the issue of high-level radioactive waste, Celine Kermisch (Kermisch, 2016) suggests distinguishing between 'close future generations' and 'remote future generations'. In this context, the distinction separates generations who will still have a memory of the waste and its location (close future generations), and remote future generations who have lost its memory. As final waste sites for nuclear waste could be functional for at least 10,000 years, planning for generations without a clear memory is necessary.

While the clarification of close and remote future generations is situational to the nuclear context,

we believe the distinction could be applied in many other contexts too.

Futures scholars and foresight experts definitions of future generations

This section contains the result of a survey fielded to futures scholars and foresight experts to generate insights on how to improve long-term orientation in policy- and lawmaking (see Airos et al. 2022). The survey included elements on both foresight practices and improved considerations of future generations' interests. While the survey material is richer, we focus in this article on the first question of the survey, which concerned conceptualizing future generations.

Method: Surveying foresight experts and futures scholars

The questionnaire was fielded in March/April 2022 for a handpicked list of experts that formed a futures panel. The panel of recipients was selected by the authors to bring insights on how foresight and future generations could be taken into account in lawmaking. The sampling strategy was therefore based on identifying those who had previously published and or/worked with policy foresight or with the rights of future generations.

Since the questionnaire was conducted as part of a project for the Finnish government (Airos et al., 2022), the list of recipients intentionally contained a disproportionate amount of Finnish respondents. The survey was set up in the web portal Webropol, where respondents could choose to answer the survey in either Finnish or English. An invitation to the survey was sent for 222 people of which 65 responded (a response rate of 29%). 50 respondents answered in English, 15 in Finnish.

The introductory question of the survey asked respondents to provide their conceptualization of future generations. The presumption was that respondents' ideas about *who* future generations are would also shape their opinions on *how* future generations could be taken into account.

The precise question, respondents faced was '*What does the notion of future generations entail in the context of law-making?'*

Respondents were then offered a selection from four preselected options, as well as an opportunity to provide a different option:

a) Children and youth already living today
b) People living within the next few decades
c) People living within the next few centuries
d) Future people whose lives will be significantly affected by our decisions
e) Something else; what?

Those selecting option *e)* were prompted to provide an answer within an open text field. All respondents were tasked with elaborating their response (open text) with the simple prompt *'Why?'*

It is important to note that the survey clearly contextualized the definition of future generations here pertaining to the domain of law-making. This may have brought out other responses from futures scholars than they would have provided in the other contexts. It is also important to note that the selection choices were not mutually exclusive.

Since the invited respondents were selected by the authors but based on their perceived ability to contribute (i.e. not randomly), the analysis cannot be said to be representative for the futures/foresight field. It is also unlikely that all possible ranges of (especially qualitative) responses are captured in the subset. We do believe, though, that the results are indicative of thinking present within the field.

Results of the expert survey

The responses to the survey revealed the difficulties of providing a meaningful one-size-fits-all definition of future generations. It also revealed a remarkable variety in the responses. This suggests that when the topic of enshrining the rights of future generations into law or securing future generations' representation in policymaking, the discussion participants *may not be discussing the same things*. While the responses here pertains to this specific context, the conclusion may have validity for other contexts too, where future generations are discussed.

This is perhaps the most important finding of the survey. The survey was not designed to provide an exact answer to what the concept of future generations entails; however, the results suggest that raising the issue is beneficial. If various parties have very dissimilar conceptualizations, the debate around and within this future-oriented domain could easily be distorted.

In Figure 2 below, we present the responses of the entire group of experts (combing the Finnish and international respondents) for the question at hand. The majority of respondents (57%) opted for the definition "*Future people whose lives will be significantly affected by our decisions*". Next comes the options "*People living within the next few centuries*", "*People living within the next few decades*" and "*Something else*". Five percent of respondents estimate that future generations (note: In the context of law-making) refer to children and young people already living today.

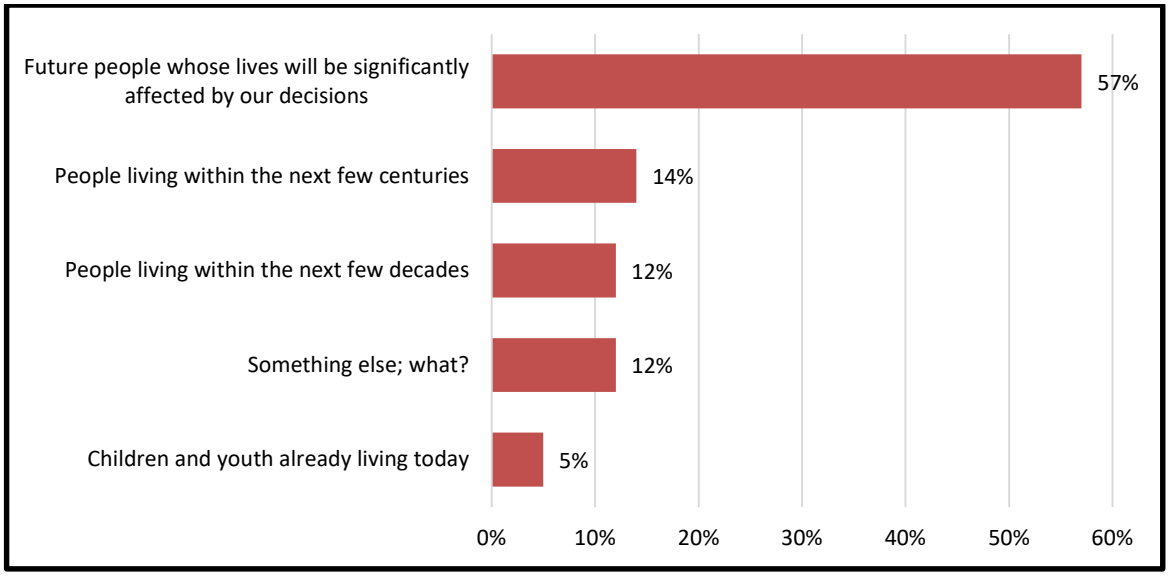

Fig 2: Share of survey responses to the question "What does the notion of future generations entail in the context of law-making?" (N=65)

The answers were justified in different ways in the "why" field. We highlight the following as examples (answers provided in Finnish translated by the authors):

> "In the context of decision-making and legislation, future generations can mean those generations that decision-making does not affect at this moment. Depending on the issue, decision-making can have effects for decades or even centuries."

> "Different policies create impacts on various timeframes. There is a balance to be struck between generations. (…) 'Future generations' is open ended - limiting impact to our children's future lives or to decades away, or even centuries, is not necessarily useful. Some policies create lasting impact, such as urban development, forestry etc., so creating a space for those future generations to be contemplated in such decision making will create some sort of balance."
>
> "Because all the other options are either unfocused or too restrictive"
>
> "Future generations can be defined individually subjectively, but when viewed objectively, the concept covers all future generations from the present moment forward."
>
> "… from the point of view of legislation, in my opinion, future generations refers to people whose lives are affected by legislative decisions, but who are unable to influence them due to their young age or not having been born."
>
> "More essential than the time span is the understanding of cause-and-effect relationships. In terms of time span, I would rather emphasize longer (50–200) than shorter."
>
> "I think a distinction should be made between what the notion of FGs means in law-making, and what it should mean. It is my estimation that most law-makers usually refer to current generations of young people (already living) or one generation down the line (so those living within the next decades). They definitely do not think about the next centuries. Including all those significantly affected would be ideal, but not feasible because laws that are good for the next two generations might be detrimental to those generations that follow."
>
> "The term 'futures generations' is an empty, normatively neutral vessel for whatever contents (values, norms, expectations, hopes, fears) a group wishes to put there."

As seen, many responses suggested situational definitions, e.g., that the definition and the responsibility would match particular" actions/latency/effects". One open response defined future generations clearly as**" My** (born or unborn) grandchildren and their children", e.g., the third and fourth generation after the respondent. One respondent suggests a relevant temporal space as" more than the next few decades, but less than the next few centuries."

The results make it clear that respondents operate with very different time horizons, while nominally discussing the same question. While neither definition is preferred by a majority, some foresight experts conceive future generations in law-making contexts as a comparably short-term issue (young generations already alive), while others have much longer implied time horizons (the next few centuries). It is notable that the response most selected was also the one, which was the vaguest.

Some respondents argued explicitly against the idea of providing temporal-bound definitions ("*I also think it's non-sensical to draw a temporal boundary for who counts as 'future generations*'") because the future is by definition open-ended. Others argued for rather short time horizons due to limits of cognition, either amongst themselves or as presumed amongst lawmakers. For example, one respondent noted that "*That is a time horizon that I can grasp"*, while another wrote "*It's too*

abstract for policymakers to consider the wellbeing of someone they have no personal relationship with. It's much more effective to refer to their (grand)children."

It appears to be a clear strategy identifiable among *some* participants that 'future definitions' need a relatable working definition to be operationalizable. Pragmatism may be preferred over theoretical consistency to induce the effect wished for within the policymaking process.

One English language answer differed from all the rest (Finnish and English) by mentioning *"Future civilizations, including sentient and non-sentient life forms"*. All other responses seemed to implicitly or explicitly take for granted that 'future generations' would refer to human beings, although this definition may not be self-evident. The idea that the definition should extend beyond human beings was also brought up by respondents explaining their choice of definition (albeit, remarkably, only amongst international respondents).

Discussion

As we were finalizing this article, the European Commission's President Ursula von der Leyen raised up the topic of intergenerational solidarity in her 2022 State of the Union Address (European Commission, 2022). Solidarity between generations, she proposed, should even be enshrined in the EU treaties. This is another good example of how intergenerational equity now takes center-stage of political discussion. However, in the preceding sections of her speech, von der Leyen explicitly referred to "*our children's future"* and "*the next generation"*.

This article sought to highlight the contemporary relevance of future generations' studies and provide a call for futures studies to reestablish itself within the discussion. Von der Leyen's remarks underline the interest in institutional and legal aspects of intergenerational fairness that no longer belongs to the sole realm of academics, but also increasingly shared by decision-makers. The other primary aim of the article is to ascertain epistemic considerations of how to conceptualize future generations. Again, von der Leyen's remarks are instructive, as the narrow temporal scope of intergenerational solidarity marks a stark contrast to conceptualizations of future generations e.g. as those living when all contemporary people are dead (De-Shalit, 1995) or the maximalist framing including all geological formations and spiritual energy (Schultz, 1999).

Examinations of the surprisingly sparse previous literature on definitions of future generations, supplemented by the empirical survey material presented, leads us to conclude that conceptualizations of future generations must include contextual timeframes and, if conceptually possible, even contextual spatial settings. Even within the domain of law and policy, it is relevant to distinguish between timeframes. The concept of future generations entail different aspects in relation to tax policy compared to nuclear power policy. However, *especially* since there is not one all-encompassing and applicable definition of future generations, explicating the dilemmas and tensions implicit in the widely used term is important. Unless we are able to acknowledge and resolve the challenges, it will be difficult to take the call for accounting for future generations in democratic policymaking beyond the level of mere rhetoric. We invite futures studies scholars to play their important part within this new research field.

Celine Kermisch' distinctions, inspired by nuclear waste research, between *close future generations* and *remote future generations* could be a fruitful starting point for this additional research. As raised within the survey responses, conceptual developments delineating future generations as consisting only of humans or as a broader concept are also welcomed. For example, there are good grounds for suggesting that democratic notions of the all affected-principle should be extended to nonhuman animals (e.g. Magana, 2022). Many initiatives enshrining rights to future generations are intricately linked with sustainable development and with initiatives enshrining

rights to Nature itself (UNDP, 2022: 7-10).

If future generations thinking has previously been recognized by futurists for its ability to find links with other civilizational projects (Inayatullah, 1997), it could now help pave the way beyond anthropocentrism and towards novel 'anthropocene futures', including understanding of the deep interconnections between 'human systems' and 'natural systems'. We believe futures scholars are uniquely equipped to broadening the view of possible futures and furthering post-anthropocentric conceptualizations of future generations. Already, Schultz (1999) and Hubacek & Mauerhofer (2008) suggested that future generations could include more than human beings (non-human living beings, even non-living beings). Futurists should consider what methods and framing, existing or potential, that could be utilized to support this endeavor.

To sum up, we will argue that working with future generations require at least the following epistemic considerations:

1. Does the usage sufficiently distinguish between *Futures Studies* and *Future Generations Studies?* These concepts may overlap, but they are not synonyms, and clarity between the usages is needed.
2. Does the term *generations* imply a birth cohort or a specific age group, i.e. does it refer to a group of beings at a distinct time in their lives or across their entire life cycles?
3. What is the temporal reach, i.e. when does the present end, when does the future begin, and how far does the future reach?
4. What are the spatial considerations of the concept? Future generations are often invoked to represent future generations *everywhere*, but this may not be – and probably cannot be - the case in all spatial contexts.
5. Does the concept refer only to future human generation, or does it extend to all living beings, or even to non-living beings?

Arguably, the answer in all these cases is contextual. There is no clear and one-size-fits-all definition of future generations, nor should there be. However, disentangling the often very different inferred meanings using the 'checklist' above could help move the shared discussion forward.

Finally, arguing for the rights of open-ended future generations can entail a preference for permanence over change and adaptation. It is therefore also important to be on guard for usages that effectively legitimizes the status quo of the extended present. Striking the right balance between longtermism and dynamism is another, for now under-acknowledged, aspect of institutionalizing future generations, for which foresight and futures scholars may provide valuable insights.

Acknowledgements

This article has benefited from two funding sources. The first is the research funding from Finnish government´s analysis, assessment and research activities (FORGE project). The second source is research funding from the Academy of Finland (GYROSCOPE project, decision number 353056).

References

Airos, Maija, Ahlqvist, Toni, Knudsen, Mikkel, Mutanen, Anu, Rapeli, Lauri, Schauman, Jonas, Setälä, Maija, Taylor, Amos. 2022. *Ennakointi ja tulevat sukupolvet lainvalmistelun prosesseissa, instituutioissa ja käytännöissä*. (*Foresight and future generations in legislative processes, institutions and practices*). Publications of the Government´s analysis, assessment and research activities 2022:66. (in Finnish)

Bell, Wendell. 1993. Why should we care about future generations? In Didsbury, H. (ed) *The Years Ahead: Perils, Problems, and Promises*. Bethesda, MD: World Future Society.

Boston, J. (2021). Assessing the options for combatting democratic myopia and safeguarding long-term interests. *Futures*, *125*. https://doi.org/10.1016/j.futures.2020.102668

Caney, S. (2014). Climate change, intergenerational equity and the social discount rate. *Politics, Philosophy and Economics*, *13*(4). https://doi.org/10.1177/1470594X14542566

Dahle, K. (1998). Toward governance for future generations: how do we change course? *Futures*, *30*(4). https://doi.org/10.1016/S0016-3287(98)00036-6

De-Shalit, A. (1995). Why posterity matters: environmental policies and future generations. *Why Posterity Matters: Environmental Policies and Future Generations*.

Hubacek, K., & Mauerhofer, V. (2008). Future generations: Economic, legal and institutional aspects. *Futures*, *40*(5). https://doi.org/10.1016/j.futures.2007.10.001

Jones, N., O'Brien, M., & Ryan, T. (2018). Representation of future generations in United Kingdom policy-making. *Futures*, *102*. https://doi.org/10.1016/j.futures.2018.01.007

Kamijo, Y., Tamura, T., & Hizen, Y. (2020). Effect of proxy voting for children under the voting age on parental altruism towards future generations. *Futures*, *122*. https://doi.org/10.1016/j.futures.2020.102569

Kermisch, C. (2016). Specifying the Concept of Future Generations for Addressing Issues Related to High-Level Radioactive Waste. *Science and Engineering Ethics*, *22*(6). https://doi.org/10.1007/s11948-015-9741-2

Kramer, W. R. (2011). Colonizing mars-An opportunity for reconsidering bioethical standards and obligations to future generations. *Futures*, *43*(5). https://doi.org/10.1016/j.futures.2011.02.006

Kuroda, M., Uwasu, M., Bui, X. T., Nguyen, P. D., & Hara, K. (2021). Shifting the perception of water environment problems by introducing "imaginary future generations"—Evidence from participatory workshop in Ho Chi Minh City, Vietnam. *Futures*, *126*. https://doi.org/10.1016/j.futures.2020.102671

Light, A. (1997). Trusting future generations, trusting life. *Futures*, *29*(8). https://doi.org/10.1016/s0016-3287(97)00056-6

Maze, R. (2019). Politics of Designing Visions of the Future. *Journal of Futures Studies, 23*(3). https://doi.org/10.6531.JFS.201903_23(3).0003

Mulgan, T. (2006). Future People: A Moderate Consequentialist Account of our Obligations to Future Generations. In *Future People: A Moderate Consequentialist Account of our Obligations to Future Generations*. https://doi.org/10.1093/019928220X.001.0001

Mulgan, T. (2018). Answering to future people: Responsibility for climate change in a breaking world. *Journal of Applied Philosophy*, *35*(3). https://doi.org/10.1111/japp.12222

Nakagawa, Y., & Saijo, T. (2020). Can individuals caring little about future generations serve as their representatives? *Futures*, *124*. https://doi.org/10.1016/j.futures.2020.102626

Radavoi, C. N., & Rayman-Bacchus, L. (2021). The need for durable institutions for future generations: Mobilising the citizenry. *Futures*, *132*. https://doi.org/10.1016/j.futures.2021.102820

Sardar, Z. (2021). On the Nature of Time in Postnormal Times. *Journal of Futures Studies*, *25*(4). https:/doi.org/10.6531.JFS.202106_25(4).0002

Seo, Y. (2017). Democracy in the ageing society: Quest for political equilibrium between generations. *Futures*, *85*. https://doi.org/10.1016/j.futures.2016.11.002

Serra del Pino, J. (2007). Futures studies and future generations. *Futures*, *39*(1). https://doi.org/10.1016/j.futures.2006.03.008

Slaughter, R. A. (1994). Why we should care for future generations now. *Futures*, *26*(10). https://doi.org/10.1016/0016-3287(94)90074-4

Slaughter, R. A. (1996). Long-term thinking and the politics of reconceptualization. *Futures*, *28*(1). https://doi.org/10.1016/0016-3287(95)00074-7

Slaughter, R. A. (1997). A foresight strategy for future generations. *Futures*, *29*(8). https://doi.org/10.1016/s0016-3287(97)00052-9

Smith, G. (2019). Enhancing the Legitimacy of Offices for Future Generations: The Case for Public Participation. *Political Studies*. https://doi.org/10.1177/0032321719885100

Thompson, D. F. (2010). Representing future generations: Political presentism and democratic trusteeship. *Critical Review of International Social and Political Philosophy*. https://doi.org/10.1080/13698230903326232

Tough, A. (1993a). Making a pledge to future generations. In *Futures* (Vol. 25, Issue 1). https://doi.org/10.1016/0016-3287(93)90120-i

Tough, A. (1993b). What future generations need from us. *Futures*, *25*(10). https://doi.org/10.1016/0016-3287(93)90072-2

Tough, A. (1996). My connectedness with future generations. *Futures*, *28*(6–7). https://doi.org/10.1016/0016-3287(96)84480-6

Tough, A. (1997a). Learning and teaching about future generations. *Futures*, *29*(8). https://doi.org/10.1016/s0016-3287(97)00047-5

Tough, A. (1997b). What future generations might say to us. *Futures*, *29*(8). https://doi.org/10.1016/s0016-3287(97)00050-5

Winter, Gerd. 2022. "The Intergenerational Effect of Fundamental Rights: A Contribution of the German Federal Constitutional Court to Climate Protection". *Journal of Environmental Law*, 34. https://doi.org/10.1093/jel/eqab035