Basic Needs versus Central Capabilities: Defining Sufficientarian Thresholds for Intergenerational (Climate) Justice[1]

Daniel Petz[*]

Abstract

Il presente articolo afferma che le teorie sufficientiste di giustizia intergenerazionale devono soddisfare cinque criteri di base: difensibilitâ, determinatezza, validità intergenerazionale, esigenza per le persone attualmente in vita e giustizia per le future persone. In base a questi criteri, vengono paragonate due concezioni dei bisogni fondamentali (Doyal e Gough, Meyer e Pölzler) e una concezione basata sul *capability approach* (Petz) per vedere come esse giustificano questi criteri di base. Sottolineando similarità e differenze tra le concezioni dei bisogni fondamentali e del *capability approach*, l'articolo arriva alla conclusione che teorie basate sul *capability approach* possono beneficiarsi dall'uso della forza normativa delle domande normative basate sui bisogni fondamentali, mentre teorie dei bisogni fondamentali traggono beneficio dall'adottare una qualche versione del *capability approach* quando si trovano a fronteggiare accuse di paternalismo. Questo lascia in aperto la possibilità di sviluppare una forma di teoria ibrida.

Parole chiave: bisogni fondamentali, capability approach, giustizia intergenerazionale, generazioni future.

This paper claims that sufficientarian theories of intergenerational justice need to fulfill five threshold criteria: defensibility, determinacy, intergenerational validity, demandingness for currently living persons, and justice for future persons). Based on these criteria it compares two basic needs conceptions (Doyal and Gough, Meyer and Pölzler) and one capability conception (Petz) in regard to how they justify attaining those threshold criteria. Highlighting similarities as well as differences between basic needs and capability conceptions it finds that capability theories can benefit from using the normative strength of basic needs claims, while basic needs theories benefit from endorsing some version of capability theory when it comes to warding off claims

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[*] Universität Graz – Österreich. E-mail: daniel.petz@uni-graz.at

of paternalism. This leaves the path open to the possible development of a form of hybrid theory.

Keywords: Sufficientarianism, intergenerational justice, basic needs, capabilities, climate change, distributive justice.

Introduction

As currencies of justice needs and capabilities have lived in mostly uneasy competition for the best part of half a century. Historically, this can be traced to the capability approach being developed by Sen in part to improve on some of the challenges he saw in early basic needs conceptions and both academically and in application the capability approach has largely outshone basic needs approaches in the last few decades.[1] Nevertheless, basic needs have been studied and refined throughout this time and one might claim to see a slight resurgence in scholarship in recent years.[2] One interesting development is that there has been more interest in discussing if and in how much basic needs feature in capability conceptions and a focus to discuss the communalities more than the differences between these currencies.[3] I want to follow in this tradition to take a sympathetic but critical look at both currencies to identify how both fare in regards to being the currencies of justice in a sufficientarian threshold conception for the purpose of intergenerational justice in the context of climate change.

In my opinion, one of the problems of comparative study of currencies of justice is that most currencies of justice are used in different shades and shapes by different philosophers and thus there sometimes is a tendency to pick out criticism that only applies to particular conceptions with these generalized into an attack on the entire currency. To avoid this temptation this paper will look at some specific conceptions of basic needs and capabilities. In terms of basic needs, it looks at Doyal and Gough's theory of basic needs, including Gough's more recent work on basic needs and climate change, as well as Meyer and Pölzler's account of basic needs sufficientarianism.[4] The choice is justified as both are proponents of a threshold approach, so the approaches are specific enough to provide comparability to the capability conception. Also, both conceptions are discussed in terms of intergenerational justice.[5] In terms of capabilities, the paper discusses Petz's conception of intergenerational capability sufficientarianism, which focuses on climate justice and builds upon Nussbaum's conception of central capabilities.[6]

The discussion of this paper focuses on one specific aspect of justice, which is intergenerational justice, with an eye on climate change. While much of the debate between basic needs and capabilities is based on the background of poverty and development studies, the context of intergenerational justice poses a number of

particular challenges for currencies of justice, starting from dealing with the non-identity problem, to limitations of participation and measurement that need to be considered when discussing the suitability of a currency of justice for such a topic. This paper argues that a sufficientarian threshold conception, as it provides a viable solution to the non-identity problem is a viable foundation for a theory of intergenerational justice and the conceptions discussed in this paper all either explicitly or implicitly lend themselves to such an interpretation. The currencies of justice will thus be judged based on a list of five threshold criteria, which I will introduce in some detail in the following section. The paper then provides a brief introduction to the basic needs and central capability conceptions that are at the core of this paper. This is followed by discussing advantages and challenges the three conceptions would face regarding the five threshold criteria.

1. Sufficientarianism, thresholds and intergenerational justice

Sufficientarianism is a conception of distributive justice that, contrary to egalitarian conceptions, claims that what is important in terms of justice is that people have enough.[7] The boundary between having enough and not enough is of high normative significance to sufficientarians and is expressed through a threshold.[8] Benbaji and Casal see sufficientarianism being based on a positive and a negative thesis, with the positive thesis being the already mentioned principle that everybody should have enough, while the negative thesis states that if everybody has enough, distribution above the threshold does not matter (or matters significantly less).[9] Main contentious issues between sufficientarians are questions 1) about the currency of justice (where the most common suggestions are welfare, resources, basic needs and capabilities), 2) how to define a normatively strong threshold and 3) which rules should guide distribution above and below the threshold. This paper follows Meyer and Roser's argument that a threshold conception of harm based on a sufficientarian conception provides a plausible solution to the non-identity problem and that such a conception is more plausible in terms of intergenerational justice than egalitarian and prioritarian conceptions.[10]

A threshold-based approach stands and falls depending on the intelligibility and credibility of the threshold. The difficulty of the task of setting this threshold is likely one of the main reasons for the reluctance of most authors[11] to present more than vague descriptions of where the threshold might be located, which I see as one of the major weaknesses of sufficientarian conceptions, given how central the threshold conception is to their credibility. In an intergenerational context, even additional layers of complexity are involved in developing a detailed threshold conception because we do not know important properties about future states of affairs. I will start my inquiry by pointing out the main properties that a threshold for determining possible harm for future generations should have. These criteria can be

seen as responses to criticism towards sufficientarian conceptions such as Arneson and Casal,[12] who have criticized that sufficientarian thresholds might be either ambiguous or arbitrary. To counter these objections, I claim that sufficientarian thresholds need to fulfill threshold criteria of defensibility and determinacy. The third threshold criteria is related to the possibility of temporal and spatial universality of value judgments and raises questions specific to the chosen currency of justice. The final two threshold criteria play into the question of how high or low thresholds should be. If we put the threshold of sufficiency very low, we might be open to the objection that such a threshold would not be sufficiently just to future generations and if we put it very high, the duties of justice based on such a threshold might be too demanding for currently living persons. Therefore, a sufficientarian conception of intergenerational justice will need to show that it can define thresholds that fulfill the five threshold criteria of:

1. Defensibility: The threshold needs to be non-arbitrary, meaning that it has to make a forceful moral case for why we harm a person if she falls below the level and why we do not harm a person once she is just minimally above the level.[13]
2. Determinacy: The threshold needs to be clearly specified as to allow determinate judgments about harming actions.
3. Intergenerational validity: A threshold that is valid for intergenerational justice issues needs to be valid for different generations in the future and consistent over time-scales. As uncertainty about the properties and/or interests of future generations (particularly in the far future) increases, this is a difficult challenge and puts limits to the determinacy of the threshold discussed in point 2 above.[14]
4. Justice for future persons:[15] The threshold defines what is owed to future persons in terms of justice.
5. Demandingness for currently living persons: The threshold needs to be on a level that is not too demanding for currently living persons.[16]

This shows that we must deal with five major properties, some of which (like 2 and 3, as well as 4 and 5) have a tendency towards being conflictual.

2. *Brief introduction to the three conceptions*

This section will provide a very brief introduction to the three conceptions discussed in this paper. It highlights some of the main points of each conception, but this introduction is by far not exhaustive, as many aspects of those conceptions will be discussed in more detail throughout the following sections discussing the five threshold criteria.

2. a. *A Nussbaumean conception of central capabilities*

Martha Nussbaum's conception is based on a list of ten central capabilities, which are (excluding their more detailed descriptions):

1. Life
2. Bodily health
3. Bodily integrity
4. Senses, imagination and thought
5. Emotions
6. Practical Reason
7. Affiliation
8. Other species
9. Play
10. Control over one's environment (political and material)[17]

Her capabilities list is based on her interpretation of Aristotle and a "thick vague conception of the good" which is expressed through the concept of a flourishing life. The list of central capabilities is at the core of Nussbaum's conception and determines which capabilities are central to be able to live a good (flourishing) life. Given that it describes the components of a flourishing life, the list of central capabilities for Nussbaum also provides minimum requirements for social justice.[18]

Nussbaum's list is at the basis of my conception, but with an eye on intergenerational climate justice I suggest a number of revisions to her list of capabilities. There are several reasons to adapt Nussbaum's approach: First, Nussbaum herself has continuously developed and revised her list. She once called an early attempt of the list an "intuitive approximation".[19] This and other statements she has made over time show that Nussbaum does not see the list as set into stone. While in terms of not losing the normative strength of Nussbaum's conception a major rewriting of her capability list might be cautioned against, I think there should be some leeway in clustering capabilities. Second, given that I find Nussbaum's earlier attempt of justification of her list more plausible than her more recent attempts[20], we must be cautious in terms of possible overspecifications and the import of liberal

values into her list[21]. This scrutiny led to adjustments to her list and/or her descriptions of certain capabilities. Third, there seems to be a lack in discussing environmental conditions or interaction with the environment in Nussbaum's list of central capabilities which is an issue that needs to be addressed in regards to a theory of intergenerational justice, particularly one that focuses on climate change.[22] Fourth, many capability theorists see the merit to adapt and adjust capability lists to particular fields of research.[23] This often does not mean that they deny the importance of the whole range of central capabilities, but that they see the merit in either narrowing or widening the range of discussed capabilities, based on the field of application. For my conception it seemed important that such a list could capture what we find morally important about harm from climate change, thus, for example, given the huge potential for human displacement by climate change, I found it important to highlight human stability and mobility (capability 9e in my list). Fifth, more detailed scrutiny of Nussbaum's list showed both further omissions and potential for simplification based on Robeyns criterium of exhaustion and non-reduction.[24] Following my finalized capability list:

Central Capabilities[25]

1. Life: Being able to live to the end of human life of normal length; not dying prematurely, or before one's life is so reduced as to be not worth living.
2. Health: Being able to have good health, including physical, mental and reproductive health. To be able to adequately fulfill basic physical needs such as food, clothing and shelter.
3. Safety and freedom from fear: Being able to live free from fear, intimidation, oppression, and coercion. Being secure against violence or the threat of violence, including sexual and domestic violence.
4. Senses, emotions, imagination and thought: Being able to use the senses, to imagine, experience emotions, think, and reason. Being able to be creative, expressive and to experience transcendence through intellectual, emotional, cultural or religious means. Being able to have pleasurable experiences and avoid nonbeneficial pain.
5. Practical reason: Being able to form a conception of the good and to engage in critical reflection about the planning of one's life.
6. Affiliation:

a) Being able to live with and towards others, to recognize and show concern for other human beings, to engage in various forms of social interaction; to be able to imagine the situation of another.
b) Having the social bases of self-respect and non-humiliation.

7. Work and leisure: Being able to do meaningful work as a human being and having one's efforts recognized. Being able to rest, play and enjoy recreational activities.
8. The environment, nature and other species:

a) Being able to live with concern for and in relation to plants, animals and the world of nature.
b) Being able to live in an environment that allows for and supports the development of other central capabilities.

9. Control over one's life: Being able to have control over one's life and meaningfully plan one's future.

a) Political: Being able to participate effectively in political choices that govern one's life.
b) Belongings: Being able to hold property and personal belongings and having property rights on an equal basis with others.
c) Sexuality and reproduction: Having opportunities for sexual satisfaction and for choice in matters of reproduction.
d) Ageing and dying: Being able to age and die in a dignified manner.
e) Stability and mobility: A) Being able to stay and belong at a place as well as to change that place by moving away. B) Being mobile in a way that supports the development and stability of other central capabilities.

2. b. Two conceptions of basic needs

Doyal and Gough develop a neo-Kantian argument, claiming that since physical survival and personal autonomy are the conditions for any individual action in any culture, they constitute the most basic human needs – those which must be satisfied to some degree before actors can participate in their form of life to achieve any other valued goals'.[26] They later supplant survival with health because it determines a person's ability to act.[27] In terms of autonomy, they argue that three key variables affect levels of individual autonomy of agency, which are 1) cognitive and emotional capacity, 2) cultural understanding a person has about herself, 3) autonomy of agency requires a range of opportunities to undertake socially significant activities.[28] Lastly, they recognize a higher-order level of autonomy, which they call critical autonomy. It entails "the capacity to compare cultural rules, to reflect upon the rules of one's own culture, to work with others to change them and, in extremis, to move to another culture".[29] This, according to Gough, requires, beyond freedom of agency, some measure of political freedom. They reject relativist claims regarding basic needs and to being able to chart basic needs in terms of objective welfare complement their basic approach with a theory about satisfiers and their characteristics. Here, they identify a number of universal satisfier characteristics (USCs), which are

> those properties of goods, services, activities and relationships which enhance physical health and human autonomy in all cultures. For example, calories a day for a specified group of people constitutes a characteristic of (most) foodstuffs which has transcultural relevance. Similarly, 'shelter from the elements' and 'protection from disease-carrying vectors' are characteristics which all dwellings have in common (though to greatly varying degrees);[30]

Doyal and Gough then develop a list of intermediate needs, which are most important for fulfilling the basic needs of health and autonomy. They highlight that the only criterion for inclusion in this list is whether any set of satisfier characteristics universally and positively contributes to physical health and autonomy:[31]

- Nutritional food and clean water
- Protective housing
- A non-hazardous work environment
- Non-hazardous physical environment
- Appropriate health care
- Security in childhood
- Significant primary relationships
- Physical security

- Economic security
- Appropriate education
- Safe birth control and child-bearing

How they develop threshold levels and try to operationalize their conception will be discussed in more detail throughout the paper.

Meyer and Pölzler make the case for needs-based sufficientarianism as the foundation of a theory of intergenerational justice. They argue that basic needs such as food, water, health, *etc.* provide the preconditions for persons reaching a threshold level of autonomy, delineating a minimally good life. They then compare their conception to other currencies of justice (resources, welfare, capabilities) in regards to objectivity, universality, non-materialism and threshold specification, finding that their basic needs conception can be said to fulfilling those criteria and has a range of advantages over other currencies of justice in regards to those criteria. The following sections will introduce theirs and the other authors arguments in more detail.

3. Applying the five threshold criteria

Having briefly introduced the three conceptions in the previous section, this paper will now look at how these conceptions fare in terms of fulfilling the threshold criteria. The idea is to highlight both similarities and differences between the two currencies and point out challenges and open questions that would need to be addressed to make these conceptions viable contenders for a comprehensive theory of intergenerational justice. Table 1 provides an overview of some of the main claims of the three conceptions based on the five threshold criteria.

Table 1: Conceptions and threshold criteria

		Basic needs		Capabilities
		Doyal and Gough	**Meyer and Pölzler**	**Petz**
Defensibility	Normative claim	Avoiding serious harm	Avoiding serious harm	Flourishing life/Avoiding harm
	Core values	Health and autonomy	Autonomy	Central capabilities
	Conception of good	Thin	Thin	Thick but vague
Determinacy		2 levels: principled and practical	Autonomy as scalar concept Underdeveloped	Threshold levels for 9 central capabilities
Intergenerational validity		Basic needs stable over time, universal satisfier criteria stable over time	Basic needs stable over time, satisfiers change	Internalist historical justification – what it means to be human, gradual change
Demandingness	Requirements for currently living persons	Shifting based on constrained optimum	Relatively low	Relatively high, but limited through strong threshold
	Threshold	Strong?	Weak	Strong
Justice for future persons		Shifting, based on constrained optimum – best performing countries in group	Minimal, based on autonomy/basic needs thresholds	More extensive based on capability thresholds

3. a. Defensibility

As argued above, some criticism against threshold conceptions states that they would be unable to make the case that the thresholds would be non-arbitrary[32]. This means that conceptions need to make a forceful moral case for why we harm a person if she falls below the level and why we do not harm a person once she is just minimally above the level.

Here, basic needs theorists argue that they have a strong claim at normative strength by linking the nonfulfillment of basic need to the causing of serious harm. Meyer and Pölzler argue that basic needs differ from other kinds of absolute needs because the harm that arises from their non-fulfillment is both necessary and serious. They further argue that what is at stake when it comes to basic needs fulfillment is the value of autonomy. For example, a person that lacks food will be impaired to develop and rationally pursue their own conception of the good life.[33] Thus, as the authors argue, the concept of basic needs "essentially entails the idea of a qualitative, and hence non-arbitrary difference. Being able to fulfill such needs takes precedence over being able to fulfill non-basic needs and desires. Moreover, it distinguishes a life that has a certain minimum quality form a life that lacks that quality".[34] Quite similar Doyal and Gough see basic needs as linked to the avoidance of serious harm. They identify health and autonomy as the basic needs which humans must satisfy in order to "avoid the serious harm of fundamentally impaired participation in their form of life".[35]

Nussbaum develops her account based on a thick but vague conception of the good, with her central capabilities outlining the minimum conditions of a flourishing life. This account is not based on a metaphysical theory, but on an ongoing narrative historic and cross-cultural self-realization process of what it means to be human and how to lead a flourishing life. If we find Nussbaum's conception plausible, we need to follow her two steps arguments here. First, Nussbaum, following Aristotle, believes that good political arrangements need to be based on a theory of the good life. Such a political arrangement is both deep and broad, broad, meaning that it should be concerned with the good living of all in society and deep, meaning that it is concerned not only with money, land, *etc.* but with a whole range of functionings that make the good life. Liberal theories that aim to only provide a minimum account of the good – such as Rawls primary goods – do not capture the full aspect of what is important as they are focusing some kind of resources rather than what is more essential, capabilities. A thick conception of the good should thus be formulated based on a number of certain basic or central functionings that are constitutive to a good, flourishing human life. I think there are good reasons why a thick account of the good should be at the foundation of a theory of intergenerational justice and why thus following Nussbaum's account is merited. First, we can claim that justice demands that we leave future generations more than a certain amount of resources as we do not know how future persons will want to and will be able to convert those resources

into well-being. Second, I think that justice demands that we provide future generations at least with the minimum conditions to have a good (flourishing) life. To do so, we will need to have a conception of what such a good life consists of. But while obviously a too detailed conception of the good is questionable given the uncertainties about future persons' preferences, Nussbaum's second claim that the conception needs to be vague to allow for freedom in shaping political arrangements based on cultural differences in turn provides an important counterbalance to the thickness of the conception as to ward off claims of paternalism. Nussbaum's conception thus seems to provide a strong starting point for a conception of intergenerational justice. The second step of her argument which claims that we should identify the dimensions of what makes for a flourishing life based on a historical-narrative approach – if found plausible – would also work well in terms of a conception of intergenerational justice as it lays basis to the claim that those central capabilities are valid not only over cultural boundaries, but also over temporal boundaries. Nussbaum's thick and vague conception of the good to providing a strong normative foundation and thus could fulfill the criteria of defensibility. Given that the thresholds of Nussbaum's central capabilities delineate the boundary between a life that is flourishing and a life that is lacking, I can argue that the threshold of harm coincides with the threshold of central capabilities.

Having outlined the different conceptions' claims in regards to defensibility, we can point out one major difference between the basic needs and capability conceptions, which is that both basic needs conceptions develop a thin, rather minimal conception of the good, while a Nussbaumean approach operates with a thick, but vague conception of the good.[36] All conceptions presented in this paper claim to providing a normatively strong basis for a threshold conception. While the basic needs conceptions have significant differences in scope, in terms of defensibility, they both recur to basic needs' necessity in preventing serious harm and basic needs as the basis to being able to lead an autonomous life, based on fulfillment of certain basic needs (such as health, food, shelter). Meanwhile, the Nussbaumean claim comes from the centrality of the set of capabilities for being able to living a flourishing life and Nussbaum's justification of her list based on her historical-narrative approach. Here, we can also lay the claim, that a lack of central capabilities causes harm to the affected person. Both the claims of the capability and basic needs theories seem credible to me, though it seems that in terms of immediacy, basic needs approaches seem to present a stronger claim here, while a Nussbaumean conception stands and falls with the strength of her methodological justification on the one hand and an evaluation of the capability list in terms of the gravity and necessity of harm that is caused by capability deprivation based on that list on the other hand.

Doyal and Gough's conception is somewhat peculiar here as it argues based on two levels, the level of basic needs and intermediate needs and taken together, if their list of needs is compared to my list of central capabilities, there is quite some overlap, a fact that has also been acknowledged by Ian Gough (concerning

Nussbaum's list).[37] Hence we must somewhat question the thinness of Doyal and Gough's conception – a criticism that has already been voiced by Gasper, who found that their conception was overreaching because the original derivation of basic needs in terms of harm-avoidance is then used to do too much work.[38] Gough replies by arguing that Nussbaum's conception would actually face the same issues, which I would contest, given that Nussbaum's conception never claims to be a thin conception of the good.[39] Given that there are many overlaps between a Nussbaumean list (as presented above) and Doyal and Gough's basic needs list, one can question if the differences that both conceptions describe are really that elemental, particularly when it comes to the intergenerational realm, where we will have to deal with a lot of uncertainties in estimating harm.

In general, it seems that the normative claims of basic needs conceptions are stronger the more they can prove that each of their suggested basic needs are universal and objective, as well that those needs can be linked to serious harm, which speaks for more constrained, meaning thinner basic needs conceptions, while the normative claims become more problematic the thicker such a needs theory becomes. This concern is also voiced by Schuppert who argues that

> Needs-claims on the basis of thicker accounts of personal autonomy, or full rational agency, are simply beyond the scope of basic needs, as the lack of fuller (i.e. more substantial) personal autonomy and free rational agency […] cannot be considered to be existentially necessary for the being of the need-claimant. […] Basic needs claims are about existential necessity, while free agency and autonomy seem to appeal to ideas of justice and the good life.[40]

We might thus need to look closely of how thin the basic needs conceptions actually are.

3. b. Intergenerational validity

The threshold criterion of intergenerational validity is often related to questions of universality of different currencies of justice, where because of the intergenerational context, particularly universality over time is important. Given that many intergenerational theories also assign global validity, this might be further coupled with the claim of universality over cultural and geographical boundaries. Basic needs theorists frequently bring forward strong claims about the universality of basic needs, as do both of the conceptions discussed in this paper. Meyer and Pölzler argue that in comparison to changes in preferences or central capabilities, basic needs are much less likely to change and potential changes are easier to predict as future people will still need food, drinkable water and health care.[41] Gough also claims intertemporal universality of basic needs, arguing that future generations of humans will have the same basic needs than present ones to avoid serious harm and to participate and act

within future human societies: "The epistemology of reasoning about needs remains extensional, not intentional, and thus avoids the indeterminacy of reasoning about future preferences".[42] But given that both conceptions put important focus on needs satisfiers, can we argue that these needs satisfiers are also universal?

Meyer and Pölzler are aware of the problem and contend that satisfiers admit to significant temporal and cultural variation, but claim that other currencies of justice such as preferences and capabilities would also face the same issues in regards to changing preferences or changing realization of capabilities. With basic needs, they claim, these changes should at maximum be gradual and slow, because those needs are constrained by presently highly invariable facts about humans' environment and their constitution.[43] Gough, looking at his category of universal satisfier criteria that are based on the claim of universal global validity argues that those criteria will also apply to future generations of humans as much as the present. He argues that unless the genetic make-up of human beings changes significantly, we can assume the same universal satisfier criteria. "Future people will have needs for affiliation, cognitive and emotional expression, understanding and critical thought. To achieve these, they will need specific minima or minopt levels of water and nutrition, shelter, a nonthreatening environment and work practices, significant primary relationships, security in childhood, physical and economic security, education and health care".[44] Both conceptions thus have a strong claim of intergenerational validity of basic needs as a currency of justice, but there are tensions when it comes to the question of how intertemporally valid and universal satisfiers can and will be over time.

Let me now look at the intergenerational validity claims of a Nussbaumean conception. Nussbaum does not see her conception as a metaphysical theory, but as a conception that is both internal to human history and strongly evaluative.[45] She sees the conception based on human stories and myths and a kind of convergence of narratives about the good life that spans historical periods and cultures, based on what one could call the eternal human quest for understand what it means to be human. This is the reason why she conceives her capabilities list as an intuitive approximation and open-ended as there is always the possibility that "some as yet unimagined transformation in our natural options will alter the constitutive features, subtracting some and adding others".[46] This also leaves the option for human societies to learn from each other and leave the list open for possible revisions based on a changing account of humaneness. Her capability list sums up the most important dimensions, without which "life […] would be too lacking, too impoverished, to be human at all".[47]

Nussbaum, while also claiming both intercultural and intertemporal validity of the central capabilities, introduces a more nuanced picture when it comes to the universality of her capabilities. Her Aristotelian thick but vague conception of the good provides a number of spaces for central capabilities to be adapted to cultural and one might also claim intertemporal particularities, first, based on the vagueness of the capability description, which thus needs further specification based on the local

context and second, based on the multiple realizability of capabilities. Nussbaum is also open to her list only being an approximation and open for revisions. Nonetheless, if capabilities can be derived from this cross-generational and cross-cultural conversation of what is a good life, then, if the core of what it means to be human does not change substantively (if we do not turn immortal or into cyborgs, for example) then a Nussbaumean account of capabilities should also hold value for determining what might be important to future generations.[48] As we have shown, Nussbaum is aware that changes in what it means to be human might change the set of central capabilities, but given that more than two millennia have not changed the evaluation of those capabilities much, we might assume that what is at the core of that capability list will still stay valid at least into the medium-term future of humanity – the timeframe where our species will likely be most concerned about the problem of climate change.[49]

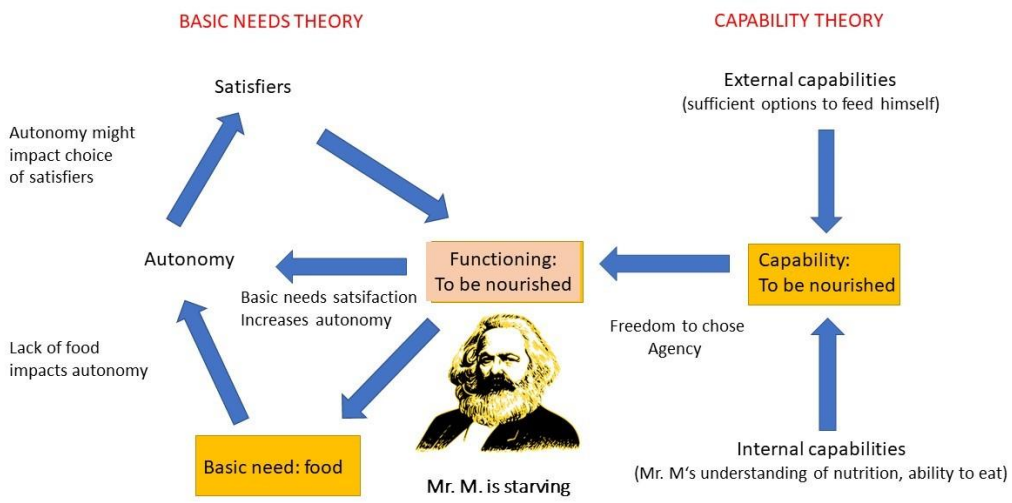
In terms of the claim of intergenerational validity it seems that basic needs might have the stronger claim when it comes to the basic set of human needs that might be valid over time if it does not come to a major transformation in the basic constitution of human beings. Nonetheless, I think that the Nussbaumean claim is not much weaker given that it also takes a long historical view of what it means to be human and while it is open to revisions she argues that it would need some form of transformation of what it would mean to be human, which is not dissimilar to the caveat that the basic needs theorists make themselves. Gough again actually claims something quite similar: "The concept of human need we develop is historically open to such continual improvements in understanding, for example, the astonishing advances in the bio-medical understanding of health and disease."[50]

In my opinion, Nussbaum's claim that capabilities are largely temporarily universal could actually be strengthened if it would make some sort of connection between central capabilities and basic needs. One can understand given the early history of capability theory that capability theorists were and are reluctant to use needs language, but I find that rather petty. I have thus in my conception also added fulfillment of basic physical needs as part of the second capability of health, which closely resembles Doyal and Gough's approach. One can also argue that Nussbaum's theory implicitly acknowledges a set of needs. This is highlighted by Fardell "Indeed, if Nussbaum is right that some attainment of every capability/functioning is required in order to live a fully human life, then by the logic of 'requirement' her central capabilities constitute needs, whether she prefers to speak in those terms or not."[51] If all of those needs are basic, or absolute needs, is up for discussion, but given large similarities of my list to Doyal and Gough's list the differences might actually rather be of nuance than of principle.

I do not think that it is at this level the question of intergenerational validity can be fully resolved, but there are two other areas that could shed some light on it. First, to look in some detail at how the combinations needs/satisfier, capability/functioning fare in terms of being intergenerationally valid. Ideally, such a

comparison would directly look at already determined thresholds for particular needs/capabilities as it would be the most instructive way to tease out the similarities and differences, but given the lack of that determination on the side of the basic needs' conceptions, and the scope of this paper such a detailed process will have to be reserved for a future project. Second, our inquiry can be furthered by looking a closer at these theoretical building blocks and how they might relate to the claim of intergenerational validity.

Graph 1: Comparing basic needs and capability conceptions[1]



[1] Roughly modelled on the author's understanding of Meyer and Pölzler's and Nussbaum's/Petz's conceptions.

By definition, capabilities are substantive freedoms that "refer to the alternative combinations of functionings that are feasible for [a person] to achieve".[53] They are as such not just "abilities residing inside a person but also the freedoms or opportunities created by a combination of personal abilities and the political, social, and economic environment".[54] Human functionings are things persons are able to do (for example travelling, voting in an election) and what they are able to be (for example being well-nourished, being educated) and capabilities are "a person's real freedoms or opportunities to achieve functionings".[55] What is important in terms of justice for a Nussbaumean capability conception thus is to provide that opportunity

space to achieve central functionings, while basic needs conceptions at first view define justice in terms of a set of achieved core-functionings e.g. satisfied basic needs. One reason for using capabilities instead of functionings is to ward off the critique of paternalism (to keep the conception thick but vague, in Nussbaum's words) as a focus on capabilities allows for persons to forego the satisfaction of functionings if they don't deem them important (for example the monk that decides to fast) while still being able to claim that there is a normatively privileged set of capabilities that just societies should make achievable to their citizens. Looking at intergenerational justice this has an additional advantage given that we cannot be fully sure what future persons will value and particularly in which way they want to achieve their functionings. A capability conception can account for that by making sure that a sufficiently wide capability space is open to future persons. In terms of a threshold conception of harm, a capability theorist thus can claim that what we need to do in terms of intergenerational justice is to prevent actions that limit that opportunity space for future generations. What can be challenging here for a capability theory though is to first define how big that opportunity space needs to be, which brings us to questions of demandingness and second, at some point when trying to operationalize the conception, capability theorists also won't come around to discuss what kind of resources (material and immaterial) are needed to guarantee that opportunity space.

Meanwhile, both basic needs conceptions under discussion in this paper have to deal with questions related to paternalism. In terms of both universal validity and to contend the critique of paternalism Doyal and Gough argue that universal satisfier characteristics can be identified and develop a methodology of how these can be identified.

> First, there is the best available scientific/technical knowledge articulating causal relationships between physical health or autonomy and the numerous factors affecting them. Second, there is comparative anthropological knowledge about practices in the numerous cultures and sub-cultures, states and political systems in the contemporary world. Thus to begin with, the codified knowledge of the natural and social sciences enable us to determine the composition of such 'intermediate' needs. This knowledge changes and typically expands through time. […] Such codified knowledge is inherently elitist, which gives rise to another common criticism of the needs approach – that it is paternalist at best, totalitarian at worst. But this criticism is deflected by a further epistemic requirement – that such codified knowledge must be tested by an appeal to the experientially grounded knowledge of people.[56]

I do not want to discuss the merits of their procedural approach in too much detail here, but what I need to point out is that obviously we cannot engage with the experientially grounded knowledge of future persons yet. Gough later argues that we can at least have an intergenerational discussion about these among all those

generations that are alive now, which – point taken – is obviously possible, but again this does not resolve the question of paternalism to any satisfaction, particularly in the intergenerational context.[57] In this regard, their conception seems somewhat more easily challenged given that what is owed to future persons is based on USCs which for such a theory to be operationalizable need to be determined by current persons. In terms of intergenerational validity, their position is that every future person will need resources that fulfill those universal satisfier categories. The claim of universality thus hinges upon the question if their USCs can also claim intertemporal validity.

Looking at the other basic needs' theory, when discussing the question of paternalism, Meyer and Pölzler's conception takes a rather interesting turn. Meyer and Pölzler argue that the objectivity that basic needs have as a currency of justice do not necessitate a high amount of paternalism.[58]

> First, needs-based sufficientarianism does not demand of states that they actually meet claimants' basic needs, but only that they enable them to do so. This means that claimants are still free to be ascetics, illiterates, etc. Second, needs based sufficientarianism does not require that states directly provide claimants with the satisfiers of their basic needs. In many cases they will rather have a duty to create or maintain institutions which enable persons to meet these needs themselves, through their own work and efforts. And third, on our understanding of basic needs promoting persons' autonomy is even the final end of meeting their basic needs.[59]

Let us take a quick look at their third argument here. As Graph 1 shows, the focus on autonomy of what counts in terms of basic needs satisfaction introduces an important element in their theory, including a freedom/agency component. This is a neat move to challenge claims of paternalism that have often been raised against basic needs conceptions, but one might question if autonomy is really the ultimate value that all human beings crave and aspire to and thus should have such a central function in a basic needs' conception, rather than being one among many different ultimate values humans strive for. Meanwhile, capability conceptions have freedom as a factor in each individual attainment as Fardell rightly notices and thus have much less problems in terms of dealing with paternalism.[60]

Further, Meyer and Pölzler's first and second arguments at least for someone working with capability theory seem like an implicit endorsement of capabilities as the currency of justice. If we only need to enable persons to achieve their basic needs/functionings then what is important are the opportunities to fulfill these needs, which are basically capabilities. Can it thus be that the differences between these needs and capability conceptions are actually much smaller than previously thought? Let me see if there is a similar turn towards capabilities in Doyal and Gough's conception. Doyal and Gough's conception is more complex in this regard and it will need some digging to find what I am looking for. While Doyal and Gough frequently highlight

similarities between their approach and Sen's capability theory, they do not endorse capabilities in their conception.[61] Gough argues that there are two reasons for that, first, that to come up with a list of valuable capabilities, capability theory has to take recourse to needs anyway and second because of the sheer number of capabilities, the capability approach is extremely difficult to operationalize.[62]

But, on a detailed reading of their theory, things are again not that simple, particularly when it comes to how they conceptualize autonomy. When discussing autonomy, they argue that one variable by which autonomy can be increased is by increasing the range of opportunities for new and significant actions open to the actor. They then link these significant activities to Braybrooke's categories of parent, householder, worker or citizen or activities which a person deems of significance for the rational improvement of her participation in her form of life.[63] They make clear that thus not any opportunity for actions increases autonomy. But if the threshold level of autonomy is closely coupled to the level of significant opportunities, are those opportunities not very similar to capabilities?

Also, when defining thresholds Gough argues that "in principle, (need) satisfaction is adequate when, using a minimum amount of appropriate resources, it optimizes the potential of each individual to sustain their participation in those constitutive activities important for furthering their critical interests".[64] Can we not translate 'potential' here as *capability*? And if we do so, this reads again very much like a capability theory. While some might think that I might stretch the parallel too far here, there should at least be some doubt as to how wide the claimed differences between the analyzed basic needs conceptions and my capability conception are here. The focus on the capability space might be less openly pronounced in those conceptions, but they both seem to acknowledge the core importance of such a space in terms of first, warding off claims of paternalism and to being able to highlight the importance of freedom and choice in their conceptions. In turn, I personally have no problem to admit that a Nussbaumean conception strongly builds on some concept of basic necessities (central functionings) that can be translated into needs language.

Having made this important observation, it seems that in terms of intergenerational validity, aside from the various locations of the conceptions on the thin-thick axis, which makes a difference in terms of how many claims need to be assessed, with thinner theories likely having an advantage in this regard, all conceptions face a same set of challenges when it comes to dealing with actually operationalizing such a theory in regards to satisfiers/resources. Here the conceptions use different strategies. My capability conception claims that using capabilities makes the question less pertinent, as there are multiple realizabilities of many capabilities, thus also accounting for future changes. Meanwhile, Gough relies on the claim of intertemporal validity of their USCs. It remains in the eye of the beholder to judge which route is the more credible and successful one in regard to determining intergenerational validity.

3. c. Demandingness for currently living persons and justice for future persons

I will discuss these two threshold criteria in unison here, as they are intertwined. If a conception advocates for relatively high threshold levels for both current and future persons, there is a chance that it would have high demands in terms of what current persons ought to do in terms of justice to assure that future persons would not fall beneath the threshold of harm and thus might be overly demanding. On the other hand, if a conception calls for a low threshold, we might argue that it does not capture everything that is important in terms of intergenerational justice. In this regard it will also matter if conceptions use a weak or strong sufficientarian threshold, as well as if conceptions argue for some form of discounting for evaluating harm to future persons given the uncertainty surrounding harm in the future and the probably large number of future persons.

Meyer and Pölzler argue for a rather low threshold in this regard, with the main threshold criterion being the achievement of minimal autonomy, based on a not yet fully specified list of basic needs (but based on their discussion including such things as food, drinkable water, appropriate shelter, physical security, self-respect, health care and education).[65] They defend their conception against possible objections regarding over-demandingness in three ways. First, they argue that providing the satisfiers to basic needs for future personas such as water, food, clothing and education does not put heavy burdens on the shoulders of those who live today, as basic needs provision is quoting Wolf "shockingly inexpensive". Second, even if it were demanding, the normative strength of basic needs justifies the burdens passed on current generations. Third, they argue for a weak sufficientarian threshold, which allows for across-threshold trade-offs, meaning that small benefits for future persons might not trump large even above-threshold benefits for currently living persons.

Doyal and Gough's conception originally does not deal with questions of intergenerational justice, but Ian Gough has since expanded their work to also look at the question of climate justice.[66] In his 2015 paper, he argues that the pattern of justice should be sufficientarian. He further argues that appropriate thresholds need to be defined at the level of both basic needs and USCs.[67] In their original conception Doyal and Gough suggest adequate needs fulfillment as threshold criterion, where, using a minimum amount of appropriate resources, it

> […] optimizes the potential of each individual to sustain their participation in those constitutive activities important for furthering their critical interests. What this means in practice is that levels of intermediate need satisfiers should be linked to what has been shown to be possible in countries with the best physical cognitive, emotional, environmental and political indicators.[68]

Given the big economic differences between developing and developed countries, they argue for a constrained optimum threshold being based on countries that have the best indicators among the relevant development tier, such as the Scandinavian countries for developed countries and Costa Rica for middle income countries. Applying the conception to climate change Gough suggests a pragmatic approach to determining thresholds considering the constraints that climate change and a diminishing environmental space impose.

> If this closes down the opportunity to permit high standards of sustainable need satisfaction across peoples now and in the future, so be it. 'Ought' always implies 'can'. The goal will then be to negotiate a constrained global optimum level of need satisfaction, one as high and as equal across peoples as possible, but still constrained compared with what was potentially achievable, say, 50 years ago.[69]

Gough does not dwell directly on the question about the strength of the threshold, but I think we can infer from his claim that future – and present – human needs take precedence over present wants that given the priority of needs over wants the threshold is a strong one.[70] In terms of discounting, it seems that Gough has not touched on that question yet.

As discussed above, my Nussbaumean conception suggests that intergenerational justice requires that threshold levels for nine central capabilities are fulfilled for both current and future persons. Given that they delineate a flourishing life, following Nussbaum, they allow for an ample minimum. Regarding the strength of the threshold, I argue for a strong threshold of sufficiency, meaning that those below the threshold have lexical priority and there are no trade-offs between those above and below the threshold. In terms of discounting my conception argues for some discounting based on uncertainty, particularly for long-term impacts of climate change as otherwise the conception might become overdemanding.[71]

So how do these three conceptions scale in terms of demandingness and justice for future persons and does the difference between basic needs and capabilities play a major role when we try to assess these threshold criteria? The criterion of justice for future persons seems at first look difficult to evaluate, as each of the conceptions claims that its threshold levels determine justice for future persons. Nonetheless, the scope of each conception paints a different understanding of what we owe future persons, and we can argue that particularly with an eye on possible harm from climate change, conceptions should be able to capture as well as possible which kinds of harms might be imposed intergenerationally. A minimal conception as brought forward by Meyer and Pölzler thus is at risk to not claim certain harms as relevant for intergenerational justice. For example, one wonders how a minimal conception such as Meyer and Pölzler's would account for climate change impacts such as species extinction and loss of natural diversity as long as they do not directly impact fulfillment of their narrow range of basic needs. Of course, such an approach could

argue that aside from a minimal theory of justice other considerations of justice above the threshold level are also relevant. Nevertheless, leaving such further considerations unspecified allow only for guesses how such considerations might look like and how they would relate to other claims of justice.

We can further question basic needs conceptions such as Meyer and Pölzler's here, for example, if they would be able to account for a largely diminished variety in diet due to climate impacts. In an extreme scenario this could be leading to such science fiction scenarios where future persons would only have some uniformly tasting gooey-grey paste to eat, which, while providing the basic nutrients and calories, would not be able to provide a lot of what makes nourishment important to human beings such as culture, taste and variety and one might ask if a thin basic needs conception would have anything bad to say about such an outcome. A capability theory can account for diminishing variety better than basic needs approaches. And an autonomy-based defense would likely move basic needs theories again very close to accepting something like a capability space.

Basic needs theories might because of their thinness also be questioned if they would have something bad to say about the advent of eco-fascism, meaning an autocratic regime that would justify authoritarian policies with reference to climate change and ecological breakdown. Possibly, as long as basic needs of persons would be fulfilled and their minimum autonomy guarded, Meyer and Pölzler's account cannot make a strong argument about why this would be a bad state of affairs. With Doyal and Gough's account this question is more complex, as their critical autonomy includes political rights, but their more constrained conception would likely also struggle with this issue. In my capability conception, the capability nine, having control over one's life would assure that eco-fascism would be seen as an unjust state of affairs.

Gough's idea seems problematic in a different way. His idea that because of the harm already caused by climate change and environmental destruction we might level down our demands of justice for both currently living and future persons might allow for a sliding baseline, based on when the theory is enacted. This seems unsatisfying as it discounts some of the moral responsibility that current persons, particularly in the global North, have for said destruction. To draw a slightly polemic analogy: If I gamble away my daughter's college fund in a Las Vegas casino, people would find it unfair if I would then argue that we should evaluate what I owe her in terms of justice based on the new baseline, which is being broke.

My conception on a first look seems in comparison to be the most expansive concerning what it argues that we owe future persons. As I have evaluated the list against possible climate change harm already when determining my list of capabilities, the capability list can capture all major harms from climate change and thus can be argued to be a comprehensive conception of intergenerational climate justice. Nevertheless, if we take a close comparative look at Doyal and Gough's conception with their aim of optimal thresholds we might actually find that in some categories

their thresholds might be more demanding than the thresholds that I have proposed, which are not necessarily aligned to the performance of best-performing countries. While having strong claims thus to fulfilling the threshold criterion of future justice, both conceptions, are open to objections in terms of demandingness.

Looking at the question of threshold strength, Meyer and Pölzler argue for a weak threshold, while the other conceptions imply a strong threshold. While their argument for a weak threshold is plausible, we can argue that the flipside of their argument is not speaking in favor of a weak threshold. If a weak threshold prevents minimal basic needs achievements below the threshold trumping bigger non-basic needs achievements above the threshold, what happens if benefits for future persons trump those of currently living persons. In that regard such a conception would allow for currently living persons falling below the threshold for the benefit of future persons. Given that the number of future persons is likely larger than the one of currently living persons, this might lead to questions about the demandingness of such a conception.[72]

In contrast, my conception argues that a threshold of sufficiency for a conception of capability sufficientarianism should be a strong one. I think there are several arguments for the case of a strong threshold. First, given that the threshold of sufficiency is also the threshold of harm we have good reason to think that in such a conception the negative thesis of sufficientarianism can be interpreted in a strong sense. This argument is further strengthened by the claim that the threshold delineates the boundary between a flourishing and a non-flourishing life, which, given this stark discontinuity might also point towards a strong threshold.[73] Second, a strong threshold guards against the conception being overdemanding for current persons, given that it also gives lexical priority to current persons in terms of reaching the thresholds for a flourishing life. As demandingness for current persons has been identified as one of the threshold criteria, a strong threshold seems more likely to fulfill that criterion than a weak one.[74]

In terms of the criterion of demandingness, I thus concluded that climate policies based on capability sufficientarianism would be reasonable, as current persons would, based on a strong threshold understanding also have claims to have a flourishing life and thus there might be limits as to the scope of duties of climate justice for currently living persons. Nevertheless, I have to admit that a minimal conception such as Meyer and Pölzler's has a stronger claim at demandingness for currently living persons compared to a more extensive conception such as I have provided, even though their choice of a weak threshold puts a modicum of doubt regarding their demandingness claims.

3. d. Determinacy

Determinacy needs to deal with two mayor issues. The first one is closely linked to defensibility as conceptions need to show why their thresholds are non-arbitrary. Thus, aside from showing why the currencies of justice provide a strong normative foundation for questions of intergenerational justice, they need to argue why their thresholds are normatively strong and thus non-arbitrary. The second set of questions deals with the actual application of a multi-threshold account. How do conceptions deal with questions of data and indicators? How do the values link to each other? How to deal with questions of indexing and incommensurability?

Meyer and Pölzler argue that threshold specification of basic needs might be less theoretical, in contrast to capabilities or preferences, given that basic needs «is a 'natural' compound and, as such, part of everyday language (at least in many languages, including English). In these languages, *basic needs* therefore provide a less arbitrary specification of the sufficientarian threshold.»[75] They further argue that in terms of determining the threshold of sufficiency autonomy can be understood as a scalar concept and claim that there is one qualitative level of autonomy reaching of which is of greatest moral importance: «We are referring to the notion of persons being autonomous in such a way that they can make decisions about what is worth doing and how to pursue the ends they consider important.»[76] This threshold determines what is considered a minimally good life and this threshold is closely related to having one's basic needs fulfilled. Their claim is that «if persons constantly need to focus on having their basic needs fulfilled, they will not be sufficiently autonomous.»[77] This threshold in turn is again determined by threshold levels of a set of basic needs, such as food, water, health, which need to be fulfilled for persons reaching that threshold level of autonomy. Here though their conception is yet underdeveloped, as it does not engage with how many basic needs there exactly are determining autonomy and how thresholds for those needs should be specifically determined in terms of satisfiers.

As already discussed in the previous section, Doyal and Gough argue that the morally relevant threshold level for basic needs satisfaction is the optimum level.[78] In addition, their threshold is defined on both a level of principle and a practical level. The normative claim rests on the importance of basic needs satisfaction to sustain a person's participation in constitutive activities that further her critical interests. On the practical level they link their threshold level to optimum levels based on the achievement of certain countries such as Sweden (for high-income countries) and Costa Rica (for middle-income countries. Gough further argues that based on climate change and diminishing environmental space, thresholds for intergenerational justice might need to be adjusted and lower than those levels.[79] I have already criticized this shifting baseline approach and this route taken by Gough obviously also complicates discussing determinacy, as there is little further discussion in how this relates to actually determining threshold levels other than that the levels being 'negotiated'.

Nevertheless, Doyal and Gough have put quite some work into discussing threshold levels and indicators in their works (particularly their *Theory on Human Need*).

In my conception, I attempted to specify thresholds for all nine central capabilities and to provide a framework to evaluate harm for those capabilities too.[80] I found that while it was possible to describe thresholds for all capabilities, the process was easier and more exact for some than for others and that to determine thresholds more precisely. My conception claims that as the threshold of sufficiency determines a flourishing life, it at the same time functions as a harm threshold. Given the higher threshold the conception does though not argue that harm is always necessary or serious. There might still be doubts if it is really obvious where such a threshold of flourishing/harm would be situated and also if this threshold of harm and flourishing really coincides for all central capabilities. Meyer and Pölzler have likely got the stronger argument in terms of arbitrariness, but one might be interested in the proof how such a non-arbitrary threshold would look like in practice, which due to the lack of specificity in their conception is still missing.

For a more fine-grained discussion in regards to the second set of questions, I have attached a reconstruction of the arguments for threshold determination between Doyal and Gough's and my approach for the needs/capabilities of survival/life and health in Annex 1 of this paper. Comparing the approaches leads to three conclusions. First, as I also argued previously,[81] determining thresholds is a difficult business that cannot necessarily fully be handled through the toolbox of a philosopher but needs interdisciplinary inputs and should rely on the best current scientific knowledge. Second, each conception needs to rely on indicators, many of which are not necessarily perfectly suited for measuring what the conception wants to express, with sometimes threshold definition and measurement requiring several indicators. This then leaves questions how these indicators relate to each other in terms of determining threshold levels and in determining who might be more or less disadvantaged. In terms of operationalization, given that all conceptions would need to rely on a rather similar set of data and indicators (given limited availability of indicator sets and simply problems of large-scale data collection as well as projection in models) ultimately basic needs and capability conceptions might largely rely on a similar set of indicators/data to make their normative assessments, with basic needs theorists trying to infer satisfiers, while capability theorists aiming to infer capabilities. Notwithstanding the similar datapoints, there are likely to be some differences in terms of where and how they define threshold levels.[82] There is one danger in this for capability conceptions, in that if they take recourse to projecting functionings they might actually start to look fairly similar to basic needs conceptions and loose some appeal of the currency of capabilities. There is some acknowledgment on this from capability scholars with Anand et al. as well as Comim claiming that for many capabilities only functionings can be measured and, as Murphy and Gardoni argue that for basic functionings, like food or shelter, functionings are as good as

capabilities, as almost all people would choose them.[83] These nevertheless remain contested propositions among capability scholars.

Third, we need to think hard what can actually be projected when it comes to intergenerational justice. As we cannot measure future persons functionings, we can only project possible harm from climate change in regard to assessing intergenerational responsibilities of currently living persons. So, when it comes to being nourished what we actually project can be either of two things, one, it can be amounts of satisfiers, in which case, a conception can easily become at least in part paternalistic and materialistic (as it prescribes some fixed amounts of resources that need to be provided for future persons), or two, what counts are the capabilities of future persons to achieve certain functionings (as we cannot access those functioning levels intergenerationally). In this regard, I think it is actually sensitive, as also Meyer and Pölzler's conception implicitly suggests, that in terms of intergenerational justice, basic needs conceptions should be open to operating with capabilities. There might though emerge challenges to define and operationalize that capability space in concrete applications of such a conception.

All conceptions also leave open questions in terms of how questions of indexing would be approached in such a multi-threshold approach. While acknowledging the incommensurability of central capabilities, I have argued that in terms of applicability, some form of index might be necessary if we want to apply such an approach to developing capability impact models, but have not developed an index for my conception yet. Neither have, as far as I am aware the other authors.[84]

Concluding, we see that both basic needs and capability conceptions face a range of similar challenges when it comes to determinacy. Basic needs conceptions might have the upper hand in terms of normative determinacy if they can in some detail show the location of that normative "sweet spot" that is claimed by Meyer and Pölzler.

3. Conclusion: Is a hybrid conception possible?

This paper has aimed to assess in how far three conceptions are able to fulfill the five threshold criteria regarding intergenerational justice. I think it has managed to point out the different strengths of and some challenges to all three conceptions.

One of the important findings I want to highlight is that it seems that a capability conception can strengthen some of its claims, particularly concerning defensibility and intergenerational validity if it acknowledges that some of its normative strength comes from referring to basic needs. On the other hand, I have shown that both basic needs conceptions when it comes to intergenerational justice also at least nonexplicitly incorporate some aspects of capability theory to ward off the challenge of paternalism. Based on those findings we might claim that there are more basic needs in capability theories than they would like to admit and there are

more capabilities in basic needs theories than they would like to admit. This does not mean that there are not significant differences between the conceptions, particularly relating to thinness and thickness of the conceptions, as well as the route they take to argue for intergenerational validity either in terms of capabilities or satisfiers. Nonetheless, these findings leave a way open for a possible fruitful synthesis of both currencies when it comes to the field of intergenerational justice, possibly allowing for the development of a form of hybrid theory. Such a conception could build on a thin account of basic needs, but acknowledge the importance of both internal and external capabilities to fulfill those needs. Challenges would remain, for example, in how the capability space would be defined and operationalized.

Appendix 1: Comparing threshold determination for health between Doyal and Gough's and Petz's conceptions

Let me compare how Doyal and Gough as well as my conception approach the issue of threshold determination in regards to survival and health. Health is one of two basic needs in Doyal and Gough's conception, so both questions of survival and health fall within one category here. Regarding defining a threshold, Doyal and Gough argue for a negative definition which is minimization of death, disability and disease when it comes to health, arguing that it was difficult to see how the WHOs definition of health as a 'state of complete physical, mental and social well-being' could be measured.[85] For health they highlight survival and disability as two of the main criteria to determine the level of health of a person. They argue that disability occupies an intermediate position between the biological notion of impairment and the socially contextual notion of handicap and is thus a universal concept. As a positive example of how disability might be conceptualized, they highlight a study that introduced a classification of 10 main areas where disability can be experienced: locomotion, reaching and stretching, dexterity, seeing, hearing, personal care, continence, communication (being understood and understanding others), behavior, and intellectual functioning (memory, clarity of thought processes).[86] In terms of survival, they argue that life-expectancy is a useful indicator, but that a measure would also need to look at the distribution of life-expectancy between different groups, for which all available indices were still facing conceptual problems.[87] They then suggest a number of indicators that could be used to determine levels of health and autonomy. Except for life expectancy, all of those are negative. They note that several of the indicators they suggest were not currently available, even for developed country, particularly those pertaining to autonomy. This approach of directly looking at indicators for health and autonomy is complimented by discussion of intermediate needs that link to health and autonomy. Here they discuss in detail possible threshold levels for food, clean water, housing, etc. Again, they provide a list of possible

indicators to measure deprivation in these categories. For example, for food and clean water they suggest the use of:

- Calorie consumption below FAO/WHO requirements
- Other nutrients consumption below requirements
- % lacking access to adequate safe water
- % suffering malnutrition/deficiency diseases
- % of low birth weight babies
- % of overweight/obese[88]

To sum up, the authors do not try to provide threshold values when it comes to health, as, as discussed before they argued that those values should be oriented at some level based on best-performing countries. Their conception in terms of determining thresholds is complex as they argue on two levels, first on the level of their basic needs, which are health and autonomy and second on the level of intermediate needs, which are based on the USCs. While Doyal and Gough thoroughly engage with the question of how harm can be measured for both their basic needs and intermediate needs, several questions remain unanswered. First, they do not really provide an explicit threshold level. Second, they do not specify how indicators relate to each other and how disadvantage would be measured/ranked with people having different scores on different indicators.

In my conception, regarding capability number one (life) I argue that what counts in regards to a flourishing life is not life-time maximization, but the fact that as humans we imagine our life to have several stages, infancy, childhood, adolescence, adulthood and old age.[89] A positive definition would thus be to being able to live to the end of a human life of normal length, while the exact range of values might shift from generation to generation given advances in medicine. A negative definition based on not dying prematurely might be more helpful intergenerationally, as we cannot know the exact threshold in terms of life-expectancy of future persons. Nonetheless, we might still be able to project certain scenarios in terms of what harm certain climate impacts might do in terms of shortening the lifespan of those future persons. We might, for example, be able to say that x-million persons might die prematurely from climate change related heat-stress, without having the exact threshold for this capability in terms of life-expectancy.[90] Given that we have relatively good understanding which age groups are most vulnerable to certain impacts (e.g. water-borne diseases, floods) we might be able to project harm levels based on premature deaths based on the likely affected age groups.[91]

In regards to health, I also find the WHO definition too demanding and difficult to measure and thus argue for a somewhat lower threshold definition. A person above the threshold would therefore be someone who is able to live a full life (based on our definition of capability one) with a largely sustained level of good

health, being able to recover from age-appropriate health issues and having a health status that is appropriate to the person's age. This capability in my conception also includes the fulfillment of basic physical needs and here I argue not unsimilar to Doyal and Gough that deprivation in those categories would be visible through negative health impacts. In terms of evaluating harm in that capability I argue for a metric that combines the level of health impairment coupled with the length of that impairment.

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[1] See, A. Sen, *Development as Capability Expansion*, in S. Fukuda-Parr, A.K. Shiva Kumar (eds), *Readings in Human Development*, Oxford University Press, New Delhi and New York 2003, pp. 41-58; A. Sen, *The Ends and Means of* Sustainability, «Journal of Human Development and Capabilities», 2013, 14(1): 6-20.

[2] See, for example, G. Brock, D. Miller, *Needs in Moral and Political Philosophy*, in N. Edward Zalta (ed.) *The Stanford Encyclopedia of Philosophy (Summer 2019 Edition.)*; I. Gough, *Lists and thresholds: Comparing the Doyal–Gough theory of human need with Nussbaum's capabilities approach*, in F. Comim, M. Nussbaum (Eds.), *Capabilities, Gender, Equality: Towards Fundamental Entitlements*, Cambridge University Press, Cambridge 2014, pp. 357-381; I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, in «Cambridge Journal of Economics», 2015, 39(5), pp. 1191-1214. L. H. Meyer, T. Pölzler, *Basic Needs and Sufficiency: The Foundations of Intergenerational Justice*, in S. Gardiner (ed.) *The Oxford Handbook of Intergenerational Ethics*, 2022, 1-32; S. Reader, *Needs and Moral Necessity*, Routledge, New York 2007; F. Schuppert, *Distinguishing basic needs and fundamental interests*, in «Critical Review of International Social and Political Philosophy», 2013, 16(1), pp. 24-44.

[3] I. Gough, *Lists and thresholds: Comparing the Doyal–Gough theory of human need with Nussbaum's capabilities approach*, cit.; B. Fardell, *Conceptualising Capabilities and Dimensions of Advantage as Needs*, in «Journal of Human Development and Capabilities», 2020, 21(3), pp. 263-276.

[4] L. Doyal, I. Gough, *A Theory of Human Need.* Guilford, New York 1991; I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit.; I. Gough, *Heat, Greed and Human Need. Climate Change, Capitalism and Sustainable Wellbeing*, Edward Elgar: Cheltenham and Northampton MA, 2017; L. H. Meyer, T. Pölzler, *Basic Needs and Sufficiency: The Foundations of Intergenerational Justice*, cit.

[5] L. Doyal and I. Gough's *A Theory of Human Need*, cit., does not engage with intergenerational questions, but the more recent work of Ian Gough (I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit. and I. Gough, *Heat, Greed and Human Need. Climate Change, Capitalism and Sustainable Wellbeing*, cit.) applies their conception to questions of intergenerational justice.

[6] D. Petz *Protecting the Future: Capability Sufficientarianism as a Theory of Inter-generational Justice in the Context of Climate Change*. University of Graz: PhD Thesis, 2018, 2679759 (uni-graz.at)

[7] As with Frankfurt, the position is often defended in opposition to egalitarian theories of justice. H. Frankfurt, *Equality as a Moral Ideal*, in «Ethics», 1987, 98(1), pp. 21-43.

[8] J. Benbaji, *Sufficiency or priority?*, in «European Journal of Philosophy», 2006, 14(3), pp. 327-348; P. Casal, *Why sufficiency is not enough*, in «Ethics», 2007, 117(2), pp. 296-326. Some thinkers also suggest multiple thresholds. See for example: J. Benbaji, *Sufficiency or priority?*, cit., D. E. Dorsey, *Threshold and the Good: A Program of Political Evaluation*. Dissertation. University of California: San Diego, 2007; R. Huseby, *Sufficiency: Restated and Defended*, in «The Journal of Political Philosophy», 2010, 18(2), pp. 178-197.

[9] L. Shields, *Sufficientarianism*, in «Philosophy Compass», 2020, 15(8), p. 2, instead of arguing for a negative thesis of sufficientarianism argues for a shift thesis which states that there is a change or shift in our non-instrumental reasons to benefit or burden persons once they have secured enough.

[10] L. H. Meyer, D. Roser, *Enough for the future*, in A. Gosseries and L. Meyer (Eds.), *Intergenerational Justice,* Oxford University Press, Oxford 2009, pp. 219-248.

[11] See, for example, H. H. Frankfurt, *Equality as a Moral Ideal*, cit.; R. Crisp, *Equality, Priority, and* Compassion, in «Ethics», 113(4), 2003, pp. 745-763; L. H. Meyer, D. Roser, *Enough for the future*, cit.; R. Huseby, *Sufficiency: Restated and Defended*, cit.

[12] R. J. Arneson, *Perfectionism and Politics*, in «Ethics», 2000, 111, pp. 37-63 and P. Casal, *Why sufficiency is not enough*, cit.

[13] This criterion is framed based on a threshold understanding of harm. Persons might still be harmed based on a subjective-historic understanding of harm.

[14] A problem also discussed by R. Gutwald, O. Leßmann, T. Masson, F. Rauschmayer, *The Capability Approach to Intergenerational Justice* – A Survey. *UFZ Discussion Papers 8/2011 – GeNECA 4*. Helmholtz Zentrum für Umweltforschung, 2011.
[15] For reasons of brevity, I will at times use the term 'future justice' for this threshold criterion.
[16] See L. H. Meyer and D. Roser's *Enough for the future*, cit., pp. 234f discussion on why prioritarian conceptions might be too taxing on current generations.
[17] M. C. Nussbaum, *Creating Capabilities: The Human Development Approach*, Harvard University Press, Cambridge MA and London 2011, pp. 33f.
[18] M. C. Nussbaum, *Aristotelian Social Democracy*, in R.B. Douglass, G.M. Mara, H.S. Richardson (eds.), *Liberalism and the Good*, Routledge, New York and London 1990, p. 206.
[19] Ibid., p. 219
[20] In *Woman and Human Development* (2000), Nussbaum seems to move away from her historic-narrative method and suggest two other methods of justification for her capability theory, which are intuitionism based on reflective equilibrium coupled with a Kantian proceduralism. Okin (2003), Jaggar (2006) and Kleist (2013) find flaws in her attempt at justification particularly pointing out that Nussbaum's proceduralist attempts are unpersuasive. Agreeing with some of the criticism, I find Nussbaum's initial justification for her list more convincing and better suited as normative basis for a conception of intergenerational justice. S. M. Okin, *Poverty, Well-Being, and Gender: What Counts, Who's Heard?,* in «Philosophy and Public Affairs», 2003, 31(3), pp. 280-316; A. M. Jaggar, *Reasoning About Well-being: Nussbaum's Methods of Justifying the Capabilities*, in «The Journal of Political Philosophy», 2006, 14(3), pp. 301-322: C. Kleist, *A Discourse Ethics Defense of Nussbaum's Capabilities Theory*, in «Journal of Human Development and Capabilities», 2013, 14(2), pp. 266-284.
[21] See E. A. Page, *Intergenerational Justice of What: Welfare, Resources or Capabilities?*, in «Environmental Politics», 2007, 16(3), pp. 453-469; B. Holland, *Justice and the Environment in Nussbaum's "Capability Approach": Why Sustainable Ecological Capacity is a Meta-Capability*, in «Political Research Quarterly», 2008, 61(2), pp. 319-332; E. Schultz, M. Christen, L. Voget-Kleschin, P. Burger, *A Sustainability-Fitting Interpretation of the Capability Approach: Integrating the Natural Dimension by Employing Feedback Loops*, in «Journal of Human Development and Capabilities», 2013, 14(1), pp. 115-133. I accept some of Ackerly's (2000) criticism towards Nussbaum's methodology here. I though think that this criticism does not necessarily pertain to her main categories, but some of the more detailed descriptions of her capabilities have become quite specific and I think that Nussbaum might have partly over specified her list based on some of her liberal moral intuitions. B. A. Ackerly, *Political Theory and Feminist Social Criticism*, Cambridge University Press, Cambridge 2000.
[22] Nussbaum does not ignore the issue completely but subsumes nature within her 'other species' capability, which many authors, including me find problematic.
[23] For example, I. Robeyns, *Sen's Capability Approach and Gender Inequality: Selecting Relevant Capabilities*, in «Feminist Economics», 2003, 9(2-3), pp. 61-92; J. Wolff, A. de-Shalit, *Disadvantage*, Oxford University Press, Oxford 2007; S. Alkire, *Choosing Dimensions: The Capability Approach and Multidimensional Poverty*., *Chronic Poverty Research Centre Working Paper 88,* University of Oxford, 2007.
[24] In her 2003 paper, Robeyns develops a list of five that should be fulfilled when drawing a list of functionings. Using her criterium, based on comparison of Nussbaum's with Finnis' list, I added transcendence to capability number four. I. Robeyns, *Sen's Capability Approach and Gender Inequality: Selecting Relevant Capabilities*, cit., p. 70.
[25] D. Petz *Protecting the Future: Capability Sufficientarianism as a Theory of Inter-generational Justice in the Context of Climate Change*, cit., p. 77.
[26] L. Doyal and I. Gough's *A Theory of Human Need*, cit., p. 54.
[27] Ibid, p. 56.
[28] I. Gough, *Lists and thresholds: Comparing the Doyal–Gough theory of human need with Nussbaum's capabilities approach*, cit., p. 365f.

[29] Ibid, p. 366.
[30] L. Doyal and I. Gough's *A Theory of Human Need*, cit., p. 156.
[31] L. Doyal and I. Gough's *A Theory of Human Need*, cit., p. 157f.
[32] R. J. Arneson, *Perfectionism and Politics*, cit.
[33] L. H. Meyer, T. Pölzler, *Basic Needs and Sufficiency: The Foundations of Intergenerational Justice*, cit., p. 3.
[34] Ibid, p. 11.
[35] L. Doyal and I. Gough's *A Theory of Human Need*, cit., p. 73.
[36] The question whether we should prefer a thin or a thick conception of the good has more significance for questions of reasonability and justice for future generations and will be revisited later.
[37] I. Gough, *Lists and thresholds: Comparing the Doyal–Gough theory of human need with Nussbaum's capabilities approach*, cit., p. 370f. f
[38] Gasper argues: «Doyal and Gough (are) drawn towards a broader conception of needs than seems implied by a criterion of avoiding serious harm. They formalize this by the extension to include critical autonomy, and their theory then has two versions, narrower and broader. More generally, we should accept that there are various criteria possible in needs discourse, each of which may be appropriate for different purposes. For pursuing a consensual priority for minimum requirements for decency, a narrower picture of needs is more appropriate than when trying to prescribe for "human flourishing" or "the good life". […] Both these major policy roles of needs analysis will be weakened by not clearly distinguishing between them» D. Gasper, *Needs and Basic Needs – A Clarification of Foundational Concepts for Development Ethics and Policy*, *ISS Working Paper 210*. The Hague, 1996, pp. 26-27.
[39] I. Gough, *Lists and thresholds: Comparing the Doyal–Gough theory of human need with Nussbaum's capabilities approach*, cit., p. 376.
[40] F. Schuppert, *Distinguishing basic needs and fundamental interests*, cit., 2013, p. 31.
[41] L. H. Meyer, T. Pölzler, *Basic Needs and Sufficiency: The Foundations of Intergenerational Justice*, cit., p. 7.
[42] I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit., p. 1203.
[43] L. H. Meyer, T. Pölzler, *Basic Needs and Sufficiency: The Foundations of Intergenerational Justice*, cit., 2022, p. 7.
[44] I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit., p. 1203.
[45] Nussbaum in her 1995 paper provides a detailed defense of Aristotle's internalist position, which she builds her own conception on. She denies that Aristotle's position is based on an externalist position, after a detailed reconstruction of Aristotle's arguments claiming that: «Human nature cannot, and need not, be validated from the outside, because human nature just is an inside perspective, not a thing at all, but rather the most fundamental and broadly shared experiences of human beings living and reasoning together» M. C. Nussbaum, *Aristotle on Human Nature and the Foundations of Ethics*, in J.E.J. Altham, R. Harrison (eds.), *World, Mind and Ethics: Essays on the Ethical Philosophy of Bernard Williams*, Cambridge University Press, Cambridge: 1995, p. 121.
[46] M. C. Nussbaum, *Aristotelian Social Democracy*, cit., p. 219.
[47] Ibid, p. 224.
[48] There is no denying that the technological changes of the last two centuries have had enormous impacts on human societies, nonetheless I do not think that they have changed radically of what it means to be human. Even if there were significant changes in what might be seen as central to be human (for example if we would no longer need to nourish ourselves or even become immortal) as these changes are currently nothing more than science fiction, I find it reasonable to use a list of central capabilities that is currently valid and tested as the baseline rather than to engage in wide-ranging speculation about things that might be happening or not.
[49] I understand medium-term future as the period between 50-150 years in the future. I think it is a sensitive assumption that the largest impacts of climate change and the adjustments to them will likely be affecting humanity in the next two centuries if we assume that humanity will manage to reduce carbon emissions throughout this century to arrive at a point of no new carbon emissions. While

climate change (and particularly sea-level rise) will likely have effects longer into the future (thousands of years if there is no way to reduce the amount of greenhouse gases in the atmosphere or reverse certain processes (sea-level rise, ocean acidification, *etc.*)), humanity might learn to adapt to those changes once a certain crisis period has been passed.

[50] I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit., p. 1200.

[51] B. Fardell, *Conceptualising Capabilities and Dimensions of Advantage as Needs*, cit., p. 268.

[52] Roughly modelled on the author's understanding of Meyer and Pölzler's and Nussbaum's/Petz's conceptions.

[53] M. C. Nussbaum, *Creating Capabilities: The Human Development Approach*, cit. p. 20, quoting Sen.

[54] Ibid.

[55] I. Robeyns, *Wellbeing, Freedom and Social Justice: The Capability Approach Re-Examined*, UK: Lightning Source for Open Book Publishers, Cambridge 2017, p. 39.

[56] I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit., pp. 1200f.

[57] Ibid., p. 1205.

[58] L. H. Meyer, T. Pölzler, *Basic Needs and Sufficiency: The Foundations of Intergenerational Justice*, cit., p. 8.

[59] Ibid.

[60] B. Fardell, *Conceptualising Capabilities and Dimensions of Advantage as Needs*, cit., p. 266.

[61] L. Doyal and I. Gough's *A Theory of Human Need*, cit., p. 156.; I. Gough, 2000 *Global Capital, Human Needs and Social Policies*, Palgrave, Basingstoke 2000, p.6; I. Gough, *Lists and thresholds: Comparing the Doyal–Gough theory of human need with Nussbaum's capabilities approach*, cit., p. 374.

[62] I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit., p. 1210.

[63] L. Doyal and I. Gough's *A Theory of Human Need*, cit., p. 66.

[64] I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit. p. 1203.

[65] L. H. Meyer, T. Pölzler, *Basic Needs and Sufficiency: The Foundations of Intergenerational Justice*, cit., 2022, p. 3.

[66] I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit.; I. Gough, *Lists and thresholds: Comparing the Doyal–Gough theory of human need with Nussbaum's capabilities approach*, cit.

[67] Ibid 2015, p. 1202.

[68] I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit., p. 1203.

[69] Ibid, p. 1203.

[70] In I. Gough, *Heat, Greed and Human Need. Climate Change, Capitalism and Sustainable Wellbeing*, cit. (p. 56f) the author argues that "Finally, an important corollary of the moral import of human need is that meeting needs should be given priority over meeting wants if the two conflict or if resources are scarce". This can be stated formally, following A. Dobson, *Justice and the Environment: Conceptions of Environmental Sustainability and Theories of Distributive Justice*, Oxford University Press, Oxford 1998, who identifies four objects of concern for policy:

- Wp: present-generation human wants;
- Np: present-generation human needs;
- Wf: future-generation human wants;
- Nf: future-generation human needs.

The implied priority rule for the need theory set out above is: Np = Nf > Wp/Wf. Human needs, present and future, trump present (and future) consumer preferences."

[71] D. Petz *Protecting the Future: Capability Sufficientarianism as a Theory of Inter-generational Justice in the Context of Climate Change*, cit., pp. 263f.

[72] L. H. Meyer, D. Roser, *Enough for the future*, cit., pp. 234f; D. Petz *Protecting the Future: Capability Sufficientarianism as a Theory of Inter-generational Justice in the Context of Climate Change*, cit., p. 290.

[73] This fact also protects the conception against one of the objections against strong thresholds which is based on the question why there should be an absolute disconnect of distributional continuity at the threshold. L. H. Meyer and D. Roser contain that this is counterintuitive and note

that "what if we had to choose helping one person just below the threshold a tiny bit and helping millions of people just slightly above the threshold tremendously?" (2006:236). Given that the conception has a normatively strong threshold in a double sense – as threshold of harm and as threshold of sufficiency that delineates a flourishing life it seems that this discontinuity does not pose a major theoretical obstacle.

[74] I have defended a strong threshold conception against objections by L. H. Meyer, H. Stelzer, (*Risk-Averse Sufficientarianism. The Imposition of Risks of Rights-Violations in the Context of Climate Change*, in «Ethical Perspective», 2018, 25(3), pp. 447-470) in my previous research (D. Petz *Protecting the Future: Capability Sufficientarianism as a Theory of Inter-generational Justice in the Context of Climate Change*, cit., pp. 269f). Their first objection is against the lexical priority in strong sufficientarianism noting that it would prohibit weighing rights violations below and above the threshold. Their second objection is that a strong threshold view might be seen as to «categorically prohibiting the pursuance of any policy that comes with any probability of causing people to fall below the threshold». L. H. Meyer, H. Stelzer, *Risk-Averse Sufficientarianism. The Imposition of Risks of Rights-Violations in the Context of Climate Change*, cit., p. 455. I have defended a strong threshold conception against objections by Meyer and Stelzer in my previous research (D. Petz *Protecting the Future: Capability Sufficientarianism as a Theory of Inter-generational Justice in the Context of Climate Change*, cit., pp. 269f. For discussions of problems of rights-based theories in regards to risk see, for example, S. O. Hansson, *The Ethics of Risk: Ethical Analysis in an Uncertain World*, Palgrave Macmillan, Basingstoke 2013; K. Steigleder, *Climate Risks, Climate Economics, and the Foundations of Rights-based Risk Ethics*, in «Journal of Human Rights», 2016, 15(2), pp. 251-271.

[75] L. H. Meyer, T. Pölzler, *Basic Needs and Sufficiency: The Foundations of Intergenerational Justice*, cit., p. 11.

[76] Ibid, p. 12.

[77] Ibid, p. 12.

[78] I I. Gough, *Heat, Greed and Human Need. Climate Change, Capitalism and Sustainable Wellbeing*, cit., p. 48.

[79] I. Gough, *Climate Change and Sustainable Welfare: The Centrality of Human Needs*, cit., p. 1203.

[80] D. Petz *Protecting the Future: Capability Sufficientarianism as a Theory of Inter-generational Justice in the Context of Climate Change*, cit., pp. 104-132.

[81] D. Petz *Protecting the Future: Capability Sufficientarianism as a Theory of Inter-generational Justice in the Context of Climate Change*, cit.

[82] L. Doyal and I. Gough's *A Theory of Human Need*, cit. (p.156) also highlight the hard choice between universalibility and operationality.

[83] P. Anand, G. Hunter, R. Smith, *Capabilities and Well-being: Evidence Based on the Sen-Nussbaum Approach to Welfare, in «Social Indicators Research»*, 2005, 74, pp. 9-55; F. Comim, *Measuring Capabilities*, in F. Comim, M. Qizilbash, S. Alkire (eds.), *The Capability Approach: Concepts, Measures and Applications*, Cambridge University Press, New York 2008, pp. 157-200; C. Murphy, P. Gardoni, *Assessing Capability Instead of Achieved Functionings in Risk Analysis*, in «*Journal of Risk Research*», 2010, 13(2), pp. 137-147.

[84] D. Petz *Protecting the Future: Capability Sufficientarianism as a Theory of Inter-generational Justice in the Context of Climate Change*, cit., pp. 192-208.

[85] L. Doyal and I. Gough's *A Theory of Human Need*, cit., p. 172.

[86] Ibid, p. 174f.

[87] Ibid, p. 173.

[88] Ibid. p. 190.

[89] The exact number and timing of those stages can be debated, but while not having made a detailed survey about this issue, I would with some confidence argue that almost all societies at least differentiate between childhood, adulthood and old age.

[90] A WHO factsheet, for example, predicts that climate change between 2030 and 2050 will approximately cause 250,000 additional deaths per year from malnutrition, malaria, diarrhea and heat stress. World Health Organisation, Climate Change and Health. *Fact Sheet*. Updated 7/2017. 2017, http://www.who.int/mediacentre/factsheets/fs266/en/ Accessed: 12.3.2018

[91] See, for example, E. Ferris and D. Petz for a discussion of natural disaster impacts on older persons. E. Ferris, D. Petz, *The Old are the Future*, in E. Ferris, D. Petz, *The Year that Shook the Rich. A Review of Disasters in 2011*, The Brookings Institution – London School of Economics Project on Internal Displacement, Washington D. C. 2012, pp. 115-136.