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RESEARCH ARTICLE

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Defining floors and ceilings: the contribution of human needs theory

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ABSTRACT

This article argues that a theory of human needs is essential to buttress and give content to the concept of consumption corridors. In particular it enables us to, first, define a safe, just, and sustainable space for humanity, and second, to decompose and recompose consumption based on a distinction between necessities and luxuries. After an introduction, the article is divided into four parts. The first compares different concepts of human needs and concentrates on universalizable need theories. The second presents a method for agreeing on contextual need satisfiers, and the third discusses current research identifying the floors of poverty and necessities. A fourth section then sets out how sustainable needs can underpin the upper bound of the corridor and how this ceiling might be measured in income and consumption terms. However, once we move from a national to a global perspective a profound dilemma is encountered as rich country corridors diverge from a global consumption corridor.

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Introduction

To achieve a safe and just space for humanity (Raworth 2017) requires addressing not only basic needs, minimum incomes, and necessities, but also riches, luxuries, and maximum incomes. In the language of Di Giulio and Fuchs (2014), we must pursue the idea of a sustainable "consumption corridor" (CC) between *minimum* standards, allowing every individual to live a satisfactory life, and *maximum* standards, ensuring a limit on every individual's use of natural and social resources in order to guarantee a good life for others in the present and in the future. Put this way, the justification for the floor and the ceiling differs: the floor is derived from a social idea of wellbeing and the ceiling is derived from an ecological principle of planetary sustainability. However, this distinction is qualified by two subsidiary arguments. First, restricting excessive consumption can actually enhance eudaimonic, and possibly hedonic, features of wellbeing. Second, minimum consumption bundles will also need to be as environmentally undemanding as is technically possible.

The CC approach is based on at least five prior assumptions, which are also at the heart of my recent book *Heat, Greed and Human Need* (Gough 2017).

First, "eco-efficiency" – decoupling economic activity from planetary damage – while essential, cannot be enough. The vast scale of the decoupling required, and the tiny timescale within which it must be achieved, rule this out as the *sole* means of transition to a sustainable economy. This is especially the case for greenhouse-gas emissions (GHG). The dominant paradigm of green growth is unachievable.

Second, all transitions to a zero-carbon economy must be *equitable* and *just*. In a world where the emissions of the top 1% – some 70 million people – roughly equate with those of the bottom half of the world's population – some 3.8 billion people – issues of distribution are central to sustainable wellbeing. There is a double injustice between the groups responsible for and the groups suffering from climate change.

Third, attention must be focused on *consumption* in the rich world. Globalization since 1980 has outsourced much production from the North to the global East and South, resulting in a mismatch between production-based and consumption-based emissions. The widespread practice of measuring countries' emissions on a territorial basis significantly underestimates the planetary demands of the rich nations. The CC approach refocuses our attention on the hidden impacts of rich country consumption.

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Fourth, consequently personal consumption becomes an issue of social engagement and public policy. If the environmental impacts of rich country consumption must be restrained in a just and equitable way, then a new discourse and policy framework becomes necessary – that of *recomposing consumption*. This cuts across the traditional administrative territories of economic, social, and environmental policy. It requires new forms of *eco-social* policy.

Fifth, this entails challenging orthodox economic consumer theory and the ideology of consumer sovereignty. In particular, the earlier distinctions between *necessities* and *luxuries* come back to the fore, but with an added intermediate category. To make such distinctions requires an entirely new framework for thinking about consumption.

This article argues that a theory of human needs is essential to buttress and give content to these assumptions, notably in defining equity and justice (Points 2 and 3) and in decomposing and recomposing consumption (Points 4 and 5). It is divided into four parts, the first develops an approach to conceptualizing universal human needs. The second sketches a methodology, the dual strategy, for identifying need satisfiers in particular contexts. The third describes some current research to identify the lower bounds of the CC. The fourth then confronts the more difficult task – how needs and sustainability can help conceptualize and measure the upper bound of the CC. The conclusion then discusses the resulting dilemma between a "rich national" and a global CC.

Figure 1 sets out my framework and in the process anticipates parts of my argument. It distinguishes three domains within which inequality can be conceived: those of wellbeing, consumption, and income/wealth. Within each we can distinguish three parallel categories, and two dividing lines – a floor and a ceiling.

A sustainable CC is illustrated by the zone between the floor and the ceiling, shown in gray. In wellbeing terms, it is designed to foster flourishing (Robeyns 2018), bounded by a floor of sufficiency and a ceiling that recognizes a flattening out of any further benefit to wellbeing. In terms of income and wealth it aims at prosperity (Jackson 2009) by

Wellbeing Domain	*Consumption Domain*	*Income/Wealth Domain*	
Excess	Luxuries	Riches	
.			Ceiling
Flourishing	Plenitude, Comfort Goods	Prosperity	
Sufficiency	Necessities	Adequacy	Floor
Deprivation	Lack of Necessities	Poverty	

Figure 1. Floors and Ceilings in three Domains.

providing an adequate floor but avoiding "riches." The CC approach is concerned with the middle column – consumption being one consequence of income/wealth and one input into wellbeing. The goal here is to ensure that all necessities are provided and above them a range of *comfort goods* or, to use Juliet Schor's (2010) concept, a state of "plenitude." Needs theory supplies insights in the wellbeing domain and, via the idea of need satisfiers, in the consumption domain, which in turn has implications for the distribution of income and wealth.

Needs theory

The literature on human needs and wellbeing is ancient and vast, going back to at least Aristotle and the Buddha. Philosophers from distinct schools of thought – economists, psychologists, sociologists, poverty researchers, development studies specialists, theologians, and many others – have contributed to debates on the nature of human needs, how to measure them and how to enhance their satisfaction (for surveys see Alkire 2002; Dover 2016; Dean 2020). It is not surprising that such a history has thrown up much variation and debate. Hartley Dean (2020) in his glossary of adjectives preceding the word "needs" identifies a total of 39, including: absolute, basic, common, cultural, discursive, existential, instrumental, intermediate, material, normative, objective, ontological, real, relative, social, subjective, thick, thin, and universal.

However, within this mosaic we can identify some common elements. All accounts of needs purport to provide a reasoned, objective, and disaggregated conception of human wellbeing. They reject single, usually monetary, measures in favor of "lists" of components. The assumption is that these components are not substitutable: they have merit and contribute to wellbeing in their own right (though some combinations of needs can be complementary). The approach is "objective" in the sense that collective reasoning is applied to understand needs and wellbeing. Mental feelings can be included in the list, but the focus is on functionings, not feelings.

For example, Manfred Max-Neef (1989, 1992) has, with his associates in Chile, developed a popular "matrix of need" comprising nine *axiological* needs (subsistence, protection, affection, understanding, participation, leisure, creation, identity, freedom) and four *existential* needs (being, having, doing, interacting). The 36 components of the matrix have proved fruitful in fostering participation in often poor communities and in elaborating "need satisfiers" in developing and developed countries

(Guillen-Royo 2016). His distinction between needs and need satisfiers has entered the lexicon of need theory. However, the derivation of his categories remains difficult to discern (see Alkire 2002, 61).

The idea of human needs can serve many purposes, but our task here is to identify how it can contribute to the notion of sustainable consumption and consumption corridors. The central feature here, I argue, is *universalizability*. Environmental limits will progressively impose dilemmas of international and intergenerational equity, so to be useful any theory should be universalizable across both space and time. The concept of human needs should display commonalities across cultures and generations.

For this reason, I concentrate here on two *philosophical* theories of human need which explicitly address this issue: our own – Doyal and Gough (1991) and Gough (2015), and that of Martha Nussbaum (1993, 2000). Though using different concepts – needs and capabilities – both approaches have the goal of developing a genuinely universal argument for human emancipation. Both critique cultural relativism, and draw strong normative conclusions that prioritize meeting needs over culturally specific wants or preferences (Gough 2014). Both begin with the individual, recognizing that "each person has just one life to live" (Nussbaum 2000, 56). But both recognize the social dimension of individual agency: individual needs can never be satisfied independently of the social environment, but they must be conceptualized independently of any social environment. Also, both address the dilemma put by Soper (1993). "In general, the less information a 'thin' theory provides, the less controversial it will be, but also the more difficult to draw on as a guide to policy formation." To begin with, therefore, I concentrate on these two approaches.

Doyal and Gough: theory of human need

Our theory was published in 1991 (Doyal and Gough 1991) and has been elaborated subsequently (Doyal 1995; Gough 2000, 2015). It built on the prior work of scholars such as David Wiggins (1987, 2005) and David Braybrooke (1987) and has been added to and developed by subsequent scholars, such as Des Gasper (1996, 2009), Gillian Brock (2009), and John O'Neill (2011). Holden et al. (2018) provide a concise summary. In essence, human needs are universal. All individuals, everywhere in the world, at all times present and future, have certain basic needs. These must be met in order for people to avoid harm, to participate in society, and to reflect critically upon the conditions in which they find themselves. This is not the same as subjective feelings like anxiety or unhappiness. It refers to functions, not feelings.

The method adopted in *A Theory of Human Need* derives common human needs in two stages: the first presenting a "thin" theory and the second "thickening" it out. The first stage is based on a neo-Kantian argument. Doyal and Gough (1991, 52–54) contend that

> Kant showed that for individuals to act and to be responsible they must have both the physical and mental capacity to do so: at the very least a body which is alive and which is governed by all of the relevant causal processes and the mental competence to deliberate and to choose. Let us identify this latter capacity for choice with the existence of the most basic level of personal "autonomy" … To be autonomous in this minimal sense is to have the ability to make informed choices about what should be done and how to go about doing it. This entails being able to formulate aims, and beliefs about how to achieve them, along with the ability to evaluate the success of beliefs in the light of empirical evidence … It makes sense, therefore, to claim 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.

At a second stage, we distinguish a subset of *universal satisfier characteristics*: those characteristics of need satisfiers which apply to *all* cultures. Universal satisfier characteristics are thus 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 two of the characteristics which all dwellings aim to have in common (though to greatly varying degrees). This list of intermediate needs is derived from two principle *scientific* sources. First, they are based on the best available scientific/technical knowledge articulating causal relationships between physical health or autonomy and other factors. Second, they are predicated on comparative anthropological knowledge about practices in the numerous cultures and subcultures, states, and political systems in the contemporary world. Thus, to begin with it is the *codified* knowledge of the natural and social sciences that enable determination of the composition of intermediate needs. This knowledge changes and typically expands – today often at dizzying speeds – through time.

Thus, the first stage uses neo-Kantian arguments to develop a *thin* theory of human need. It deliberately seeks, so to speak, the lowest common denominator of universalizable preconditions for human action and social participation. In this way, we would claim, the potential for cross-cultural consensus is heightened. At the second stage, we appeal to collective knowledge, from both the natural and the social sciences, to identify the prerequisites for healthy and autonomous persons across different cultures. Against much postmodern skepticism we retain a belief in the potential of the scientific community to approximate a consensus on the prerequisites for human flourishing, albeit one that continually evolves over time.

Kate Soper (1993) concurs: "What [Doyal and Gough's] work shows, they would argue, is that you can chart basic need satisfaction for 'objective' welfare without either embracing relativism or operating at such a level of generality that the pertinence of the theory for specific problems concerning social policy is sacrificed."

Martha Nussbaum

Martha Nussbaum has worked within the capability tradition, but disagrees with Amartya Sen in several significant ways. In particular, she is content, unlike Sen, to identify a core list of "central human functional capabilities" with many affinities to the idea of human needs (Gough 2014). Nussbaum first went back to Aristotle to derive a list of "central functionings." Following the method in *Nicomachean Ethics*, she identified "spheres of human experience that figure in more or less any human life, and in which more or less any human being will have to make *some* choices rather than others" and to each of which there is a corresponding virtue (Nussbaum 1993, 245). This generated a slightly varying list of 10–11 spheres of experience. The approach identified "a *core idea* of the human being as a dignified free being who shapes his or her own life in cooperation and reciprocity with others … A life that is really human is one that is shaped throughout by these human powers of practical reason and sociability' (Nussbaum 2000, 72; my italics).

During the 1990s, she developed a more normative or Rawlsian procedure in *Women and Human Development* (WHD) (Nussbaum, 2000). The central capabilities are first identified in an approach informed by an intuitive idea of a life that is worthy of human dignity. These are then presented as the source of political principles for a liberal, pluralistic society, free of any metaphysical grounding. The list is modified as a result of cross-cultural academic discussion and discussions within women's groups. As a result, the central capabilities can become the object of an "overlapping consensus" among people who may otherwise have very different conceptions of the good. The argument from principle at stage one is "envisaged as a first step in the process of reaching toward such *a reflective equilibrium*" (Nussbaum 2000, 76, 151, my italics).

Nussbaum claims that her approach entails a two-stage and iterative method: a core philosophical idea derived from Aristotle is examined in cross-cultural dialogues, revised, and resubmitted in an iterative fashion. This suggests that there exists a potential bridge between the normative and the consensual stages in the shaping of an agreed list of human capabilities, though normative argument has priority.

In her later book, *Frontiers of Justice*, she relies heavily on the language of need: "human need is a relatively stable matter, and thus there is some hope that we can give an account of basic human needs that will remain reasonably constant over time … the idea of what human beings need for fully human living is among the most vivid intuitive ideas we share" (Nussbaum, 2006, 278, 279). Brock concludes that her capability approach is then derivative of the need approach. "The notion of need is a valuable member of the team of concepts widely used in discussions of global justice, both in the capabilities and the human rights approaches. The case for these is often built on the more fundamental concept of needs" (Brock, 2009, 73–74).

However, Nussbaum makes one important qualification by embracing the distinction, which she shares with Sen, between functionings and capabilities. She writes that "[w]here adult citizens are concerned, *capability* not *functioning* is the appropriate political goal." This permits universal goals to be identified yet individuals' rights not to pursue them to be given due weight. Fasting is not the same as starving; nor is celibacy the same as enforced sexual abstinence. (By contrast, children may require enforced protection of and stimulation of their capabilities, for example through compulsory education.) The "functioning-capability" distinction would help us to diminish lingering charges of paternalism since adult individuals should always have an element of choice over whether to pursue these goals (see Gough 2014).

With this qualification I continue to advocate and use the Doyal-Gough and the related Nussbaum approach to identify the universal needs that all people share, including future generations of people. The three core needs are, in the language of Nussbaum and Doyal-Gough, respectively: affiliation/participation, bodily integrity/health, and practical reason/autonomy. The universality of need is of great importance to issues of sustainable consumption since environmental limits will progressively impose dilemmas of intergenerational equity. We can assert with considerable confidence that the *basic needs* of future generations of humans will be the same as those of present humans. Compared to the indeterminacy of future generations' *preferences* or *happiness* – or of Sen's *capabilities* – a theory of need provides some firm foundations on which to construct a CC.

Defining need satisfiers: the dual strategy

One agreed feature of all approaches is that universal needs differ from specific *need satisfiers* which are variable and local. Need satisfiers comprise the goods, services, activities, and relationships that contribute to need satisfaction in any particular context. The needs for food and shelter apply to all peoples, but there exist wide varieties of cuisines and forms of dwelling that can meet any given specification of nutrition and protection from the elements. Without a sharp distinction between universal needs and specific satisfiers, all need theories could justly be accused of being paternalist, intrusive, and insensitive to context and culture.

It is clear that in drawing up a CC we are working in the domain of need satisfiers, not universal needs. Thus, the components of the corridors will vary according to economic, social, ecological, cultural, and political contexts. But how might such minima and maxima be identified and agreed – especially in an unequal commodified society with a strong ideology of consumer sovereignty like our own? Can a democratic consensus ever be achieved around such contentious questions? My answer is to develop a general methodology – the dual strategy – and then apply it, in turn, to the lower and upper limits of the CC.

The broad methodology to identify need satisfiers in particular contexts is to draw on two forms of knowledge: the codified knowledge of experts and the experientially grounded knowledge of ordinary people in everyday lives. The process to combine the two can be called the *dual strategy* (Doyal and Gough 1991, Chap. 14; Nussbaum 2000; Gough 2014).

The *codified knowledge* of the natural and social sciences enables us to determine the composition of many need satisfiers. It is embodied in the knowledge of practical experts, whether in health and medicine, engineering or biology, technology or policy science, and this knowledge is commonly used to help identify "what people need": the components of a healthy diet, the education needs of children, the damage to our environment from pollutants, and so on. Experts have a vital role to play in identifying need satisfiers. *Experientially grounded* or practical knowledge is the entire range of understandings and accumulated problem solving of people in their everyday lives and contexts. This too must contribute to deciding what objects, activities, and relationships are necessary or essential for well-being in any given context. Policies that ignore this input can be irrelevant, inefficient, stupid, or oppressive; for example, building new housing estates far from employment, shops, or social activities without public transport and concentrating poor families within them.

We thus conclude that any rational and effective attempt to resolve disputes over need satisfiers "must bring to bear *both* the codified knowledge of experts and the experiential knowledge of those whose basic needs and daily life world are under consideration. It requires a *dual strategy of policy formation* which values compromise, provided that it does not extend to the general character of basic human needs and rights" (Doyal and Gough 1991, 141). In the real world interests, institutions, and power imbalances will thwart it. In implementing the dual strategy one can only insist, following Habermas (1987), that the debate is as informed, participatory, and free of vested interests as is possible.

This bears some resemblance to the methodology developed by Antonietta Di Giulio and Rico Defila (2019a, 2019b, 2020) to operationalize the concept of CCs in Switzerland. They do so by defining a set of "Protected Needs" and test its acceptability with a sample of the Swiss population.[1] To develop the list, they draw on existing codified knowledge: theoretical approaches and cross-national inquiries into various aspects of wellbeing, and an interdisciplinary group of German and Swiss scholars to discuss these ideas and exclude anything revealed to be possibly biased. To simulate a deliberative form of politics they then devise a questionnaire where a large representative sample of Swiss citizens is confronted with a series of polar opposing views on beliefs crucial to the concept of CCs and asked to place themselves within these extremes. They find a net positive consent to two critical positions: the entitlement of government to limit individual freedoms to achieve social justice and the need to adopt a "sufficiency strategy" to ensure that future generations can satisfy their needs. They recognize that the results apply only to Switzerland where the climate of political discourse is relatively consensual.

There are today a range of experiments in forms of dialogic democracy, such as discussion forums, citizens' juries, and visioning exercises. But most of these undertakings are exercises in consultation, not proper participatory decision making. To make progress some ways must be found of scaling up these initiatives while at the same time attending to power differences and distortions of debate. In particular, elements of participatory democracy must be combined with representative democracy; for example, findings could be presented to and negotiated with councilors and parliamentarians, aiming to arrive at a broad consensus (Coote 2015).

A notable recent development has been citizens' assemblies where a sample of lay members selected to represent a broad cross-section of the population considers and discusses over an extended period evidence with experts and then draws up conclusions based on consensus. Examples include the Ireland assembly convened between 2016 and 2018, which among other things resulted in a referendum that legalized abortion. I return to the recent Citizens' Convention on Climate in France below.

The lower boundary: defining material necessities in practice

There is now a strong body of research which finds a rough consensus on the bundle of need satisfiers required for a decent minimum standard of living in different countries and times (Niemietz 2010; Deeming 2011).[2] Since Peter Townsend's work on poverty (1979), there has been wide acceptance that this minimum includes more than just food, clothing, and shelter; it is about having the opportunities and choices necessary to *participate* effectively in society. None of this research follows strictly the dual strategy methodology, but I consider here two contrasting examples: the Reference Budget Framework (RBF) developed since 2011 in Antwerp for the European Union (EU) and the Minimum Income Standard (MIS) developed in Loughborough and applied since 2008 in the UK.

The European Reference Budgets network has developed a common methodology to identify reference budgets, or priced baskets of goods and services that represent adequate standards of living. The research draws on the Doyal-Gough theory and methodology, but it modifies the dual strategy approach by giving priority to "domain experts" who first define the key consumption bundles, on which focus groups of citizens then deliberate. This RBF is now the recommended format for evaluating decent living standards across all 27 member states (Storms et al 2013).

The earlier and still running UK research uses citizen-focus groups to determine a MIS (Davis et al 2014, 2015). The focus groups, advised in a light touch way by various experts, are tasked with producing an extensive list of items that households would need in order to reach "an acceptable minimum standard of living." The 2014 MIS study in the UK involved twelve focus groups including pensioners, working-age adults without children, and parents with children. This exercise has resulted in a relatively unchanging consensus. For example, the parents group, recognizing that it was increasingly likely that children in social housing would be expected to share bedrooms, concluded that this was not a standard that they agreed with; they felt that in general the minimum should include a bedroom for each child of school age. Necessary food expenditures were agreed to be higher than present averages due to the consumption of more fresh fruit and vegetables.

The consensus has shifted a bit over time. In earlier years all groups decided that owning any car was not a necessity, but in 2014 the group discussing the needs of households with children decided that an inexpensive secondhand car was a necessity for the first time, due to the decline of public transport. By 2014 all groups, including the pensioners group, regarded a computer, Internet access, and a cheap mobile-phone subscription as a necessity. But, these apart, the definition of necessities has changed relatively slowly: the UK 2014 budgets were remarkably similar to the 2008 budgets, despite the financial crisis and recession in the meantime, reflecting a consistency in the ways that members of the public interpreted the rationales of necessity.

Both the RBF and MIS have in common that a *consensus* is achieved on a complex bundle of goods and services deemed to ensure an adequate minimum standard of consumption. Neither is concerned directly with income levels, but the bundles of goods and services can then be priced to calculate minimum income lines. They differ in the respective role of experts and citizens – the former lead in the EU research, the latter in the UK research – but neither properly respects the need for informed citizen debate enjoined by the dual strategy. Lengthy citizen's assemblies might have more potential, as discussed below.

The upper bound: devising a consumption ceiling

Returning to Figure 1, we can consider a ceiling to the CC in three separate domains – wellbeing, consumption, and income/wealth/resources. I will look at each, turning to consumption last, drawing out the links with the concept of human needs.

Wellbeing

There are two fundamental arguments for limits to inequality: biophysical and ethico-social (Daly 1977; Koch and Mont 2016; Gough 2017). The science of entropy, finitude, and ecological interdependence points to a series of planetary limits. At the same time, our obligations to the poor of the world, to future generations, and to other species calls for ethico-social limits to growth.

Ethico-social arguments for limits to inequality range widely. Thorstein Veblen (1899) showed how inequality increases status competition and undermines wellbeing in society, an argument restated with cross-national evidence by Wilkinson and Pickett in *The Spirit Level* (2009). Hirsch's (1977) analysis of the endless search for positional goods provides another argument for social limits to growth. Related to this, inequality hinders collective action and forces short-term time horizons on lower income groups (see Gough 2015, 2017). This case has been buttressed in recent decades by eudaimonic psychology, in particular self-determination theory and its identification of universal psychological needs for competence, autonomy, and relatedness. More competitive, materialist, and unequal economic systems undermine the ability of people to *flourish* in their vocational, social, and cultural pursuits (Ryan and Sapp 2007; Kasser 2011).

More recently Ingrid Robeyns (2018, 2019) advocates "non-intrinsic limitarianism" – the belief that it is not permissible to have more resources than are needed to fully flourish in life. Riches are, by definition, *surplus to flourishing*. This enables her to argue for a maximum level of resources in order to devote surplus resources to meet "urgent unmet needs." She claims that "since surplus money does not contribute to people's prosperity, it has zero moral weight, and it is unreasonable to reject the principle that we ought to use that money to meet these urgent unmet needs." "Limitarianism claims that one can theoretically construct a riches line and that a world in which no one would be above the riches line would be a better world" (2019, 253, 258).

Ecological limits played a minor role in her first paper, but her second paper recognized the responsibility of the rich for past and present GHG emissions and this provides a powerful reason to allocate their surplus resources for climate action. "The surplus money of the superrich *cannot* be used to enhance their wellbeing; it could be more beneficial if it were invested wisely in climate action strategies" (Robeyns 2019, 259, my italics). This echoes the central arguments in my book (Gough 2017): In the Anthropocene meeting people's basic needs should be the *first* priority of justice and the obligations of the rich to cut emissions and bear the burdens of adaptation and mitigation are agreed by almost all ethical principles.

Income/wealth/resources

The second dimension is that of income and wealth or economic resources more broadly (see Buch-Hansen and Koch 2019 for a survey). Herman Daly (1977) was an early advocate of a maximum income as part of a steady state economy. "If you have a limited total, and you also have a minimum income, then that implies a maximum somewhere" (Daly 2018, 90). Jan Drewnowski (1978) was an early proponent of an "affluence line" above which consumption need not and should not rise. Calls for thresholds or ratios to limit inequality of resources can be traced back to classical philosophers and continue to the present day.[3] But though welcome, all such ratios are arbitrary (Concialdi 2018).

Not until 2006 was a method developed to relate a maximum income to the minimum income line. Medeiros (2006) began by assuming a consensual minimum income and an estimate of the societal "poverty gap" – what sum of money it would take to move everyone above the poverty threshold. He then proposed a hypothetical step-by-step system of transferring money to pay for the poverty gap starting with the richest person. The income level where the sum raised equaled the poverty gap would then indicate the affluence line. Concialdi (2018) points out that the higher the minimum income the lower would be the affluence line, hence the minimum line must be based on calculations of the decent minimum income discussed above.[4] Using this method Hirsch (2017) estimates the annual sum required to bring everybody up to the MIS line in the UK at £49 billion or 2.6% of gross domestic product (GDP) at the time. This implies a riches line of about £150,000 per person per year. If all untaxed incomes above this rate were taxed at 100% it would annually raise approximately £48 billion. This riches line has some intuitive plausibility: it is the income at which the top rate of tax commences, and is the salary of the UK Prime Minister.

Consumption

Finally, I return to the dimension of consumption and the idea of a maximum "consumption bundle" of goods and services in affluent societies. As far as I am aware there has been no exploration using the dual strategy methodology of what constitute luxuries, or a consumption level that is "too much." A representative sample of the Dutch population, when presented with various scenarios of amenities and consumption items, felt that at some point additional income or wealth would not improve wellbeing. For example, 67% considered that the following was above the riches line: "a household that has a villa with private swimming pool, two luxury cars, a house in southern France, and 500,000 EUR in assets" (but one third did not). The study also found that respondents were very reluctant to support a maximum wage, a maximum wealth limit, or caps on savings or inherited wealth (Robeyns 2019).

Using focus-group methods, Davis et al (2020) undertook an exploratory pilot to study whether public consensus can identify a "riches line" in London. The researchers were well aware that identifying a threshold at which people could be considered to be "rich" is a complex and less well explored concept than a poverty or minimum income line, and devised their strategy carefully. Six groups comprising people from different income brackets considered how to evaluate consumption levels above the MIS level. The groups were guided by a facilitator with some information provided in a light touch way – but there was no engagement with experts as such. The participants agreed on a framework consisting of five levels:

E: Super-rich

D: Wealthy, affluent, rich

C: Well-off; securely comfortable

B: Surviving comfortably

A: Minimum socially acceptable standard

The crucial dividing line for our purposes is between C and D. Participants described individuals and households at level C as "comfortable," "well off." or "flourishing." They then considered what it means to be *above* this level, and whether there was a point beyond which additional income and/or wealth becomes unnecessary, excessive, or socially harmful.

There was considerable consensus on the D level, often described as "luxury" or "wealthy living." Common consumption indicators of this level included a second property (whether in the UK or abroad), a wealth manager and significant savings, eating out weekly (with £100 wine), "more expensive hobbies" (riding, sailing, antiques), club membership; five or more holidays a year (some without children), a second car,[5] private health insurance, a personal trainer, and a housekeeper.

This pilot research found considerable consensus on some of the components of a riches line (though no attempt was made to attach a money measure to it). It demonstrated a collective approach to achieve some consensus in this emotive area. However, as in the Dutch study, there was no normative consensus on whether such riches were morally desirable or undesirable, or on what might be done to reduce inequality.

The ecological ceiling

Unfortunately, none of these income or consumption studies of ceilings, to my knowledge, take into account pressing ecological limits. I discuss here two potential ways forward, using solely measures to mitigate and adapt to dangerous levels of climate change (leaving aside all other planetary boundaries and their potential threats to human wellbeing). The first targets income and the second consumption.

First, the Medeiros approach could be modified to take into account the resources required to achieve a safe future climate. These can be divided into two parts: (1) the domestic investments needed to reduce GHG emissions immediately in rich countries at the ferocious rate required to avoid climatic disaster and (2) the transfers needed to ensure developing countries can attain a sustainable path of development while also improving levels of need satisfaction. This approach would endorse Robeyns' proposal to extend the idea of "unmet needs" beyond domestic income in three radical directions: The condition of extreme *global* poverty; the condition of local or global *disadvantage*; and the condition of urgent *collective action problems* (Robeyns 2018, 10–11). If these sums could be estimated then the Medeiros transfers to finance them would have to rise meaning the maximum income line in rich countries would be lowered.[6]

A second much more meaningful route would be to run expanded, more demanding citizens' assemblies, where sustainability experts provide indicators of the carbon and GHG footprints of different consumption items to inform and guide citizen discussions on what was and was not sustainable. Fortunately, we have a real-life example in the French Citizens' Convention on Climate, which reported in June 2020. Comprising 150 randomly selected but representative citizens, the Convention met for nine months. It was tasked to decide on policies to achieve a reduction of at least 40% of France's GHG emissions by 2030. The French government committed from the start to put forward the Convention's proposals for legal adoption – without changes – via referendum, parliamentary vote, or executive order. This is an unprecedented commitment for a citizen's assembly and makes it a leading example of introducing dialogic democracy into determining climate action.[7]

The Convention agreed on 149 proposals, some of which have a bearing on CC. These include the fast and mandatory retrofit of the least energy efficient buildings by 2030, the implementation of a ban on high-emission vehicles by 2025, the mandate to display GHG emissions in retail and consumer places and in advertisements for brands and developing a carbon scorecard, the prohibition on the advertising of high GHG products, and the imposition of limits on the use of heating and air conditioning in housing, public spaces and buildings, commercial and industrial buildings (maximum average temperature of 19 °C, no air-conditioning below 25 °C). The Convention rejected some proposals, including reducing the working week from 35 to 28 hours. Most proposals, as expected, were "green growth" initiatives to decouple emissions from production and consumption, but the list above illustrates that recomposing consumption also entered the agenda.

The global dilemma

However, the Convention did not and could not engage with the global dimensions of the climate crisis and the ensuing implications for consumption and emission levels in the West. The frame of reference – a 40% cut in French territorial emissions over the coming decade – though radical does not take account of consumption-based emissions. France like all nations in the global North emits more in consuming goods than it does in producing them (Gough 2017). What is more, even at minimum decent standards of living Northern consumers far exceed any global targets of emissions per head. If everyone in the UK overnight cut their consumption to the Loughborough minimum income standard discussed above, emissions would be reduced by "only" 37% (Druckman and Jackson 2010). The UK now generates on average of 8.9 tons of consumption-based carbon-dioxide (CO_2) emissions per person (Jackson 2019). Assuming the same ratio applied today then a "bare necessities" Briton would still be emitting 5.6 tons CO_2 per person. The distinction drawn above between luxuries and necessities within a rich country like Britain is relevant to domestic policy but seems quite irrelevant to global policy, where over one billion lack energy for cleaning, sanitation and water supply, lighting, and basic livelihood tasks (Rao and Pachauri 2017).

This gulf raises profound questions concerning global justice. Notwithstanding the consensus and mobilization around the sustainable development goals (SDGs) since 2015, the case for absolute cuts in consumption in the rich world, and for both substantial global transfers, is strong yet difficult to envisage, since no institutional body exists to promote or deliver these outcomes. It would imply some form of "contract and converge," first proposed by the Global Commons Institute in the early 1990s. This concept consists of reducing overall GHG emissions to a safe level (contraction), resulting from every country bringing its emissions per capita to a level which is equal for all countries (convergence) (Stott 2006). The agreed contraction goal is now *zero net carbon* by 2050 or preferably considerably earlier. The convergence route to this objective is still unclear though it implies prodigious cuts in consumption-generated emissions in the developed world. The UK's total consumption emissions in 2018 were around 0.6 billion tons, implying that its fair carbon budget would be exhausted in just five years (Jackson 2019).

Yet to move quickly to a target of even two tons of consumption-based emissions per head within existing socio-technical structures would deprive citizens of a vast range of goods and services – housing standards, cars, imported foods, a range of clothing, relatively nutritious diets, and so forth – that they have agreed are necessary for effective participation in modern life (as demonstrated in the previous section). Since such global disparities cannot be eliminated overnight or even over a decade, this implies *two distinct* minimum lines: one to ensure participation and a decent minimum standard of living in rich nations such as the UK, and a second to ensure a decent minimum generalizable to all humanity. Current research is starting to detail what this package of global necessities might comprise (Rao and Min 2018; O'Neill et al 2018). Each of these two lines could in principle be attached to two maximum income lines in rich countries using the Medeiros methodology. But at this point the CC approach would need to form one component of a wider strategy for global decarbonization.

Conclusions

A theory of human needs provides powerful normative support for sufficiency, for prioritizing needs over excessive wants, and for distributing resources more equally. These merits are all strengthened in the presence of dire anthropic pressures on the planet. The safe and just space for humanity is being squeezed. The zone between the upper and lower limits of the CC is shrinking fast. In this way, some notion of universal human needs provides a firm philosophical foundation for the idea of a CC.

The first part of this article summarized the necessary ingredients of such a theory. The second section turned our attention to need satisfiers and proposed a methodology for seeking a democratic consensus on necessary satisfiers. The third section summarized some existing research on the lower bound of the CC. The longer fourth section then turned to the more difficult and open question of the upper bound, distinguishing argument and evidence for a maximum or ceiling in the domains of wellbeing, income/wealth, and consumption. In each case, the argument is related back to human needs. The conclusion is that the concept of a CC continues to play an essential role in bridging the gap between green growth and degrowth.

However, once the focus is shifted from within a rich nation state to the global arena a fundamental dilemma is revealed: the consumption bundle required to achieve an acceptable level of participation in a modern society far exceeds the ecological bounds for a safe planet. This points to two CCs: a high income "internal" CC and a CC for high-income countries within a global context of great inequality. Making this clear and operationalizing the mismatch would at least contribute to a transitional contract and converge strategy. Policy making on CCs could contribute here by considering how necessities are provisioned, which "comfort goods" may not be sustainable, and first and foremost how luxury consumption can be diminished to free up resources for the poorest both at home and abroad.

Notes

1. "Protected needs" are defined as needs in which governments and other collective actors have an obligation to provide the preconditions for their satisfaction. Di Giulio and Defila note that some needs could not form a legitimate obligation of government, for example a need to be loved.
2. It is important to note that there is a vast overlap between individual wants, or better—want satisfiers, and need satisfiers. When purchasing rice, a pizza to go, a house light, a mobile phone voucher, a bus ticket, a dwelling, or a car these wants will also act as need satisfiers depending on the context. But the overlap is by no means complete. Some wants can be excessive or harmful—what Max-Neef refers to as "violators" or "pseudo need-satisfiers." Conversely, many need satisfiers will not necessarily be wanted and thus will not feature in consumer demand.
3. For example, Plato believed that the wealth of the richest in society should not be more than four times the wealth of the poorest, and Aristotle contended that the relevant multiplier was five times (Pizzigati 2018).
4. Using the French "reference budget," Concialdi (2018) finds that this results in an affluence line of 59,500 EUR per annum of equivalized disposable income – much lower than the UK estimate presented above.
5. This was a study of Londoners, but elsewhere this would likely not be regarded as a luxury.
6. A rough estimate: If we follow the G77 recommendation of 1% of the GDP of the rich developed world to be transferred to the rest of the world, then annual transfers would amount to some US$542 billion a year, of which the UK pro rata share would be some US$30 billion or £23 billion. This amounts to half as much again as raising the (much more generous) minimum level of UK citizens, calculated above. If the rich in the UK had to find another £23 billion a year, by how much would that reduce the Medeiros maximum income level from £150,000 a year? Further research on this is urgently needed.
7. See http://www.democracy-international.org/final-propositions-french-citizens-convention-climate.

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