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8 Climate change, happiness and income from a degrowth perspective

Filka Sekulova, Giorgos Kallis and François Schneider

> I don't understand why when we destroy something created by man we call it vandalism, but when we destroy something created by nature we call it progress.
> (Ed Begley Jr)

1 INTRODUCTION

We can hardly find a domain of life not ridden by the growth imperative. An explicit requirement for ever-increasing and faster activity underpins all productive spheres, from the volume and speed of manufacturing, to consumer sales or the life of products. The logic of growth has been embedded in spheres of life which traditionally did not have much to do with productivity or efficiency, such as public health, care, education or the arts (Jackson 2009). Gross domestic product (GDP) growth is a common denominator for judging the success of public policies and the performance of governments. The idea of growth, as used throughout this chapter, goes beyond a mere representation of an increase of GDP. Growth takes place in terms of monetary flows, financial assets and transactions, capital accumulation; in terms of aggregate material throughput, infrastructure, desires, efficiency and productivity (Schneider 2010). Gross domestic product growth is just the skin of a broader socio-economic process of expansion, and of increasing control of humans over nature and one another. Growth is a culture that can be seen, touched and felt. It is reflected in modern iconic architecture (Kaika 2010), in the taste of industrially produced food, in the speed at which students must graduate university, in the closures needed for keeping privileges between and within countries. Growth is armed by (techno)-science and technology and fostered by labor markets and cheaply acquired natural resources, often based on histories of wars and colonization.

This socio-cultural dimension of growth for too long was left without criticism. This is perhaps the reason that failures of growth were (and are still) expected to be cured with more growth. Be it in borrowing, natural

resource extraction or new infrastructure, growth has been the major tool to fight inequality and unemployment. It is equally promoted by those who call for austerity as well as those who advocate Keynesianism. The final result is, however, the same. Problems are shifted in space and time, while social conflicts and ecological crises deepen. Already in the seventies, André Gorz argued that the issue is not refraining from consuming more and more (that is, a 'steady state'), but consuming less and less, because even zero growth which keeps current consumption levels fixed causes a fast pace of exhaustion of resources (Gorz 1980).

This is the 'stage' on which the degrowth slogan acts. It was explicitly used as a slogan for the first time by activists in France and Southern Europe calling for downscaling of material throughput. One of its primary aims has been to expose and challenge the imperative of growth as a commonly accepted social objective. Ever since, degrowth has evolved into a research field and a frame embracing a wide vocabulary of meanings and significations (Demaria et al. 2013; D'Alisa et al. 2014). This chapter brings these further by applying the degrowth lens to climate change, its impacts and policy responses. It does so by first introducing the tapestry of degrowth. Consecutively we look at the implications of extreme climate events using empirical data on happiness from floods in Bulgaria, relating findings to the limits of the economic jargon, frequently addressed in the degrowth literature (section 3.1). Next we review and critically discuss some policy responses to climate change (section 3.2), drawing upon the idea of income decrease as a climate policy, using data from the economic crisis in Spain from 2011 (section 3.3). The key insights are then brought together in a proposal for embarking on a degrowth trajectory as a socially equitable way to address global warming (section 4).

Placing the term in the context of this book, degrowth should be understood as a strategy for sustainability since economic growth is ecologically, socially and even economically unsustainable. However, the degrowth debates started precisely as a response to the dominant sustainability, or 'sustainable development' discourse. The idea of a virtuous, win-win triangle where the environment is protected, equity promoted, and growth continued, is utterly rejected by degrowth theory and research. The starting premise of degrowth is that growth-based development is unsustainable, and the question is how to make the necessary degrowth socially sustainable.

2 DEGROWTH: CONTEXTUALIZING THE TERM

Degrowth, unlike what the term may suggest to the uninitiated, is not a technical economic term, meaning the opposite of growth, or setting

prices right so that resource throughput declines. If in a 'post-degrowth' scenario, we go through the exercise of quantifying the changes in the obsolete GDP indicator, these would be negative. Yet, targeting and understanding degrowth at the GDP metrics only is clearly a misreading of the very nature of the term. While degrowth denounces GDP growth, its focus lies on changing the context and the units of measurement. Societies embarking on a degrowth track would need new metrics, more nuanced and diversified. This does not mean that the thorny goal of consumption reduction in the Global North is not there. It lies at its heart. It is however driven by principles of political organization in the spirit of caring for the commons, voluntary simplicity, and conviviality (rather than a top-down/managed shrinking of GDP). Establishing and remaking the institutions that will allow societies to manage without growth (in a wider than GDP sense) is the core of pursuit of degrowth.

Degrowth is the synthesis and new mental and political space that opens up when growth is confronted (Kallis and March 2015). It does not only mean just 'less' (D'Alisa et al. 2014), but a social metamorphosis (Morin 2007). It shifts attention from expansion to redistribution and equity in societies. This implies not only a reduction of society's metabolism but a production of a new metabolism with different functions and modes of organization. Here the social limits to growth are crucial (Hirsch 1976). In a world of 'Ferraris for all', a Ferrari would no longer be a 'Ferrari', but a boring motor vehicle, desired by no one. Even if the biophysical resources were not a constraint, economic growth would never satisfy everyone's strive for status. Positional goods are a function of growth and constantly change along with it (Kallis 2014).

Degrowth confronts productivism both culturally and economically pointing out the shortsighted, normative and simplistic representation of humans as self-interested utility maximizers. More than anything, it punches at the theoretical heart of the models of economic representation, where utility is reduced to consumption, markets are perceived as the single best way to allocate resources, and efficiency (in production) is a goal in itself. Yet, a large volume of literature, not explicitly concerned with degrowth, demonstrates that human rationality is bounded and markets tend to crowd out friendship, gift and altruism (Meier 2007). Alternative modes of circulation, through which goods and services are reciprocally exchanged at the level of community or between communities, without markets, prices and the calculative logic of profit have been existing and are still present in some less visible parts of society (Mauss 1954). Unlike a market economy, participation in a gift economy develops a pride for, if not – a joy in giving, even when it implies entering into a chain of obligatory returns or collective dependence.

Again, degrowth is a tapestry woven into a frame of multiple complementary threads, or ideas, which jointly converge into something larger than their sum. Conviviality lies at its heart. Based on the idea of friendly togetherness, it implies cherishing each other's presence within an event, activity, work or place. Illich (1978) defines it as the 'individual freedom realized in personal interdependence as an intrinsic ethical value'. Conviviality is neither efficient, nor time-saving. Technology-wise conviviality implies the use of tools which are easy to handle and repair, which are reliable, durable, open-access, multipurpose, recyclable, socially and environmentally friendly and most importantly entailing a 'graceful playfulness' in personal relations (Illich 1973).

Democracy is another central concept in the degrowth tapestry. According to Illich (1978) equity and energy grow concurrently only up to a threshold (in per capita wattage, for example). Beyond this threshold, energy and (authoritarian) power increase at the expense of equity. The more centralized an energy system is, the more it needs experts and bureaucrats for its management; these would then appropriate an increasing portion of society's surplus. Increasing energy affluence therefore translates into a less equal distribution of control over this energy and society's surplus. A real, participatory democracy of true equals can only exist in a society of low and distributed energy use. This is also valid vice versa – participatory democracy creates the conditions for convivial technologies. Degrowth is thus conceived as a deeply democratic process, based on inclusivity and a search for solutions among various actors in the spirit of a society which continuously builds, evolves and revolves its owns institutions (Castoriadis 1987).

Importantly, degrowth builds upon a critical reflection and historical load of the term 'development' (Escobar 2014). This idea of development places countries on a ladder, whereby the types of societies produced in the West are those on top, which others are bound to imitate (Rostow 1960). The ideology of development can best be visualized by the shifting of titles, where most colonizing countries are named 'developed', while colonized countries (or their native populations) – 'developing'. As Latouche (2009) notes, the most lasting type of colonization has taken place in the minds and 'imaginaries'. In the words of Harold Welzer (2011), a lifestyle based on ever-increasing levels of material consumption (or development) has been generalized and inserted as a common mental infrastructure. This infrastructure keeps reproducing itself even when its original trigger has been displaced. Based on these notions, degrowth is the gradual, public and participative deconstruction of 'mental-infrastructure' – terms like 'development' and 'progress'. This does not however imply replacing them by new paradigms which cannot be questioned.

Thus degrowth in the North does not have to translate into more growth in the South. Growth leaves its footprint in the landscape of the Global South consisting of sweatshops and textile factories, deforestation and erosion, the open-cast mines, the landfills of electronics, chemicals and ships, or the mono-cultured fields of genetically modified organisms (GMOs) and global commodities. Degrowth is a call for an end to this environmental colonialism. As Martinez-Alier (2012) argues, the degrowth movement in the Global North is the natural ally of the environmental justice movement in the Global South. Indeed, degrowth calls for opening the space for the South to find its own paths to the good life or 'buen vivir'. This certainly implies a flourishing of health care, of quality education, of access to land and food sovereignty, of democratic governance and participation, of self-sufficiency, and the protection of the rights of humans and nature. While growth, is not a necessary condition for all of those, the deconstruction of developmental thinking might be.

Pushing environmental frontiers further has led to a surge in environmental conflicts world-wide (Martinez-Alier 2002). Degrowth springs from the notion that environmental conflicts are visibly or invisibly embodied in most objects and spaces. People in the North are rarely keen on 'toxic tours', or spending a day at a landfill, at a mining site, nor walking along a highway for hours, and never get personally confronted with the uprooted communities or removed mountain tops that necessarily accompany growth. The distancing between impacts and goods purchased and utilized gave rise to the environmental justice movement. At the same time the information overkill on the environmental and social conflicts taking place worldwide has little impact on the individual lifestyles of those at the end of the commodity chain, until it is felt, gazed and experienced with the eyes, the hands and the skin (Armiero 2008). Degrowth implies living and feeling the ecological conflicts, be it on a neighborhood or international level. It is a call to relocalize our impacts and bring environmental and social conflicts (back) to our backyards, where these can be equitably resolved and democracy becomes possible.

3 CLIMATE CHANGE IMPACTS AND POLICIES

The degrowth framework can serve as a theoretical base for analyzing environmental hazards and climate change in particular. As argued earlier, degrowth cannot be narrowed down into a single proposal or indicator. It is a mindset and a proposition that can generate a new set of research questions and political proposals. This is particularly useful when

talking about climate change. Our hypothesis is that the well-being[1] losses of embarking on a degrowth trajectory (that is, diminished consumption) are smaller than the gains associated with it. In line with the critique on economism outlined above, this hypothesis stands best when counting losses and gains in terms of subjective well-being, rather than monetary metrics (Boyce and Wood 2010).

One possible direction by which to examine this hypothesis is by studying the imprints of extreme weather events on well-being, or more generally – those aspects of the natural and social fabric that humans cannot forgo. Only when knowing these, can we properly understand and evaluate the consumption sacrifices needed for averting a climate disaster. In that way we can evaluate the assumption of tradability between money and various social, psychological and environmental determinants of well-being, commonly used in cost benefit analysis (Barbier and Hanley 2009).

Another direction of research involves looking for experiences that help imagining a degrowth trajectory that equitably addresses climate change. For this purpose, episodes of widespread income decrease, such as the recent economic crisis in Southern Europe (and Spain in particular), can be explored. While these involuntary and painful reductions in consumption shall not be confused with degrowth, they offer some general idea on how consumption reduction (and consumption alteration) relate to well-being.

3.1 The Well-being Costs of Climate Change

One economic assessment on the cost of climate change, which received substantial public attention in the US is the study of Nordhaus (2007). He calculates that a 3°C increase of global temperatures creates at 2.6 percent loss of world output, while – a 6°C increase – a loss of 10.2 percent. Health impacts of a 2.5°C warming in his (DICE) model are assumed to cost 0.8 percent of world GDP, while overall willingness to pay to avoid human settlements and ecosystem damage is estimated at 1 percent of world GDP. The approach has a number of assumptions, which are unwarranted, particularly the poor treatment of small probability catastrophic losses. Picking upon another, however, utility in DICE is expressed in terms of GDP. We can argue, however, that climate change will affect happiness in a way that cannot be repaired by the type of (monetary) expenditures included in GDP. As Geoffard (2008) puts it, climate change may make future generations poor in utility, even if they are rich in GDP-measured income.

Self-reported well-being can be quantitatively measured, as a response to a standard question asking individuals to rate their subjective well-being

on a scale from zero to ten.[2] We know that over time rates of happiness and growth neither rise, nor fall together, although at a given point in time richer nations and people might report higher life satisfaction. This trend, also known as the Easterlin paradox, has been observed for both Southern and Northern countries over the past 40 decades (Easterlin 2003). While a debate on the relation between income and happiness is still raging (Sacks et al. 2012), the evidence on the lack of a straightforward relation between the two is overwhelming (Easterlin 2013). In equation terms, if income and happiness rise and fall together only up to a certain income threshold, substitution between income (taken as a proxy of consumption) and the non-pecuniary determinants of happiness, such as health, social relations, free time and a stable climate would be limited. Indeed, a number of empirical studies point to the importance of a stable climate (that is, low frequency of natural disasters and a lack of floods, droughts and heat waves) for happiness (Carroll et al. 2009; Luechinger and Raschky 2009; Ferreira and Moro 2010).

In economic terms, if $W(y, \mathbf{z})$ is a well-being function of y (income), $\mathbf{z}$ a vector of all other observable and non-observable variables that determine well-being, and y^* denotes the (income) level beyond which increases in income result in zero gains in happiness, which differs across countries, then the Easterlin paradox means that:

- for $y \leq y^*$, a marginal increase in y could lead to an increase in W while,
- for $y > y^*$, a marginal increase y would produce zero changes in W *over time*.

Thus, for $y > y^*$ and W constant, an increase in income will not compensate for any negative changes in the non-pecuniary elements of vector $\mathbf{z}$ (such as extreme climatic events). The income–happiness disassociation challenges the standard assumption that trading-off an increase of income against non-material well-being determinants, such as health, stable climate, and mass migration, and conflicts over increasingly scarce resources such as water and land is possible, or straightforward.

Most climate economic models are designed with the assumption that future generations will be in possession of sufficient income which will more than offset the negative impacts of global warming. The Fifth Intergovernmental Panel on Climate Change (IPCC) Assessment report for Working Group 3, for example, takes the rate of economic growth as exogenous, independent of the climate mitigation efforts (IPCC 2014). While estimating material losses in monetary terms might make sense, the disassociation between happiness and the increases of income over time

suggests that an assumed trade-off between the monetary domain and various psychological, social and environmental factors is a big methodological error. Alternatively, evaluating climate change through the lens of subjective well-being allows for a direct assessment of the intangible but key aspects of life (emotional, psychological, and social) which are virtually meaningless when represented in monetary terms or kilograms, for example. This does not mean that subjective well-being should be the single unit of measuring (climate change) impacts, either.

To perform a mini-test of this hypothesis we can take an episode of flooding as a proxy for extreme climate change and study how it affected subjective well-being. A dataset fit for this purpose is available for Bulgaria, collected in 2011 among several villages and towns, some of which heavily affected by sudden floods (Sekulova and van den Bergh 2016). The dataset, consisting of 600 observations, is representative for the age and gender structure of the local municipalities where the survey was conducted. An ordinary least squares (OLS) regression is carried out, with life satisfaction as a dependent variable, explained by a list of standard demographic predictors and flood experiences of various intensities (Table 8.1). Findings with respect to the role of poor health, aging, (good) education, unemployment, income level and family status for life satisfaction comply with what is commonly found in happiness studies. Results with respect to the flood-related indicators, however, are notable. Experiencing a flood and living with the perception that such an event might reoccur (worry about flood) is associated with a considerable decrease in the subjective well-being of all income and age groups. Its effect is similar to the one of having poor health, for example. The impact of floods on well-being manifests itself more strongly for floods of higher intensity, visible by the signs of the severe damage (having an entire house destroyed) and heavy damages (suffering harms on the house interior) indicators. The negative role of floods is exceptionally large if psychological damages are reported. Most importantly perhaps, the effect of floods on life satisfaction does not completely disappear with time. Seven years after the disaster has taken place, the happiness of the people who experienced floods remains lower than the rest.

As much as these results can be extrapolated to the context of climate change, findings imply that extreme weather events matter for well-being. Pushing this argument a bit further, the damage caused by surpassing biophysical thresholds can be considered irreversible not only bio-physically, but also in terms of human well-being. The Bulgarian floods example is just one illustration of the income–happiness disassociation explained previously. Yet many more can be found. The discomforts of living in a state of climatic instability cannot be simply offset by material growth. On the

Table 8.1 Changes in life satisfaction resulting from experiencing floods in Bulgaria (2011)

Life satisfaction	OLS 1 coef.	OLS 2 coef.
Age	−0.03***	−0.04***
Aged above 65	0.93***	0.90***
Female	−0.17	−0.2
Education	0.23**	0.22**
Health problems	−0.56***	−0.51***
Satisfaction with family life	0.13***	0.12***
Unemployed	−0.47**	−0.54**
Recent entry in unemployment	−0.58*	−0.56*
Log income 2011	0.30**	0.27**
Flood	−0.86***	
Worry about flood	−0.58***	−0.54***
Severe flood damage		−1.53***
Heavy flood damage		−0.93***
Medium flood damage		−0.08
Trust in others	0.49***	0.44***
Living in a village	−0.09	−0.15
_cons	4.54	4.76
Adj R-squared	0.28	0.3

Notes:
1. Number of observations =600.
2. * is significant at 10 percent level, ** at 5 percent, *** at 1 percent.

contrary, only dropping the growth fetish (now) can stabilize emissions and prevent extreme events from menacing livelihoods.

3.2 Policy Responses to Climate Change

Carbon pricing seems to be the most popular mainstream policy proposal for dealing with greenhouse gas reduction. Owing to the amounts of fossil fuels directly or indirectly embedded in most goods and services, such a policy would affect the prices of most consumer goods. While a measure that penalizes carbon-intensive consumption is very much welcome, carbon pricing would lead to unequal decreases in purchasing power, penalizing disproportionately the poor if implemented without compensatory measures. It will, furthermore, generate substantial tax revenues, which need reinvestment or refunding (such as the carbon tax in British Columbia). Moreover, unless aggregate consumption goes

down, substitution towards alternative low-carbon goods shifts environmental burdens elsewhere (nuclear or photovoltaic energy production). That is, unless the total purchasing capacity decreases, rebound and substitution effects would offset any gains in reducing the consumption of particular energy-intensive goods (Schneider 2008). Unless this is designed in a way that a greater share of the burden is taken by the rich, then carbon pricing will increase inequalities and face popular opposition. A degrowth trajectory would involve a substantial challenge: a reduction in the average purchasing capacity and consumption (in energy/material terms) of a country. One hypothesis put forward in the degrowth literature is that such a reduction will be more easily acceptable, and in line with justice, if it comes together with a redistribution and a more equitable access to goods and services, i.e. a reduction of the positional inequalities that otherwise breed life dissatisfaction (Sekulova 2014).

Another approach to climate policy is to treat regular income increases as negative environmental externalities (through the increased consumption they enable). Basic economic statistics for any country would demonstrate that when disposable income rises, consumption increases. Inversely, reduction in overall income directly translates in reductions in the consumption (of energy-intensive products and services such as electricity, secondary housing, electronic appliances, animal products and long-distance travel). The social or psychological costs, however, that accompany an overall consumption decrease, or more interestingly, the conditions under which a reduction in consumption might (or might not) have a negative impact on wellbeing, are far from straightforward, or well-researched in the literature.

Much has been written on income increase and happiness and little on income decrease and happiness. The explanation for the Easterlin paradox is worth mentioning here. First is habituation. In economic terms, lagged income has a negative effect on current happiness. The happiness boost produced by an income increase quickly wears off or drops, creating the need for increasing working efforts/earnings to regain the short moment of pleasure. The second reason is social comparison. Income and positional goods lift life satisfaction up, until the point that a person's reference group catches up. The importance attached to the material wealth of relevant others depresses the positive effect of income increase on happiness. Carlsson et al. (2007), for example, estimate that between 50 and 75 percent of durable goods and real-estate consumption is done for status reasons and between 25 and 50 percent of income is earned for positional purposes. The happiness and respectively – social status gained by positional consumption can then only be maintained by continuous

increases in income, or by keeping the circle of their owners small enough (exclusion).

Layard (2005) defines the search for status through conspicuous consumption underpinned by comparison and rivalry as a negative externality for happiness. He proposes an income tax that corrects for this externality, reducing working effort to a level where the 'fruitless and self-defeating' incentive to raise your relative income is fully 'offset' and well-being is enhanced. While worth a discussion in the context of degrowth, the linear tax, proposed by Layard would be less equitable than a progressive income tax. Frank (2000) instead proposes removing taxes from savings, and taxing only the consumed part of the income. A concern here is that the poor would be affected more as they consume a much greater part of their income than the rich. Such a measure could furthermore concentrate ownership in the hands of 'savers'.

Whether habituation and social comparison externalities can be fully 'offset' through top-down policy instruments remains uncertain (Welzer 2011). Similarly, it is not evident that taxes would penalize conspicuous and rival consumption. Taxation will increase the cost of goods whose attractiveness is proportional to their cost. Taxation may make a Ferrari more expensive (and hence lead to fewer Ferraris sold than otherwise would be the case) but, in doing so, it will also increase the 'positional value' and the status signal of having a Ferrari. A problem with an economistic approach to the problem of positional consumption and climate change in general, is that it takes it as a 'natural' human given, and then searches for top-down 'corrections'. A degrowth framework instead welcomes a rethinking of social comparison, distinguishing it from social recognition and social power. The need for social recognition may be entrenched in human beings, but the form it takes in terms of comparison of material possessions is very particular, linked to the norms of the current society. In principle, social prestige can be obtained in multiple ways. It can draw on developing personal skills, qualities and capabilities, which are socially appreciated (for example, making music, drawing, dancing, story-telling, writing, group facilitation, social mediation, healing and educating). Such a type of social recognition is expected to last longer since knowledge, skills and abilities do not tend to wear off as fast as new Ferraris. This said, even 'less-material' forms of social recognition can become problematic in so far as they translate into permanently uneven distribution of power within communities. Here we have a lot to learn from non-Western 'egalitarian societies' and the institutions they developed to diffuse power, and make sure that no individual, even those with the most scarce skills, or the skills most necessary and appreciated for the community, accumulate too much

power (Graeber 2004). These include norms of reprimanding those most successful, or institutions that alternate positions of power, so that recognition is temporary and never becomes a source of entrenched power.

3.3 One Episode of Income Decrease and Its Relevance for Climate Change

Wide and well-structured empirical data on voluntary income reduction is virtually non-existent. One context to draw some evidence from is the widespread income loss resulting from the economic crises in Spain starting in 2008–09. Again, let us note, for the sake of avoiding any confusion, that we do not take this as an example of degrowth, but as a learning experience which might bring some relevant insights. In the words of Latouche (2009) there is nothing worse than a growth society that does not grow.

Based on a sample of 850 individuals from all districts and age groups from Barcelona, we found that despite the crisis, income decrease dating from one to five years ago had no effect on life satisfaction (Sekulova and van den Bergh 2013). The relation between recent income loss and happiness was even positive. Notably, here we refer to income decreases, which do not push individuals below the threshold of covering their bare necessities or into unemployment. Various reasons for this finding can be put forward.

The first reason was discussed earlier: the way material aspirations catch up with the income level (McBride 2007) and we habituate to higher standards of living, we habituate to lower levels of consumption. While individuals might not reduce their material desires as rapidly as they increase them (Diener and Biswas-Diener 2002), habituation might dissolve the negative impact of income decrease on happiness. Evidence on habituation to income decrease is, however, mixed in the literature. Boyce et al. (2013) find that income losses matter more than gains for well-being (known also as the prospect theory), though only for individuals 'focusing on achievement'. The authors find that individuals with 'openness-to-experience' (defined as appreciation for arts, adventure, imagination, and variety of experiences) tend to maintain their life satisfaction unchanged even when experiencing lower levels of income. Ferrer-i-Carbonell and van Praag (2008), on the other hand, demonstrate that happiness adapts fully to income decreases.

A second plausible explanation for the non-negative impact of income loss on happiness in Barcelona relates to social comparison. If everyone receives an equal percentage income raise, 79 percent of the associated

increase in life satisfaction vanishes due to social comparison (Van Praag and Ferrer-i-Carbonell 2004). The decrease in life satisfaction following a widespread income decrease could follow a comparable track. Clark and Oswald (1994) and Eggers et al. (2007) find that reference standards go down when individuals observe their peers suffering from similar economic hardships. Likewise, in the context of Barcelona, reference standards of consumption might have (temporarily) fallen.

A third and perhaps most probable reason is that there is a clear asymmetry between the way adaptation and social comparison affect happiness in the pecuniary and non-pecuniary domains. While we adapt to income changes and material losses when these are not extreme, adaptation to improvements in the non-pecuniary domains is incomplete (Easterlin 2003). That is, happiness increases lastingly (or does not drop) after improvements in the non-material conditions of human life such as health, the state of the environment, quality of free time, social interactions and equity. The crucial question therefore becomes whether a crisis affects only personal incomes and consumption, or whether it also affects public goods and general conditions of life.

There are two plausible reasons why subjective well-being may have been affected less in Barcelona compared with other places, which have experienced economic crisis. First, unlike places such as Greece where there was a dramatic reduction in public expenditure, unemployment benefits in Spain provided a minimum income cushion for those left without work. This despite dramatic cuts in public services, such as health or education, which caused a wave of warranted public protests. It might be the case that a basic provision of public goods was nevertheless maintained in Barcelona, and served to decouple income decrease from well-being. The hypothesis here is that the effect of a crisis on well-being could be mediated by the provision of public goods; when this is already low, the result is much more likely to be negative. Second, in Barcelona, there are extended alternative networks of providing and satisfying basic needs (from alternative food networks and consumer cooperatives, to urban gardens and parents cooperatives), offering a wider range of opportunities for lifestyle adaptation. It is difficult to calculate what percentage of the respondents may have benefited from these networks, but as Castells et al. (2012) quantify with a general survey of the population of Barcelona, at least one in every four citizens of the city have experience with some 'alternative' economic practice. We also know from other studies that people who volunteer report better health and higher levels of well-being than those who do not (Borgonovi 2008). It is possible that in a city such as Barcelona, having a vibrant alternative economy and social organizing culture, the crisis led to more voluntary work. Recent studies find that work which makes a difference in the lives

of needful others, or in improving environmental conditions, is associated with a higher level of life-satisfaction even when it offers a lower (or no) pay (Jenkinson et al. 2013). 'Money jobs', on the other hand, demand longer working hours, lead to a constant focus on (financial) compensation and create more stress (Sheldon and Krieger 2014).

The hypothesis that we suggest here, and which has to be tested with further empirical research, is that a reduction of income does not necessarily bring a reduction of subjective well-being. The effect of an income reduction depends on social comparison, on the one hand, and the provision of public goods and the opportunities for accessing alternative networks of provisioning and work, on the other. The combination of such conditions in turn, that is, a reduction of material consumption and energy purchasing power in a context of redistribution with an enhancement of public goods and alternative networks, is what the degrowth transition is all about (D'Alisa et al. 2014).

4 EMBARKING ON A DEGROWTH TRAJECTORY AS AN APPROACH TO CLIMATE CHANGE

Previously we argued that a widespread decline in consumption or comfort levels which does not fall below basic necessities[3] might not result in a loss of well-being if compensated by changes in reference consumption standards, income aspirations and intangible factors (such as conviviality, meaningfulness and social engagement). Any deterioration of these (intangible) factors, however, cannot be fully compensated by additional income.

Embarking on a degrowth trajectory implies dealing with the core determinants of climate change: capitalist profit-seeking and non-convivial, centralized and growth-oriented technologies directed towards extraction and exploitation. Dealing with vested interests at play is therefore one step. Reviewing perceptions of what consists a good life is another. Here we focus more on the second of these, while not underplaying the importance of the first.

Degrowth entails a change in reference consumption standards. This requires a reflection and work on the level of community where the so-called 'reference norms' and 'reference groups' form. Whereas voluntary simplicity has not been adopted as a social norm so far, its practitioners would often claim to live in abundance because sufficiency is a function of needs (Kallis and March 2015). Nevertheless reference criteria based on simplicity can neither be strictly individually conceived, nor vertically installed. Setting reference consumption criteria lower requires setting

conviviality standards higher and a group effort. Income aspirations and consumption norms are influenced by the process of building communities of sharing, which jointly restore, revise and manage the commons (Bollier et al. 2012). In practical terms, this implies the rise of multiple 'nowtopias', identified as community-based projects for social and ecological sustainability (Carlson 2008). These share a contagion of work and task sharing and various forms of collaborations, such as workers' health, food and parents' cooperatives.

Intentional turns away from materialism and consumption however have been rare throughout history and imply a sense of rigid self-constraint, which might be moralizing and repelling. Many believe that environmental urgencies need to be addressed in a top-down manner only and people 'nudged' into 'proper' behavioral modes (Thaler and Sunstein 2008). This biopolitical logic viewing populations as systems that have to be governed and 'improved' is at the heart of the contemporary conundrum (based on growthism and developmentalism). When individuals (and communities) are locked into non-participative schemes of decision-making, this forecloses the space needed for taking responsibility and creating the initiatives that address grave social and environmental problems. There is growing realization that technological innovation and techno-policies alone are insufficient to address climate change (Geels et al. 2008; Bergman et al. 2010; Burch 2010). Even if benevolently green, top-down actions which have not been elaborated and appropriated by the community to which they apply are bound to generate resistance and conflict (Chappells et al. 2000).

Bottom-up social innovations, on the other hand, often supply the transformative elements that mainstream technological innovation cannot (Henderson 1996). Places for sustainability experimentation and alternative practices are already gaining ground as points of transformation towards a different type of culture. The type of localism promoted by degrowth activists, however, need not be closed, but rather be open in relation to the intermediate environment and communities. Open localism cherishes diversity locally without creating frontiers, it reduces distances while promoting multiple and negotiable identities (Schneider and Sekulova 2014).

Our conception of 'simplicity', like that of 'nowtopias', goes beyond merely the realm of individual consumption and envisions integrated production-consumption arrangements, where capitalistic production (production for profit) and wage labour decline and transform. An illustration in this respect is the self-managed worker factories, which, accidentally or not, emerged and flourished in countries seriously affected by the economic crisis, such as Argentina or, now, Greece. The VioMe

factory in Greece was a chemical plant whose owners went bankrupt and fled, leaving workers unpaid (Kokkinidis 2014). In response, they took over the factory and started managing it themselves on the basis of direct democracy, while redirecting production from chemical substances to ecological soaps, mostly distributed through alternative networks. The joint ownership and equal participation in decision-making resulted in a mutually agreed cap on individual earnings, and a sharing of the available work time, stimulating workers' creativity and directing profits to the wider community. The activity of the factory was therefore reduced in terms of manufacturing polluting substances and hierarchical management, but it grew in terms of producing ecologically sustainable products, shared responsibility and decision-making.

'Nowtopias', have been emerging and replicating themselves resulting in particular external and internal conditions (Seyfang and Smith 2007). Nonetheless, actions at the level of the 'nowtopias' would not automatically create the awaited effects at the macro-level. These projects are generally for and by a minority, but even if they were not, macro-rebounds could counter their positive influences. To avoid macro-rebound effects, a series of adjustments (meaning the simultaneous and widespread decrease of energy/material purchasing power in line with equity) are needed (Schneider 2010). An example is limiting infrastructures that facilitate such energy/material consumption, or reducing car production together with speed limits and road widths.

'Nowtopias', or alternative sustainability projects, thus need to be accompanied by meso- and macro-level adjustments to be effective. Degrowth adjustments can be the act of putting several communities together in a way that these reinforce each other (Schneider 2010). For example, the Cooperativa Integral Catalana, comprising 2000 participants and various sectorial cooperatives and regional exchange networks in a structure whose ambition is to provide a system covering most of the basic needs of its members, and issues its own money (Carlson 2012). Another macro-level adjustment, which certainly needs coordination between countries, could be an international agreement to decrease resource extraction and leave fossil fuels, uranium and minerals underground. Macro-adjustments, such as a basic income (Alexander 2014), redistributive taxation, policies for unemployment or the provision of basic public goods, are also necessary. As we explained above, it is only under such conditions of economic security and sustainability of public goods, that a reduction in material consumption can be palatable and acceptable. The political demand for such macro-level adjustments will most probably come from collectives and individuals with alternative life projects who organize to this aim. Clearly, if the myriad of small projects fail to come

together and cooperate for a joint political action or an international agreement, they are unlikely to change the status quo.

5 CONCLUSIONS

A-growth, a term, coined by Latouche (2009) and discussed by van den Bergh in this handbook (Chapter 9), points to a critique of 'economism', monetary valuation and economic modeling, and a necessary rejection of the ideology of economic growth and its pursuit. Degrowth goes one step further, and while encompassing a-growth, it also points to the direction for a desired change: *less* and *differently*. The growth fetish will not go away by ignoring it, but by creating the necessary political, social and economic conditions for managing and living well without growth. Degrowth provides a path and a platform for solution-searching through a collective process of experimentation in living without growth.

We showed above that certain changes in the psychological, social and environmental domains cannot be offset by reciprocal changes in monetary terms. Ecosystem and global climate services cannot be fully expressed or captured in financial terms. The same holds for degrowth. Degrowth cannot be measured in monetary units, not even in physical terms alone. The actors of degrowth are engaged in setting a diversity of narratives and pathways to achieving social and environmental sustainability, while stressing the importance of self-criticism, self-reflection and debate. Degrowth is not about diversity without interconnectedness, but a diversity of working together bottom-up to build new (diversal or pluriversal) narratives and pathways (Schneider 2015). Degrowth provides a frame and a number of conditions that help deconstruct the outgrown concepts and open spaces for creating different 'imaginaries' (Videira et al. 2014). Its multidisciplinary and multi-source approach comes from the realization that no practice or policy could come into being in an environmentally and socially just way without combining various concerns and theoretical perspectives. Our earlier examples illustrated that consumption decrease could bring improvements in the level of subjective well-being and environmental conditions only in a context of changing reference standards, provision of public goods and opportunities for accessing social economy networks.

Working on preventing climate change, without considering democracy and justice would lead to exclusion and social conflicts. Defending democracy without considering justice and environmental limits can speed the rate of social and ecological disruptions. Resource efficiency without consideration for conviviality and justice can create unfriendly, alienating

and rigid spaces and relations. Degrowth is often too quickly placed in the box of the 'utopisms'. The combination of its philosophical streams, proposals, actors and levels, however, clearly shows that it offers a doable track for humanity. This track is not only logical, but also realistic and fun.

NOTES

1. Many scholars agree that happiness goes beyond the mere pleasure obtained from the satisfaction of basic and artificially created needs. Rather, it is a side effect of a good or meaningful life, or integrating the capability theory of Amartya Sen (2004), an unintended result of living a life one has a reason to value (Frey 2008). This is the framing of well-being here.
2. Reliability of such framing has been extensively tested and seems relatively high (Ehrhardt et al. 2000; Eid and Diner 2003).
3. What basic necessities or minimum consumption standards consist of is certainly highly subjective or speculative and should be a subject of further deliberation.

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