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Climate Change and the Generational Timescape

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The problems raised by global warming are widely discussed in terms of their implications for future generations. Underlying this generational scheme, and buttressed by its use, are certain ideas of time and of the relationship between the present and future. This article seeks to illuminate and critically examine these ideas. After a brief survey of the emergence of generational thinking in green thought, it looks at the defining features of this way of conceiving time, identifying them as constitutive of a distinctive 'timescape'. It goes on to show how the same qualities that account for its widespread appeal are also the source of tensions, ones with implications for its capacity to act as a framework to build political support for action on climate change.

The concept of *generation* has been central to the way scholars, decision-makers and activists analyse and communicate what follows from the human disturbance of Earth's climate.[*] Moral philosophers and economists have brought the future into view by describing intergenerational obligations to preserve a stable environment for the young and unborn. International agreements have enshrined 'future generations' as stakeholders in the decision-making of the present. Climate-change science has been brought to a mass public by evoking the threats posed to our children. If change needs a marker of time to be grasped, the generational scheme has emerged as the pre-eminent yardstick by which manmade climate change is rendered intelligible in contemporary societies.

One reason future generations are so widely invoked has surely to do with what follows for our concept of the present. To speak of future generations is to imply the existence of a *current generation*, and to suggest it lives at a critical juncture (cf. Giddens 2009, p.120; Weiss 1989, p.2). The generational scheme evokes a collective subject in the present and hints at its capacity to form an agent. It implies, broadly in line with the relevant science, that the most far-reaching effects of climate change lie still some decades away, yet that present-day choices will be critical for how those effects play out. In a period when many have questioned societies' capacity to take the long-term view (Nowotny 1994, p.8), this way of seeing encourages the individual to locate themselves as part of a group in an inter-temporal chain.

The generational scheme does more however than just give visibility to the present and future. As this article argues, it conjures a distinctive 'timescape' that responds to and consolidates a range of intuitions concerning time and the structure of society. The first section

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draws out some of the main features of the generational view as it appears in climate-change discussion. I show the affinity it displays with the problems raised by climate change, emphasising in particular how it gives shape to an uncertain future, hints at the possibility of making that future susceptible to analysis, and facilitates the seamless move between micro and macro timescales. At the same time it is a framework that contains tensions. The article later examines the things that get exaggerated, lost or distorted. In addition to a strongly anthropocentric focus, the generational view is noted to de-emphasise the variety of experiences and interests characteristic of each temporal segment, and to encourage ethical questions to become entangled with kinship concerns.

By critically assessing of one of the key concepts by which climate change is narrated, one sheds light on the political stakes involved in the definition of environmental problems. The critical-sociological study of such problems is under-developed (Carter and Charles 2009), but it seems essential that scholarship extend beyond the technical analysis of predicted effects to include scrutiny of the very terms in which debate is conducted. As I hope to suggest, an adequate response to the challenges associated with climate change, which I assume to be real, requires the generational framework be handled with caution.

I use the concept of 'timescape' to describe a particular way of evoking time's contours – of fixing its structure, units and scale (cf. Adam 1998). The generational timescape is an idiomatic way of representing time, much in the same way that a genre of painting is an idiomatic way of representing space, sketching it with a certain kind of landmark and arrangement of human figures. A timescape organises perception and imagination. It gives form and context to the known world of the past and present, as well as a template to project onto the unknown future. As this description suggests, I approach timescapes as ideational phenomena, influenced but not determined by the object world they purportedly reflect.

The Generational View in Green Thought

If the rise of environmentalism dates to the 1970s (Eckersley 1992), it is clear that generational approaches to society and politics were already well-established by the time of its emergence. Their history can be traced to the ancient world, and developed significantly in the modern. Three strands of generational thinking, which form the context of its adoption in the environmental domain, can be briefly highlighted as follows.

One may first observe a *genealogical* application of the concept, in which 'generations' describe the concrete ties of determinate individuals. Such usage is generally said to have its

origins in Biblical writing and ancient historiography, in accounts of the lineage of rulers and their claims to legitimacy (Arendt 1990, p.28; Jureit 2012; Marias 1971). It was renewed in the modern period in a different guise with the emergence of evolutionary thought, where genealogy took on causal significance when mixed with theories of selection and genetic inheritance (Burnett 2010; Weigel 2002). In all cases, the focus was on relations between individuals in their specificity. This usage is retained in everyday language in the way one speaks of the generations of a family.

A second strand is the *sociological* understanding, in which generations are social groups defined by an apparent unity of ideas and attributes, irrespective of personal ties. This way of thinking is typically traced to the nineteenth century, to the socio-economic changes associated with industrialisation and the political upheavals of nation-building (Kriegel 1978; Parnes, Vedder & Willer 2008; Jaeger 1985). These transformations sharpened the divergences of experience between young and old, and encouraged political appeal to temporal categories. It is a usage that has recurred at moments of heightened social change, notably in the 1960s.

Third, one may point to a *philosophical* understanding of generation, where it is used more abstractly to denote a society at different moments of existence. This strand of thought can be traced to the French and American Revolutions, as Burke, Jefferson, Paine and others grappled with a new set of philosophical concerns to do with how, and how far, to liberate the present and future from the past (Nora 1996; Willer 2010; Jureit 2012). Here, generations appear more as a conceptual device than an empirical description: for the same reason, this usage lends itself to thinking about the distant future.

Elements of each strand of generational thinking – *genealogical*, *sociological* and *philosophical* – would make their way into environmentalism in the twentieth century. From an early stage, environmental problems were widely thematised in terms of intergenerational consequences, often with the *philosophical* sense to the fore. International declarations, starting with the 1972 UN Stockholm Conference, have regularly announced the need to protect 'future generations'.[1] Influential scholars have developed sophisticated accounts of the ethical foundation of such claims, notable amongst them Edith Brown Weiss, whose 1989 book *In Fairness to Future Generations* helped place the concept at the centre of climate-change thinking (Weiss 1989). In articulating the interests of 'future generations', such texts invoke a conception of generation that describes neither a determinate set of individuals nor an identifiable group. It is a largely abstract conception.

Yet adoption of the generational concept in green thought has also perpetuated the notion of generations as empirical phenomena. In the evocation of a 'present generation' with distinctive responsibilities, one sees echoes of the *sociological* sense of the term, describing – or

seeking to engender – an empirical formation characterised by its unity of circumstance and purpose. Many are the references to how environmental problems bind together the living, or the adults amongst them, into a single 'we' with a capacity for action (e.g. Vatican 2002).

Climate-change discourse has also drawn on the *genealogical* strand of generational thought. One sees this in references to the challenges facing 'our children and grandchildren'. Some of the most acclaimed efforts to communicate climate-change science to the public have adopted this motif. Here is Al Gore in the book version of *An Inconvenient Truth*:

> Imagine with me [… that] time has stopped – for all of us – and before it starts again, we have the chance to use our moral imaginations and to project ourselves across the expanse of time, 17 years into the future, and share a brief conversation with our children and grandchildren as they are living their lives in the year 2023. Will they feel bitterness toward us because we failed in our obligation to care for the Earth that is their home and ours? Will the Earth have been irreversibly scarred by us? Imagine now that they are asking us: "What were you thinking? Didn't you care about our future? Were you really so self-absorbed that you couldn't — or wouldn't — stop the destruction of Earth's environment?" What would our answer be? We can answer their questions now by our actions, not merely with our promises. In the process, we can choose a future for which our children will thank us. (Gore 2006, p.11).

His text is one of many interventions to draw family ties into the discussion of climate change.[2] As the extract suggests, these ties are immediate and concrete – they involve real people who can be matched against calendar time. 'We' in the present form a collective subject, with obligations towards our descendants yet a tendency to forget these – themes we shall examine more closely. The pattern of argument has proved enduring. When President Obama announced policies to tackle climate change in August 2015, he used a similar formula: 'We're the first generation to feel the effects of climate change and the last generation that can do something about it … This is our moment to get this right and leave something better for our kids.'[3]

Whether in the guise of a 'present generation' of responsible adults, a younger generation still to reach maturity, or an open-ended succession of the unborn, references to generations have recurred in the narration of environmental change (Tremmel 2009, pp.19ff.; Boersema 2001). The generational vocabulary has served to fix the problems involved as ones of cross-temporal relation – of how the present stands relative to the future. The 'temporalisation' (Macho 2006) of these challenges parallels the wider rise of the generational concept as a way to dissect the social world. Importantly, though one can analytically separate the concept's different strands – the *genealogical*, *sociological* and *philosophical* – these meanings are typically entwined in practice. Texts referring to 'future generations' as abstract entities combine this with references to personal descendants, and may draw on the concept of generation precisely to make such links. The effect is an integrated discourse that includes elements of each strand of generational thought, not without occasional tensions.

Much has been written on whether it is plausible to suppose ethical duties between one generation and another (e.g. Barry 1977; Parfit 1984). It is not this article's aim to contest these questions in moral philosophy. Rather the goal is to analyse the cultural and political significance of the generational scheme itself: what image of time and the future it entails, what the sources of its expected public resonance may be, and what political implications it carries. The article adds to the work of cultural historians, sociologists and scholars of political ideas engaged in the interpretive analysis of social change, in particular the significance of climate change for how history is told and how present-day events are construed (Chakrabarty 2009; Nowotny 1994; Willer 2010; Delsol 1994).

The generational view entails a certain way of ordering society – a principle of division by which to make it legible (White 2013). More directly than competing categories like class or gender, it is temporal in focus. It responds to and reaffirms certain expectations about how time is structured and experienced (Willer 2010; on 'social time', Sorokin & Merton, 1937). The condition of its distinctiveness is that the workings of time and society are, as historians and anthropologists have shown, plausibly conceived in varied ways (Whitrow 1998; Aveni 2002; Koselleck 2004; 1992; Gell 1992). Even in relation to climate change alone, there is significant diversity in how time is conceived (Driver & Chapman 1996). The generational view is a *choice*, even if often a tacit one.

In reconstructing the generational timescape, the following sections draw on a variety of climate-change texts, prioritising those aimed at shaping public understanding. Works popularising the relevant science are especially instructive: in addition to Gore's well-known intervention, I take as exemplars the work of influential scientists and journalists seeking to convey research to a lay audience (Hansen 2010; Pearce 2007). From legal and political philosophy, I draw on texts aimed at a non-disciplinary audience: the work of Brown Weiss is an important reference-point, being widely cited, and written and sponsored to connect academic expertise with policy and public awareness (Weiss 1989, esp. p.xxv). I also draw fragments from commercial, political and church sources. The 'Common Declaration on Environmental Ethics' of Pope John Paul II and the Ecumenical Patriarch Bartholomew I (Vatican 2002) is a rich source of references to 'our children' and 'future generations' – perhaps surprisingly, given this way of thinking is said to be at odds with religious orthodoxy (Andersen 2007). The selection of texts is intentionally broad, to show continuities across a wide discursive field. Yet despite their social and disciplinary range, these texts illuminate the features of a shared interpretative framework – that known here as the generational timescape.

Contours of the generational timescape

What kinds of temporal sensibility does the generational scheme respond to and reaffirm? Let us examine its structure, units and scale, and how they bear on the problems of global warming.

Perhaps the first striking feature is how this mode of thinking evokes a person-centred image of the future. Unlike projections based on calendar time, and unlike undifferentiated formulations such as 'Earth's future', it maps out time according to the lifespans of humans. It populates the bare terrain of the future with figures, whether these are the abstract ones of 'future generations' or the identifiable ones of 'our children and grandchildren'. It is an image of the future that is directly a projection of ourselves. For the same reason, advocates suggest the generational scheme should be widely intelligible, irrespective of an individual's cultural and economic background (Weiss 1989, p.18).[4]

If such a conception can be said to *humanise* the future, in doing so it lends it *structure*. Rhythm and repetition are to the fore, as generations emerge, mature, and give way to the next. In place of the undifferentiated timescape of the clock, it offers pattern. When Gore asks his readers to 'project [themselves] across the expanse of time', he evokes the faces of family at the other end. The generational timescape involves the repetition of things familiar. Compare with what has been said of social and biological patterns more generally: 'The motions of the earth saved [people] from having to confront a virtual infinity of time. Without these markers, there would be nothing between a person and the terror of the boundless. [...] We can reach out to the large from the small' (Young 1988, p.196). In the generational timescape, the patterns of human life are presented as constant. As in the past, so in the future: the scheme can be directed backwards and forwards, and presents the human future not as something radically novel, nor as something in doubt, but as a stable continuation of the past.[5]

Conceptions of time based on repetition are said to imply a future not forged but awaited (Kern 1983, pp.89ff.).[6] This may suggest a determinist current. While such overtones are present in climate-change discourse, the generational view does not exclude an activist role for the present. Already in Gore's notion we might step outside time and project ourselves forward, and in ideas of a generational mission we shall come to, one sees a kind of 'exceptionalism of the present'.[7] Today's generation is positioned as at a critical juncture and with a distinctive role (cf. Vatican 2002[8]). This is time in its irregular, *kairological* sense – as something punctuated by moments of special significance.[9] For all that the generational timescape is patterned in structure, it still permits the identification of turning-points.

In addition to foregrounding the human and the patterned, the generational timescape evokes a clustered arrangement. It points to an aggregation of units in series rather than a

continuum (cf. Whitrow 1988, p.42, p.79). Individuals may be born in a steady stream, but the generational scheme portrays a succession of groups. Some of the analytical advantages of evoking such clusters are evident in the ethical considerations. Evoking distinct collective subjects (the present generation, tomorrow's generation, future generations) allows the allocation of responsibilities and rights. It allows Gore to make appeal to 'our obligations' and 'our promises' (as above). That the actors are collectivised brings order and manageability to their numbers. It further promises to avoid some of the problems associated with obligations to the unborn. A persistent challenge for the temporalisation of ethics is that the identity of future persons depends on present-day choices, putting their independent moral status in question (Parfit 1984, pp.363ff.). By evoking them as *groups*, one asserts their moral relevance despite the uncertainty attending their individual make-up (Brown Weiss 1989, p.96). The ontology of generations makes future persons plausible as the receptacles of obligation. It also affords the clarity required by the application of *law*. If one can identify those harmed by present actions as members of groups, notions of legal liability may be easier to sustain in a court setting.[10] The generational timescape in these ways aids in submitting the future to analysis.

It furthermore hints at the possibility of *quantification*. The generational idiom presents units that might conceivably be counted. One climate-change commentator speaks evocatively of human civilisation as consisting of 'four hundred generations' (Pearce 2007, p.26), in a fashion reminiscent of the *genealogical* strand. The counting of generations is found in Biblical and ancient Greek texts, as well as American Revolutionary thought (Marias 1971 pp.3-5; Willer 2010, pp.270ff.). Relative to calendar time, generational time is of course imprecise, not least given the ambiguity of when generations end and begin. Arguably this imprecision makes it well adapted to the climate-change problem. When uncertainty surrounds the timing of future developments, and when effects will be timed differently in different places, quantification of a looser kind is required. Rather than chronological precision, what the generational view permits is a grasp of *ordinality* – of the importance of relative position. It allows appreciation of sequence and proximity (who shapes whose wellbeing and how much), without allocating measurable duration to the units of the series (Smith 1969). The concept of generation thereby appears in climate-change discourse as a contribution to political planning, e.g. in the form of discount rates as applied in budgeting.[11] By allowing enumeration and the allocation of value, the generational scheme promises to render the future calculable and susceptible to organised influence despite the considerable uncertainties involved.

From this follows the important question of *scale*. We have noted that when generations are evoked in climate-change discussion it is often in the guise of 'our children' or grandchildren. Such references direct attention to a certain timescale – one that stretches several decades ahead.

Longer than the time horizons usually associated with public policy (Hulme 2009, p.121), it nonetheless evokes a future not too distant – one that can be traced out from lived experience. Like any genealogical view, it conjures concrete ties between determinate individuals, on the model of a family tree. It locates the individual in a chain of familiars: individuals who can be visualised, or even – as in Hansen's popularising work – photographed.[12] One might call it the *scale of the family*.[13]

At the same time, more abstract references to 'future generations' point to a longer timescale. They evoke a future composed of innumerable human lifespans – an expanse of nameless generations not defined by their familiarity to the present. These are generations without qualities, detached from historical time, in the *philosophical* tradition of generationalism. The perspective is an external one – the social world as an abstraction, into which the individual can project herself only by an act of imagination. Given its open-endedness and capacity to absorb, one might refer to it as the *scale of humankind*.

I suggest one of the peculiar qualities of the generational timescape is how it enables seamless movement between these two viewpoints: between the micro and macro, the lived and imagined, the familiar and unfamiliar. It offers a bridge between two quite different modes of temporal understanding.[14]

The problems of global warming arguably demand both perspectives. Climate-change research suggests the effects of present-day decisions will be felt over a period of millennia: any effort to conceive the human consequences of these decisions requires an image of humanity that is impersonal, and whose scale extends well beyond what an individual can experience. Only the detached view associated with the *scale of humankind* can connect with the 'deep time' over which climatological forces play out. Yet this view is cognitively demanding. A numberless expanse of future generations resists visualisation,[15] and reduces today's individuals to an infinitesimal point, one link in a possibly unending chain, no more significant than any other.[16] The perspective is potentially paralysing, offering no reason to privilege the present as a moment to act or as an analytical baseline. The *scale of the family* provides a corrective, a counterview in which the lives of known individuals are at stake, and in which the present generation enjoys a distinctive capacity for practical and moral agency.[17] As the 'Common Declaration' puts it: 'It is love for our children that will show us the path that we must follow into the future' (Vatican 2002). This viewpoint gives reality and emotional proximity to the future. And because the *scale of humankind* can in principle be derived from the *scale of the family* – because one can evoke the grandchildren of our grandchildren, their grandchildren, etc. – the two scales appear mutually compatible.[18]

To draw the themes of this section together, consider this passage by Edward Ploman in the preface to Brown Weiss' seminal text (Weiss 1989, pp.xxvi-xxvii):

> What is specific in the present study is the systematic effort to relate the present to the future. Such a temporal approach demands attention to differing time scales in a long-range perspective. But how long is long-range? In politics long-term often does not seem to go beyond the next election. Space programmes are planned within one to twenty-year time frames. The ICSU Global Change Programme deals with phenomena and effects stretching over decades and centuries. Further, general attitudes towards time are not only biologically but also culturally conditioned. There is thus a need for a humanly valid yardstick, universal in the sense of being valid for all of humanity. Nothing else would correspond to a spatial perspective that takes planet earth as primary unit. The basis of an appropriate approach was found in the succession of human generations. A reality that is immediate and also opens towards far futures; a reality that concerns us all: there is no society that has not, in some way, applied the principle of current generations being responsible towards future generations, be it only at the level of family and individual.

From the immediacy of the micro scale to the 'far futures' of the macro; from the ties of family to the wider 'succession of human generations'; from individual experience to a yardstick 'valid for all of humanity': Ploman's words capture the acts of synthesis the concept of generation performs.

We may conclude that the generational timescape responds to some of the distinctive concerns that climate change raises. It offers a way to make the long-term future imaginable, and to reserve a place for humanity within it; to make plausible the temporalisation of ethics; to suggest the quantifiability of time while accommodating uncertainty; and to acknowledge the macro scale on which climatological forces operate while allowing this to be traced out from the relatively micro scale on which humans experience the world.

Critical reflections

These qualities notwithstanding, a timescape is never just about time. Inevitably it entails further things for how the social world is conceived. These need scrutiny if one is to understand the political implications of the generational scheme, a matter of significance given the framework's centrality to efforts to mobilise a wider public. My argument is that the same qualities that lend the generational framework its appeal are the origin of some serious tensions, particularly in its political appropriation. While not necessarily fatal, they compromise what can positively be expected of it. These weaknesses are best seen by reflecting on some general features of generational thought, as well as by looking more closely at the source materials that have guided our discussion so far.

I have already touched on the anthropocentric character of the generational view, an aspect we may briefly revisit. Whether cast *philosophically*, *sociologically* or *genealogically*,

the future generations in question are human, and to speak of them is to direct attention towards human interests. Where nature features in these accounts, it is largely as a resource to be preserved for persons to come (e.g. Weiss 1989, p.2).[19] There may be solid philosophical reasons to embrace this view, but one cannot overlook the tension it displays with the commitment of many Greens to the idea that non-human life has value independent of its value to humans.[20] Any such value is concealed in a perspective in which the future is humanised, where human interests are disembedded from the natural world and given visibility at the latter's expense. (The contrast would be those expressions, e.g. 'Mother Earth', that treat the human and natural world as one (Weston and Bollier 2013, c. p.75; Ball 2001.)) One consequence is the difficulty within this framework of investigating possible tensions between the welfare of different life-forms. There are plausible moral questions to be posed concerning a possible trade-off between the interests of unborn humans and the survival of other species. Such questions are harder to articulate if the very language used to project time forwards is centred on the human perspective.

But I want to focus on the significance of the generational idiom for how *social* relations are conceived. It has been noted that one of the effects of the generational timescape is to evoke, in something like the *sociological* sense, the idea of a 'present generation'. In spatial terms, the category is unbounded and undifferentiated. We have seen it used globally, apparently to refer to all living adults, certainly to all members of a given society. Perhaps the immediate suspicion will be that such a category, as in contexts beyond climate change, risks de-emphasising the diversity of experiences, ideas and interests that characterise human society at any given moment. By locating such differences, and relations of power, conflict or solidarity, on a cross-temporal plane, they are externalised from the present, thereby reducing the significance attributed to them cross-spatially.

Consider in this regard another segment of Gore's widely cited text:

> The climate crisis also offers us the chance to experience what very few generations in history have had the privilege of knowing: a *generational mission*; the exhilaration of a compelling *moral purpose*; a shared and unifying *cause*; the thrill of being forced by circumstances to put aside the pettiness and conflict that so often stifle the restless human need for transcendence; *the opportunity to rise*. When we do rise, it will fill our spirits and bind us together. Those who are now suffocating in cynicism and despair will be able to breathe freely. Those who are now suffering from a loss of meaning in their lives will find hope. When we rise, we will experience an epiphany as we discover that this crisis is not really about politics at all. It is a moral and spiritual challenge. (Gore 2006, p.11)

Besides the religious imagery (mission, transcendence, spirit, meaning, epiphany, the chance to 'rise'), as well as the *exceptionalism of the present* already noted,[21] the passage stands out for its rejection of social and political division. The emphasis is on a 'shared and unifying cause' that will rid us of 'pettiness and conflict' and 'bind us together'.[22] By devoting ourselves to the well-being of future generations, we devote ourselves to something we agree on. For Gore, 'this crisis

is not really about politics at all', in the sense one assumes that the divisions of the present – of ideas, of interests – are ultimately superficial and the challenges should be faced as one.

While this image of unity may be motivationally attractive, it is achieved by depoliticising the present. Doing things 'for the children' is, sociologists have suggested, a way of 'avoiding politics' (Eliasoph 1998, pp.64ff., p.246). It is a way of directing attention towards that on which consensus can be expected (who opposes the well-being of children?) and away from the contested issues. But what if serving the good of the future *requires* contesting certain ideas and interests? What if conflict in the present is part of adequately responding to climate-change issues, not just another problem to be overcome? (cf. Klein 2014). Such possibilities are obscured if the living are cast as a unitary actor. Likewise, what if the *responsibilities* that can legitimately be attributed to different groups vary in line with varying degrees of association with the sources of climate change? One risks equalising the obligations of those unequally responsible for climate change if one lines people up as members alike of 'the present generation'. Justice, but also an effective response, requires attending to *intra*-generational differences.

The depoliticising tendency is to be found not just in overtly popularising narratives such as Gore's. It is present in the 'Common Declaration' of John Paul and Bartholomew.[23] It is present also in Brown Weiss' influential background paper to the 1987 Villach conference, where policy-makers were the intended audience. Here the organising distinction is between 'future generations' and 'the present generation', with the latter presented as an essentially undivided 'we' (in Weiss 1989, pp.345-51). The same author's 1989 book carries more nuance, adding distinctions of wealth, but these are distinctions between countries – there is little discussion of differences of class or ideology – and it is emphasised that all share responsibility for future generations as part of the 'present generation' (Weiss 1989, pp.27ff.).[24] The same holds of those international declarations from the period referring to the principle of 'common but differentiated responsibilities'.[25] Not only is the intra-generational differentiation rudimentary, but the generational language itself discourages it.[26]

We may highlight a related difficulty that follows from the tendency to empiricise future generations as kin groups (as children, grandchildren etc.). While philosophical applications of generational thought typically resist this genealogical move, public interventions in climate-change discourse often rely on it. In doing so they shrink the scope of ethical concern. The implication of casting future people as kin groups is the thought that if individuals muster concern for their direct descendants then their moral responsibilities have been discharged. But what, one might ask, if an adequate response to the human costs of climate change demands that those in the world's higher economic strata be mobilised to show concern for those to whom they are

not directly related, e.g. the poor, least mobile sections of populations in developing countries (Hulme 2009)? What if concern needs to be mustered for *other people's* children, not just one's own? The generational frame as widely used points to a blood-based ethics. It validates the thought one might legitimately 'look after one's own'.[27]

Might it be that references to children and grandchildren are metaphorical – that the offspring implied are those of a much wider collective than the nuclear family?[28] Seen this way, the parochial connotations would recede; but an explicit articulation of this view is rare. More commonly one sees the ambiguity of referent maintained, or suggestions that 'our children and grandchildren' should be understood in a literal, genealogical sense.[29] This, for instance, is what is implied when authors include photographs of their own children and grandchildren in their narrative (see note 12). They put a particular face on the future – a face which, in class and ethnic terms, necessarily resembles themselves (and probably their intended audience). Or consider the following observation: 'Over the past few years I thought about our grandchildren and the intergenerational inequity of human-made climate change. Larry King's comment that "nobody cares about fifty years from now" didn't seem right – people do care about their children and grandchildren …' (Hansen 2010, p.238).[30] Though affirmative in tone, the comment undergirds rather than challenges a familial reading of intergenerational obligation.[31] It suggests that what moves people to act is their own good and that of those close to them. In this way the evocation of future generations, which promises to extend moral horizons in new directions and to counter a narrow individualism, may in practice mark a step towards the consolidation of self-interest mapped onto the family unit.[32] As used, the generational frame trades on and reinforces the kinship connection.

It may be argued that if people can be motivated to care for their kin, this is a sufficient basis for political action. Perhaps the efficacy of arguments matters more than the ethics that informs them. One problem with such reasoning – aside from concerns about resolving a moral problem by appeal to self-interest – is that popular backing achieved by such means is likely to be an unreliable basis for a desirable climate-change settlement. To the extent policy-making genuinely reflects kinship preference, it will not address the problems in a fair and effective fashion. To the extent policy-making is more enlightened than the opinion that supports it, it rests precariously on a form of deception.

The generational timescape carries significant implications, in other words, for how *present-day* social relations are conceived. While these are where its salient political tensions lie, let us zoom out a little further to make a final observation on the question of social change. The stability implied by the generational timescape – the endless repetition of the same – inhibits thinking about transformation. There are two senses in which this is true that need not detain us:

the silence of the generational model on the possibility of human extinction, and its silence on the prospect of species evolution, to the point where the descendants of the living are no longer just 'future generations' of something recognisably human. These are philosophically interesting issues, as they highlight important questions about the preconditions for attributing value (Scheffler 2013), but their immediate political significance may be limited.

More consequential are the less dramatic forms of change the generational frame obscures. Changes in population size, in human life-spans and procreation choices, are factors likely to affect both the course of climate change and its human impact. To the extent that such variables can be influenced, they are central to the evaluation of policies. The generational perspective, with its suggestion of patterned continuity, of children and grandchildren as the fixed backdrop against which practical and ethical decisions are to be made, makes such evaluation a little harder to pursue. Amongst the central questions for humanity's future are arguably not just the *conditions* future persons will encounter, but the very *constitution* of those persons – their numbers, their practices, their commitments. That is to say, at stake is not just what is handed on to the future but what kind of future is brought into being. Such questions can be adequately formulated only by moving outside the generational scheme. If they are to be thoroughly explored and contested, it can only be by tracing out the quite different future worlds that competing perspectives and material arrangements would imply.

Conclusion

The generational view has been widely adopted in the public discussion of human-led climate change. Whether drawing on the *genealogical* connotations of generation, with references to the fate of kin groups, or its *sociological* meanings, with the evocation of a would-be empirical entity called 'the present generation', or in a more abstract, *philosophical* form centred on an open-ended expanse of 'future generations', the generational scheme has been advanced as a means to appraise and communicate the likely effects of human actions.

This article has sought to show what makes the timescape thereby produced well adapted to the climate-change problem. It lends *structure* to the future, in a manner that promises to be widely intelligible; it establishes discrete units of *analysis*, enabling the temporalisation of ethics; it hints at the possibility of *quantifying* time under conditions of uncertainty; and it permits negotiation of the problems of *scale* that afflict the assessment of climate change and efforts to marshal a response. These qualities have propelled the generational scheme to a central place in the narration of climate change and efforts to tackle it.

Notwithstanding its flexible character, the generational view sets traps. It de-emphasises the variety of ways climate change will be experienced in any given period, and the variety of degrees of responsibility. Though it promises to extend moral horizons cross-temporally, as used it runs counter to the moral inclusion of those unlike the self – not least because the *genealogical*, *sociological* and *philosophical* aspects of generation are mixed awkwardly. The framework furthermore reproduces the human-centred outlook that has arguably been a contributing factor to the making of climate change in the first place, and suggests a potentially misleading stability in its image of the human future. These shortcomings matter because even the smallest turn of phrase can leave its mark in commonsense. These ways of seeing become the ordinary backdrop against which environmental problems are perceived.

For how long, one may wonder, will the challenges posed by climate change be expressed in generational terms? Will future generations, as we have learnt to call them, still appeal to the interests of 'future generations', to their children and grandchildren's prospects? The structure of the generational scheme perhaps reflects a moment in time when climate-change problems, though recognised, were expected to manifest themselves in the future, at a distance of some decades from 'now'. As climate change increasingly intrudes on the present, the cross-temporal perspective may recede. But for as long as climate change remains a thoroughly temporalised problem, the generational view is likely to persist, and its political character will warrant inspection.

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[1] See e.g. UNCED 1992; UNESCO 1997; also the 1987 Brundtland Report on sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.

[2] Cf. Hansen 2010, Pearce 2007, DiMento & Doughman 2007 and Vatican 2002 as discussed below.

[3] Sheppard 2015.

[4] Cf. Ploman's preface to Weiss 1989, p.xxvii-xxviii: 'The conceptual approach has to be generally valid so as to allow acceptance globally, in widely different socioeconomic circumstances and rhythms of development: it also has to be capable of being generally applicable, to wide ranges of problems, current and future.'

[5] The generational timescape is not wholly cyclical: it retains ideas of linearity in the notion that later generations depend on the choices of today's. As Nowotny 1994 (p.57) notes: 'Every conception of time has to accommodate the idea of irreversible change and the idea of repetition'.

[6] Cf. Arendt 1963 / 1990, pp.47ff. on the connotations of irresistibility that accompany cyclical time.

[7] Cf. White 2013, p.240.

[8] Vatican 2002: 'within a single generation, we could steer the earth toward our children's future. Let that generation start now, with God's help and blessing.'

[9] On the ancient distinction between *chronos* and *kairos:* Smith 1969, p.1; Gault 1995.

[10] For efforts to actualize these possibilities in the US in the form of 'Atmospheric Trust legal actions': http://ourchildrenstrust.org/Legal. Note the 2015 court case brought by 21 children and adolescents (backed, as it happens, by James Hansen) against the US government for inaction on climate change and the effects on future generations (http://ourchildrenstrust.org/us/federal-lawsuit; cf. Hansen 2015, esp. pp.1-3).

[11] An influential discussion of discount rates is Stern 2006 (chap. 2). On how the planning impulse influences the way climate change is conceptualised: Chakrabarty 2009.

[12] Hansen 2010 uses 'you and your grandchildren' as part of his rhetorical strategy (see e.g. p.xii, p.36, p.230), and (like Gore 2006) includes photos of his own offspring (pp.99, 237, 272).

[13] Essentially the same scale has been described as the 'two-hundred year present', composed of three generations backwards in time (parents, grandparents and great-grandparents) and three forward (children, grandchildren and great-grandchildren): see Boulding & Boulding 1995, p.204; Weston & Bollier 2013, p.51, fnt. 5; Weston 2008, pp.386-8. On the analogous concept of the 'long now': http://longnow.org/about/.
[14] Versions of this distinction recur in social theory: cf. the distinction between *Eigenzeit* and 'social time' (Nowotny 1994, chap. 1; Blumenberg 1986; cf. Rosa 2013, p.10; Jureit 2012, p.365).
[15] On the difficulty of evoking the reality of the future in climate-change debate: Giddens 2009, p.3.
[16] Cf. Nowotny 1994, p.46 on the Enlightenment's expansion of the future and past; cf. Blumenberg 1986, p.225.
[17] But NB: the generational timescape never quite effaces the present: if a link in a chain is broken, the whole is broken: each connector is indispensible.
[18] The more rarely-used concept of 'succeeding generations' is one way to integrate them (Tremmel 2009, p.59).
[19] Weiss emphasises (1989, p.17, fnt. 2) her theory concerns the ethical ties between states and peoples and excludes consideration of humanity's ethical relation to the non-human world.
[20] Cf. Goodin (1992, p.6; p.87): this deep ecological view is widespread in Green thought. 'Shallower' ecological positions like his, in which the source of value lies in the human *relationship* with nature (p.38; pp.42ff.), are also badly served by an anthropocentric image of the future.
[21] One may interpret Gore's 'generational mission' as a response to a problem described earlier: how the generational view threatens to diminish the present. The idea of a mission undergirds the uniqueness of the present and re-centres it as a pivotal moment.
[22] Cf. the impulse identified by Blumenberg (1986, p.79) to make Lebenzeit and Weltzeit *converge*, such that events in the individual's lifespan connect directly to world history.
[23] 'We and, much more, our children and future generations are entitled to a better world, a world free from degradation, violence and bloodshed, a world of generosity and love' (Vatican 2002).
[24] Where liability is examined (Weiss 1989, pp.81-93), the generational language is set aside.
[25] See e.g. Article 3 of the 1992 UN Framework Convention on Climate Change.
[26] Unsurprisingly, the rhetoric of common responsibility for future generations appeals to those with a record of pollution. Consider the willingness of an oil company (Shell) to adopt the generational view. A 2013 advert declares, beside the image of a vulnerable newborn in an incubator, 'Let's find cleaner sources of energy today, to help protect her tomorrow'. The accompanying text observes that providing clean energy to a growing human population 'will place demands on us all'. See http://www.openmind-designs.com/project/shell-lets-find-cleaner-sources-of-energy-today-to-help-protect-her-tomorrow/.
[27] Acknowledging the problem: DiMento & Doughman 2007, p.8, p.195. Note that the problem is intensified in a cultural context where parental provision for children is often construed in terms of financial inheritance, i.e. the transfer of a positional good whose value depends on its exclusivity.
[28] NB the difference between references to 'your' and 'our' grandchildren – the latter permit a more socialized reading. The formulation appears occasionally in Hansen 2010, e.g. p.36.
[29] Rawls himself is ambiguous here, but implies cross-temporal societal ties derive from kinship ties: 'The parties are regarded as representing family lines, say, with ties of sentiment between successive generations' (Rawls 1971, section 44, p.292).
[30] Cf. the concluding observation, p.277: 'it is up to you. You will need to be a protector of your children and grandchildren on this matter.'
[31] Pearce 2007, p.29, refers to: 'sober scientists, with careers and reputations to defend, but also with hopes for their own futures and those of their children, and fears that we are the last generation to live with any kind of climatic stability.'
[32] This aside from the obvious point that references to offspring present a somewhat exclusive image of who 'we' are – i.e. the heterosexual members of a nuclear family. The presumably unintended implication is that being such is the necessary condition of having adequate concern for the future of the planet. For an example of how the generational timescape can thereby cause a speaker problems: http://www.theguardian.com/books/2013/may/04/niall-ferguson-apologises-gay-keynes.

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