

THOUGHT PROVOKING IDEAS OF THE GLOBAL ESSAY COMPETITION 2022

Designing the Future for Intergenerational Climate Justice

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Abstract

The climate crisis looms large on our collective horizons, and albeit late, the world leaders of the 21st century are finally having this realisation. A fundamental flaw in the arrangement however exists in the fact that the individuals and institutions which govern the policies and legislations around climate change are all from a generation that is outgoing. The impact of the impending climate crisis, on the other hand, will be harshest among the generations who are young or yet to be born, and do not have any representation in the annals of policymaking. Those at the helm of affairs display a consistent tendency to discount the future - a future they themselves will not be a part of.

This is where the concept of Future Design (FD) comes in. Pioneered by a group of researchers and policymakers from Japan, Future Design is a research framework that aims to design institutional mechanisms that explicitly establishes the presence (and representation) of future generations. FD researchers have argued that the prevalent

institutions of markets and democracies are woefully inadequate in checking the human tendencies towards myopia, impulsiveness and unwarranted optimism. However, as an established body of research in psychology and behavioural economics have shown that human beings are also capable of other-regarding preferences like altruism and have strong preferences for inequity aversion (or fairness). The ultimate aim of Future Design is to activate the "futurability" trait in people, whereby people living today can feel increased happiness if the welfare of future generations increases, even at their personal cost. FD researchers design mechanisms which cause people to change their patterns of cognition to account for the long-run perspectives of future generations, and they have successfully carried out pilots of these mechanisms with local government bodies and citizens. This essay is an attempt to provide an overview of the existing methods and practises of this nascent framework of institutional design.

Introduction

"We will never stop fighting for this planet, for our futures, and for the futures of our children and grandchildren."

- Greta Thunberg, 16 (April 2019)

"Global warming is a total, and very expensive, HOAX!"

-Donald Trump, 67 (December 2013)

On 20th September 2019, 4 million school children took part in what was to be the largest climate strike in history. Rising to the rallying call of the international movement School Strikes for Climate¹ youngsters skipped school to come out on the street and make their voices heard. The schoolchildren had realised what many adults had wilfully ignored: the climate crisis was going to affect them disproportionately more. What had caused this fog of intergenerational blindness?

Policy Myopia: Sustainability sans the intergenerational aspect

"Anyone who thinks that you can have infinite growth in a finite environment is either a madman or an economist."

- David Attenborough

In 2008, leading economist Nicholas Stern published a report entitled "The Economics of Climate Change" (Stern, 2008), which talked about the extent to which global GHG emissions should be reduced, in order to stay within the carbon budget and still achieve non-decreasing economic growth. Although at that time the report (popularly known as the *Stern Review*) was considered to be quite radical (inviting heavy criticism from other environmental economists like William Nordhaus), the upper bound of atmospheric carbon concentration assumed by Stern was in

fact quite high (at about 550 ppm). Ecological scientists have now realised that even such a level would be disastrous for the planet. This raises a few questions regarding what a justified method for is predicting and benchmarking for future events and emissions.

The technique of using discount rates to compare between the present and the future is a widely used method in Economics, Finance, and elsewhere. It quantitatively benchmarks future events against conditions of the present day. It is important to note that the specific discount rate chosen in a study such as the Stern Review will largely influence its results. A low discount rate gives less importance to the living conditions of future generations, and promotes myopic decision making. An ethical argument can be made to set the discount rate as 1, i.e. placing equal valuation on the claims of both present and future generations. The implicit assumption behind setting a discount rate lower than 1 is that future generations would be wealthier than the present generation, and hence their well-being could be discounted in present-day terms. In the context of the climate crisis, however, this is an extremely flawed assumption as the economic effects of unmitigated climate change would be severe and actually lower the wealth of future generations by a significant margin.

Future Design: Breaking the homo economicus

Future Design (FD) is a research framework popularised by a group of researchers from Japan comprising economists, urban planners, and environmental engineers. Proponents of Future Design have pointed out that markets and democracies as institutions have categorically failed to take into account the needs and well-being of future generations.

¹

https://en.wikipedia.org/wiki/School_Strike_for_Climate

It is widely accepted that human beings suffer from a variety of behavioural biases that have no bearing with the rational, self-interested, utility maximising "homo economicus" machine envisioned by dominant schools of thought in late 19th and 20th century economic theory. Fortunately, by the time I was learning economics in college, the field had finally re-oriented itself to the idea that human beings have poor impulse control (Thaler & Ganser, 2015), a huge amount of optimism bias (Sharot, 2011), and are extremely myopic in decision making (Thaler et al., 1997).

In the context of the intergenerational sustainability dilemma, this means that our impulsiveness and myopia often bias us towards the paths that prioritise short term gains and overlook the ramifications of our decisions. The internal logic of unregulated free markets and modern democracy are such that they only focus on the experiences of people living right now. In conjunction with the optimism bias, this manifests as an increased reliance on technocratic fixes to act as the deus ex machina, without questioning the economic, political and institutional mechanisms that have led to the climate crisis in the first place.

Negotiating for the future

The central idea behind the technique of Future Design is to build social mechanisms that result in the creation of an "imaginary" future generation, played out by some members of the current generation. Once future generations and their specific concerns are represented directly by a section of the current living generation, it is more likely that human decision making becomes less myopic and more geared towards long-run sustainability.

The notion of explicitly including the concerns of future generations while making decisions about the present is nothing new. The

constitution² of the Iroquois Confederacy categorically states "The Lords of the Confederacy of the Five Nations shall be mentors of the people for all time... The thickness of their skin shall be seven spans", which effectively means taking into account the fate and well-being of their children seven generations down the line. Taking inspiration from concepts of "environmental stewardship" in ancient and indigenous cultures, Future Designers have argued that in order to address the intergenerational sustainability dilemma, we need a complete overhaul of the way many of our political decision making and resource allocation institutions function.

Evidence from the experimental labs

Since the turn of the century, psychologists have pioneered the use of controlled experiments to test contending theories of human behaviour. Apart from contributing to a more nuanced discussion on the economic decision making and behaviour of individuals, experimental economists have also developed important methodologies to ascertain the validity of theoretical results in a controlled laboratory setting. In the laboratory, researchers had the advantage of designing experiments that controlled for the confounding factors and noise of "real-world data", aiding a more accurate estimation of causal relationships. To test the efficacy of futurability in individuals, and to illustrate a simple mechanism for implementing future design in deliberation and consensus building, Kamijo et al., (2017) designed and experimentally tested a Intergenerational Sustainability Dilemma Game (ISDG). The experimental design involved asking groups of three participants to choose between two alternatives - a sustainable option (Option A) and an unsustainable option (Option B). Each group was designated as a "generation".

² <http://www.indigenouspeople.net/iroqcon.htm>

Choosing the unsustainable option would result in a higher monetary payoff for that specific generation, but lead to lower payoffs for all subsequent generations. Conversely, choosing the sustainable option A would lower the payoffs for the current generation, but would result in better outcomes for all succeeding generations.

The design of the game mimics hard limits and thresholds like the carbon budget, where the higher emissions by one generation lowers the amount of GHGs future generations can emit, arguably limiting their quality of life. The participants in a specific generation were allowed to discuss and reach a consensus before making a decision. A "group" constituted 6-7 generations of three players each, where each generation was aware of the decisions of all preceding generations.

The researchers then tested out the impact of an external "intervention" within the game. To include the representation of an imaginary future generation, the "treatment" groups had a "future person" present in each generation. The experimenters chose one person per generation and asked them to negotiate with the other two people in their "generation" on behalf of future generations, and to push for the adoption of Option A. Even in this reduced-form game stripped off any real-life context, 60% of the "treatment" groups chose the sustainable option, in comparison to only 28% of the "control" groups. The results were salient as the participants were monetarily compensated according to their choices - picking the sustainable option did actually lower the money they earned from the experiment.

Building Futurability

This and several other experiments (Shahen et al., 2019) have shown that mechanisms which explicitly remind people to think and bargain from the point of view of future generations can lead to a reduction in short-sighted decision making. While it is true that

humans have evolved to develop various behavioural biases, a huge body of research in behavioural economics has successfully demonstrated that individuals also exhibit significant degrees of altruistic behaviour and charitable giving (Fehr & Fischbacher, 2003), and are heavily invested in notions of "fairness" (Fehr & Schmidt, 2006).

The presence of these traits in the human psyche has developed into a moral imperative for intergenerational equity. FD researchers have dubbed these combinations of traits as "futurability", which is defined as "an increase in happiness as a result of deciding and acting toward foregoing current benefits to enrich future generations." (Saijo, 2019). FD is thus targeted towards unlocking the "futurability" of people through the design and implementation of appropriate mechanisms and institutions.

Future Design in practice

Future design has primarily been put to practice in local municipalities, city councils and other local government bodies in Japan. FD techniques have been used to envision sustainable trajectories for the future, and also for testing the extent of the support those trajectories can garner from the current population. For example, in the Japanese city of Suita, citizens were trained in workshops to come up with "scenarios" for a low carbon society in the future (Uwasu et al., 2020). They were provided knowledge and information on the local energy context, and trained to use tools like logic maps and CO2 calculators.

The main aim of this exercise was to enable citizens to construct scenarios on their own. No attempt was made by the FD researchers to contribute to the scenario design process, which entailed the creation of storylines and roadmaps. In the control groups, where there was no "representation" of future generations; people came up with trajectories that were heavily skewed towards the current priorities and concerns of Suita City. The "treated"

groups, with citizens explicitly being asked to "time-travel to the year 2050, without any increase in age", on the other hand, proposed visions and pathways that would impose significant costs to current generation in exchange for the greater well-being of future generations.

A similar approach was also followed in the city of Matsumoto, where participating citizens were organised into workshops and asked to come up with a 60 year plan for renovating the city hall and related expenditure in city infrastructure (Nishimura et al., 2020). A significant finding of the study was that being a part of the FD workshop and asked to adopt the perspective of future generations led the participants to lower their discount rates for the future. Similar results were reported in a study based in Yahaba (Hara et al., 2021). After introducing the FD mechanism in waterworks workshops throughout the city, citizens started viewing the issue of a clean and reliable water supply from a longer-run perspective, and ended up reaching a consensus for increasing the tax rate on water.

Conclusion

Throughout the preceding sections I have tried to show why solving the climate crisis is chiefly a question of intergenerational equity:

do we inherit the earth from our ancestors, or do we borrow it from our children? I have argued that assuming the latter comes from a moral imperative which is inherently present in humanity, notwithstanding our species' proclivity towards short-sightedness, impulsivity, and unwarranted optimism. A new wave of researchers have tried to formulate mechanisms which nurture humanity's innate nature to care about their future generations, beyond the narrow confines of parental ties. This research methodology, known as Future Design, aims to activate human "futurability" through the design of institutional mechanisms which explicitly designate a section of people to act as representatives for future generations. Future Design has shown great promise in building the consensus for undertaking sustainable trajectories in local civic bodies, through the participation of interested citizens and government officials. It is perhaps extremely fitting to present the ideas of Future Design in a prestigious global symposium such as St Gallen, that aims to amplify the voices of the "leaders for tomorrow". However, my essay argues that we need to go above and beyond this: it is imperative that we incorporate the concerns of nascent and unborn generations into the very fabric of decision-making and policy design. The Symposium is definitely a step in the right direction.

Reference

- Fehr, E., & Fischbacher, U. (2003). The nature of human altruism. *Nature*, 425(6960), 785–791.
- Fehr, E., & Schmidt, K. M. (2006). The economics of fairness, reciprocity and altruism—experimental evidence and new theories. *Handbook of the Economics of Giving, Altruism and Reciprocity*, 1, 615–691.
- Hara, K., Kitakaji, Y., Sugino, H., Yoshioka, R., Takeda, H., Hizen, Y., & Saijo, T. (2021). Effects of experiencing the role of imaginary future generations in decision-making: A case study of participatory deliberation in a Japanese town. *Sustainability Science*, 16(3), 1001–1016
- Nishimura, N., Inoue, N., Masuhara, H., & Musha, T. (2020). Impact of future design on workshop participants' time preferences. *Sustainability*, 12(18), 7796.
- Saijo, T. (2019). Future design. In *The Future of Economic Design* (pp. 253–260). Springer.
- Saijo, T. (2020). Future design: Bequeathing sustainable natural environments and sustainable societies to future generations. *Sustainability*, 12(16), 6467.
- Shahen, M. E., Shahrier, S., & Kotani, K. (2019). Happiness, generativity and social preferences in a developing country: A possibility of future design. *Sustainability*, 11(19), 5256.
- Sharot, T. (2011). The optimism bias. *Current Biology*, 21(23), R941–R945.
- Stern, N. (2008). The economics of climate change. *American Economic Review*, 98(2), 1–37.
- Thaler, R. H., & Ganser, L. J. (2015). *Misbehaving: The making of behavioral economics*. Thaler, R. H., Tversky, A., Kahneman, D., & Schwartz, A. (1997). The effect of myopia and loss aversion on risk taking: An experimental test. *The Quarterly Journal of Economics*, 112(2), 647–661.
- Uwasu, M., Kishita, Y., Hara, K., & Nomaguchi, Y. (2020). Citizen-participatory scenario design methodology with future design approach: A case study of visioning of a low-carbon society in Suita city, Japan. *Sustainability*, 12(11), 4746.