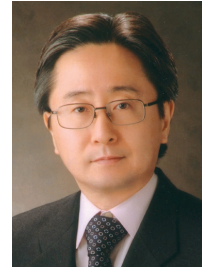


# The Challenges Ahead for “Future Design” Studies



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## The Difficulties of Intergenerational Issues

Important policy issues that we face today can all be seen as investment projects with extremely long timelines that span generations.

Take public finance. If the current generation bears the “cost” of increasing taxation or cutting expenditures, this will yield the “return” for future generations 30 to 40 years from now of avoiding the economic distress arising from fiscal bankruptcy. Public finance, then, is an investment project with an intergenerational time lag between “cost” and “benefit”. This structure can be observed on environmental issues as well. Take climate change. If the current generation bears the “cost” of reducing greenhouse gas (GHG) emissions, future generations 50 or 100 years from now will reap the “return” of climate stabilization. Reprocessing spent nuclear fuel from power stations is a similar issue. The construction of a nuclear reprocessing plant comes with an enormous political cost merely to select a site for it. If the current generation pays this cost and constructs the plant, the benefit of avoiding the contamination of the environment will accrue decades later to future generations.

The policy challenges posed by these intergenerational “investment projects” comprise sets of issues that could not have been anticipated within the framework of democratic decision-making that prevails today. Such sets of policy issues came into view in the second half of the 20th century with the emergence of new technologies and institutions. Such issues were almost nonexistent in the 18th century, when the philosophical foundations of democracy were being laid out. Thus, the process for turning intergenerational policy projects into reality did not develop within the democratic framework.

Democracy is a system in which political decision-making is conducted by a society consisting of modern, rational (and selfish) individuals. It goes without saying that only adults who are alive can participate in the decision-making process. The unborn and minors — “future generations” as conceived here — cannot take part in the decision-making process today. Indeed, there is no way that generations current and future can engage in debate in a legislative body. Thus, outcomes in which future generations transfer some of the return that they will receive to the current generation cannot be negotiated.

This means that the current generation will bear the entire cost and receive no benefit whatsoever when an investment project that

spans generations is implemented. The current generation, as a group of rational and selfish individuals, certainly cannot agree to undertake a policy project for which it merely pays the cost.

Japan and other developed countries have seen massive development in technology coinciding with the emergence of a society in which altruism towards future generations is diminished due to the decline of religion and traditional norms. It is natural that a society consisting of rational individuals who are insufficiently altruistic towards future generations cannot implement intergenerational policy projects if they use the democratic decision-making process.

## Protecting the Interests of Future Generations

There is a need to construct a framework that maintains the sustainability of society that transcends economic rationality from within the political system. This could be more a matter of political science than economics. How should the interests of future generations that do not yet exist be protected within the existing political decision-making process? Should we not consider incorporating a mechanism in the political system to protect the interests of future generations?

One idea that could provide a hint for such a reform of the political system is currently being debated among academic economists. “Future design” — a concept proposed by Professor Tatsuyoshi Saijo, director of the Kochi University of Technology Research Center for Future Design — is bringing together researchers from a wide variety of areas including experimental economics, psychology, urban engineering, and neuroscience to carve out new areas for interdisciplinary research (Tatsuyoshi Saijo, *Future Design*, Keiso Shobo, 2015, in Japanese). Engaging in future design means conceiving a desirable future from the perspective of future generations — not a forecast of the future from our current perspective — and designing policy to turn that future into reality. More specifically, the basic concern of future design is to consider ways to bring actors who represent the interests of future generations onto the political decision-making stage.

A typical representation of this way of thinking can be seen in the future redesign experiment conducted in 2015 in the township of Yahaba in Iwate Prefecture. According to Keishiro Hara and Tatsuyoshi Saijo (“Future Design — *Sankagata Togi no Jissen kara Mieru Kanousei to Kongo no Tenbo* [Potential Seen from the

Implementation of Participatory Debate and Future Prospects], *Mizukankyou Gakkai-shi* [Japan Society on Water Environment journal], Vol. 40(4), 2017), Yahaba undertook the creation of a township-building “vision” for the year 2060 at the behest of the Cabinet Office, and a future design research group led by Keishiro Hara, associate professor at Osaka University, took part in the development process. Hara and his team asked the residents to create the original draft of the vision through group discussions and sorted them into four groups of five to six residents each. To create a vision, two of the groups were tasked with conducting a typical residents discussion from the standpoint of the current generation, while the other two were tasked with doing so from the perspective of future generations by becoming “the people of 2060”, to play the virtual role of future generations in a role-playing game. Saijo calls this “wearing the cap of future generations” and proposes calling the people playing this role “imaginary future-generation members”.

Particularly notable in the report on this Yahaba experiment in future design is the finding that there was a clear difference between the visions emerging from the residents’ discussions by the two current-generation groups and those by the two imaginary future-generation groups. Specifically, the current-generation groups tended to draft visions of the future based on existing constraints (nursing care for the elderly, solutions to the issue of waiting lists for childcare, etc.), while the two imaginary future-generation groups were able to transcend the constraints to build on the strengths of the region. While the thinking within the current-generation group followed the trajectory of public administration as it was currently conducted, the imaginary future-generation groups tended to extract contemporary administration issues from a desirable future and to take on difficult policy issues.

The results of this experiment indicate that the orientation of policy decision-making may be altered just by having people participate in political decision-making by playing the role of imaginary future-generation members. In other words, it may be possible to strengthen altruism towards future generations by making institutional adjustments to the political system.

Saijo and his team also interviewed the participants in the imaginary future-generation groups six months after the residents’ discussions to investigate whether there may have been conflicts between the “self as a member of the current generation” and the “self as a member of an imaginary future generation”. To their surprise, the responses expressed the view that “they were able to see themselves as members of both future and current generations and to reconcile the two from a comprehensive perspective and consider the present and future from a comprehensive perspective.” This cognitive conditioning persisted even after the end of the future experiment. The interviewees stated that six months after the experiment, they still had occasions on which they engaged in thinking that considered the present and future from a comprehensive perspective and that they derived pleasure from this.

The results of this experiment indicate that there is a possibility that the experience of the future design experiment had an enduring effect on the thought process of the subjects. Researchers recognize — albeit yet to be reported in research papers and the like — that there is a possibility that people given the role of imaginary future-generation members in future design experiments undergo powerful emotional changes. Reports on future design experiments conducted in Onuma town in Hokkaido, Matsumoto city in Nagano Prefecture, Kochi Prefecture, and elsewhere were given at the First Future Design Workshop hosted by the Research Institute for Humanity and Nature from Jan. 27-28, 2018. Multiple researchers taking part in these experiments experienced emotional changes in the participants who took on the role of imaginary future-generation members. Although it has yet to be scientifically determined whether such observations reflect actual changes in the activities of the brain, ideas for research plans to investigate changes in brain activity using functional magnetic resonance imaging (fMRI) were discussed. It may be in the not-too-distant future that we will be able to conduct quantitative research on the impact of future design experiments on human consciousness and brain activity.

If some change occurs at the level of human brain activity by assuming the role of an imaginary future-generation member, it may be possible to alter actual policy to reflect the interests of future generations by incorporating players (such as public institutions) assigned the role of imaginary future-generation members to the policy-decision process through the reform of the political process. The ultimate aim of future design is the reform of the political process to introduce actors as agents of imaginary future generations.

### Three Challenges for Future Design

I would like to raise three issues going forward for research on future design. First, will an imaginary future generation (a public institution such as a Ministry of the Future) function? A Ministry of the Future may not act in the true interests of future generations since its personnel consist of members of the current generation.

However, if the results of the experiment in which subjects are given the role of a future generation hold true generally, i.e. the personality of someone given the role of representing future generations truly changes, an institution like a Ministry of the Future will also function properly. The personnel of the Ministry of the Future will assume the personality of future generations when they are assigned the role of agents for future generations.

This hypothesis, which posits that the preferences of agents vary according to the assigned tasks, is the equivalent of the hypothesis that sympathy has the effect of altering behavior, which Adam Smith emphasized in *The Theory of Moral Sentiments*, since a person that is assigned the role of representative of future generations will receive the sympathy of his/her coworkers and the world at large by

fulfilling his/her functions. To test this hypothesis, it is necessary to uncover the character formation mechanism of imaginary future-generation members through neuroscience and statistical methods for psychological studies.

Secondly, can the establishment of an imaginary future generation (a new institution such as a Ministry of the Future) be justified in a democracy? If it can be scientifically confirmed that a stable supply of imaginary future-generation members can be generated, new systems such as a Ministry of the Future can certainly be effective in protecting the interests of future generations. However, to establish such a system, it is necessary to show that it has legitimacy within the current democratic system and secure a broad public consensus for it. For example, there is strong opposition among jurists and political scientists to Demeny voting, proposed as a voting method to reflect the interests of future generations (minors are given voting rights, which are exercised by proxy by their guardians), because it violates the one-person, one-vote principle. It may be necessary for future generations, but that alone may not be reason enough to gain broad acceptance.

To secure wide public appeal, it is necessary to construct the political philosophy foundations of the proposition “The establishment of imaginary future generations is just.” This may be possible by using the social contract theory based on the “veil of ignorance” put forward by John Rawls in *A Theory of Justice*. Rawls argued that if people could agree to a political system in a situation where they know nothing about their own attributes (physical strength, intelligence, assets, etc.), that system would be fair and just. Under the veil of ignorance, people would agree to a political system that would maximize utility for the least-fortunately born (difference principle).

The establishment of imaginary future generations can be justified as follows under Rawls’ difference principle. If people agree to a social contract under the veil of ignorance, under which they cannot know which generation they will be born in, they will fear being born in the least fortunate generation (a generation that would be harmed by global warming and fiscal bankruptcy) and agree beforehand to establishing imaginary future generations as a system to reduce the burden on that generation. The reason for this is that utility for the least-fortunate generation would be greater in a world in which imaginary future generations exist if such an institution functions as a system.

The need to make headway in this debate from the political-science and philosophical sides is another reason why the participation of political scientists in research on future design is strongly desired.

Thirdly, what should be done to make ordinary people assume the role of imaginary future-generation members as a matter of course? This is a question of how to enhance altruism towards future generations among ordinary people. This may be a matter beyond the realm of science, belonging to the world of political philosophy.

It is necessary for the equation “contribution to future generations = contribution to the permanent” to be true if the current generation is to contribute to the subsequent generation in general beyond their families, just as parents willingly make sacrifices for their children. Humans have a desire for immortality (the desire to connect the mortal self to the immortal). If a belief system that satisfies this desire can be provided, it will be a driving force for their altruism.

The “next generation” that we should contribute to must be recognized as being permanent. It must also be irrefutable for now, since the belief system cannot be sustained if the permanence is refuted scientifically. For example, it is expected that human intelligence will continue to evolve as it is augmented by artificial intelligence (AI). This “augmented reason” can be called a permanent “next generation”. Since the potential of AI is unknown at this point, the prospect that the AI-augmented reason will keep on evolving forever cannot be scientifically refuted for now. Humans may be able to determine the learning method of AI, but it is impossible for us to understand how self-learning AI recognizes the world. In this sense, humans cannot understand how AI thinks or know for now what its limits are.

If this belief that “there is value in contributing to the progress of augmented reason” is shared, it will generate sympathy among people with the result that each individual will also believe that such action has value when choosing their own actions. Actions that contribute to the progress of augmented reason will be recognized as an option that has significance for the individual. To be specific, such actions mean taking measures to protect the environment and rehabilitating public finance through the implementation of global warming countermeasures and execution of fiscal rehabilitation to create an environment in which it is easier for the reason of the next generation to function. It will be easier to understand how such self-sacrificing acts for the next generation can be induced if the belief in the “progress of augmented reason” is understood as an asset. If damage to the value of the asset is foreseen for future generations, acting now to prevent this means maintaining the current value of the asset. In other words, actions for the next generation can be understood as rational actions to maintain the value of an asset that is possessed by the current generation. Thus, we need to develop and share a notion of “justice as an intergenerational asset”.

Future design has the potential to transform not only the social sciences but also a wide range of intellectual activity ranging from neuroscience to ideology and philosophy.

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