Designing Back from the Future

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ABSTRACT   The effects of climate change, economic and political instability, rapidly developing technologies, and more, are all creating uncertainty and unsettlement – geographically and psychologically – in many parts of the world, not least in the Middle East. This is the large context in which design will be happening over the coming decades. Yet most designers are focused on immediate needs and trends and find it difficult to get a sense of the "big picture." The creation of long-term future scenarios can be a way of breaking away from the demands of the-future-as-next-week. Such scenarios, while having roots in practices as diverse as strategic planning and science fiction, need not be either purely pragmatic or utopian. This article discusses a range of approaches to scenario creation that inform "design scenario" methods currently being used in some advanced design practices and design education. The method can be

described as "designing back from the future." The article ends by discussing an example of scenario creation from design education,[1] and is intended to be read alongside the accompanying reflection by one of the participating students.[2]

KEYWORDS: design scenarios, futures

Setting the Scene

As designers, we know how to design products, technologies, buildings, spaces, forms of transport, infrastructure. And we have developed expertise in designing applications, visual communications, brands, identities, services, interfaces, interactions, experiences. Materials, space, form, and more recently, the immaterial are the "raw materials" of designing. But do we know how to design *in time*?

Time, understood as past, present, future, seems obvious. We might all be bodily present in the same place, at the same moment, but are we all of the same time? Homogenous, empty time, time measured by the clock is, as Benedict Anderson pointed out, a modern construct, just one way of living and thinking time.

"Homogenous, empty time" plus the idea of universal progress created an idealized vision of peoples and nations moving in the same direction, be it at different speeds. Yet the actuality is different: time is fractured. One nation's past is another's future – industrial workers of late twentieth-century China relived Europe's Industrial Revolution – the same economic forces, the same exploitive conditions, two centuries later. Today, according to the logic of economic development, many nations are going backward, modernity seeming like a brief interlude.

The forces of modernization combined with the ideal of progress put a huge emphasis on the future – the future as empty time, an open space to be filled with a vision of mass-produced utopia. In realizing this vision, industrial production ramped up and as a consequence, something else was thrown into the future – vast quantities of carbon dioxide – so that now, visions of "the future" have to negotiate global warming scenarios and the likely climatic social, economic, and environmental impacts. The degree of uncertainty – just how bad will it be? – can lead to the YOLO response – turn your back on it, focus on now, You Only Live Once. This is a choice for the alienated privileged. It is easy to forget that "living in the now" is the norm for those who have no choice – the billions of subsistence producers and casual laborers who are preoccupied with day-to-day survival.

For those who do have a choice because of their means and education – how can they bring their contemplation of individual, personal futures into the frame of global futures? It is difficult, and for most people, probably unappealing, to make connections between

large-scale forces – climate, economics, technological change – and the details of everyday life. But designers may be more so inclined. The work of designers is, to varying degrees, about making or taking away futures. What is designed today gets manufactured, used, and disposed of. The designed thing, whether it is material or immaterial (like software), can take a large or small amount of nonrenewable resources to produce; it can prompt or enhance good or bad habits of use; it can have a long or short lifespan, it can create a waste disposal problem or it can biodegrade harmlessly. This is a quick characterization of the life-cycle thinking that is familiar within design education, and while it is a model that can prompt "designing in time," it is not sufficiently flexible to encompass the range of economic and social forces that bear upon "the future." This is where scenarios come into the picture. And here it's worth stressing that the creation of scenarios has an established history in design practice.

Scenarios and Design

The futures envisaged by designers haven't always been small-scale. Consider the scenarios created by designers for the 1939 New York World Fair: Norman Bel Geddes's Futurama,[3] a vision of soaring tower blocks and freeways, seen and desired by the millions who visited the Fair, and materially realized in the US a few decades later (Andrews 2009); or Democracity designed by Henry Dreyfuss, envisioned as a monocultural, homogenized suburbia, which did indeed become the expanded urban field of postwar wealthy nations. Though Bel Geddes, Dreyfuss, and associated industrial designers of the 1930s (Raymond Loewy, Walter Dorwin Teague, Harold Van Doren[4]) cannot be held solely responsible for the automobile-dependent, high-consumption lifestyles that ensued, their scenarios (we could call them "design fictions") played a pivotal role in creating excitement about a particular kind of future: their picturing and narrating made this future appear plausible and desirable.

With hindsight, we can see how so many of the design values laid down in this era – continuous minor product variation and restyling, very high standards of convenience and comfort, and, the notion of manufactured products as the means of human fulfillment and happiness – created lifestyles and expectations, which when realized en masse, drove the condition of unsustainability on into the future. The scenarios of climate scientists register the negative fallout of the consumer utopia scenarios of a previous era. They remind us that future is never a blank space ahead of us; it is littered with what the past has thrown into it.

And now to return to scenarios.

Definition of Scenario

A scenario is a created, plausible fiction about what might or could happen. The timescale can vary from a few months (such as a scenario for military action) to many decades ahead. Scenarios are

not meant to be predictions of the future; they are a means to project likely future circumstances, in order to reflect on these and to inform action to be taken. Let us examine available methods of scenario creation – their potentialities and their limitations. The following list is not comprehensive: five different genres of scenario are described in order to highlight differences and potentials.

Genres of Scenarios

Corporate Futures. The corporate sector thinks about the future using a variety of methods such as market forecasts, profit forecasts, and trend analysis. Scenarios are created in business for team-building, strategic planning, and consensual direction-setting. Fictionalized scenarios are also created for promotional reasons: to position a company as leading edge and future oriented (for example, DHL's "Five Visions of the Future: Delivering Tomorrow"), or to stimulate consumer interest in technologies and products in the early stages of development (for example, Corning's "Day Made of Glass").

User Scenarios. As a design method, a user scenario is a narrative exploring interaction with a product or system from the user's point of view. The process involves the creation of a persona and a storyline. It is like scriptwriting. What makes it different is that the character (persona) and storyline (use situation) are constrained by the parameters of the design brief. A user scenario is "a concrete story about use."[5] The method is most developed in interaction design, especially the use of "personas." Data is gathered on users (via interviews, ethnographic observation, surveys, market research) and is used to create an imaginary persona (or personas) of a particular age, gender, occupation, tastes, etc. Once developed, the personas are put into imagined everyday situations where they're doing some activity that relates to what the actual or potential product is about.

Science Fiction. It needs to be acknowledged that this well-known genre of literature and film – stories about future civilizations, space travel, robots, mutants, technological utopias, and dystopias – has escaped the bounds of literary speculation and entertainment. Companies like Intel now commission science-fiction writers to create narratives based on their advanced research.[6]

Post-Nuclear War Scenarios. Pioneered by Herbert Kahn in the 1950s, these were scenarios created in order "to learn to visualize the possible worlds in which the unimaginable, the unthinkable, the ungodly, and the unpredictable actually come to pass," according to Art Kleiner (1999), who further stated:

> If we can imagine such worlds we can partially prepare ourselves for whatever future does come to pass. Confronting

the future with rigor tends to leave most people energized and enthusiastic about facing their future – even if the future looks grim."

Global Climate Futures. Climate change research has been made visible and comprehensible to decision-makers and the public by projecting forward in time observed increases in average global temperature correlated to increased anthropogenic (human-induced) CO_2 emissions, and the effects of these trends on regional temperatures, precipitation, the frequency and intensity of extreme weather events, the rate of melting of the polar ice caps, and many other factors. The scenario part is the modeling of different climate consequences unfolding over time according to different emissions scenarios – stabilizing, continuing at, or exceeding current rates.[7]

Toward a Typology of Scenarios

Looking at all these kinds of scenarios together, further distinctions can be made between large scale and small scale, and between reactive and proactive.

Large Scale, Generalized. Long time frame, decades ahead, projects forward current trends (with a medium to high degree of certainty) such as technology developments, social trends, economic conditions, resource availability, and likelihood of political conflicts. The large-scale, generalized scenario tends to be the province of business and government.

Small Scale, Specific. Focused on a particular product, technology application, user group, or localized community. Small-scale, specific scenarios are the province of designers, interaction and product designers especially.

There is another distinction that is more significant, and it goes to different political and ideological dispositions toward the present. Thus we could distinguish two approaches to generating scenarios: reactive and proactive.[8]

Reactive Scenarios. Here, a scenario might envisage demographic trends, future consumer behavior, political events, resource supplies, or technological developments. Within the corporate sector, such scenarios are used toward advantageous market positioning of product, service, or brand within a stream of seemingly random events and circumstances. This involves mapping several distinct and credible stories about the future to determine a course of action that will play out well across several possible futures. With the ultimate goal being the maximization of profits, all such strategic thinking, whether involving the creation of scenarios or not, is fundamentally reactive: it's a question of survival within the status quo of the marketplace, not about finding ways to change the status quo.

The market economy, the corporation, the consumer-subject, and globally expanding, commodity-intensive lifestyles – such features of "now" – are assumed to roll on into the future.

The strength of reactive scenarios is that because they are opportunistically driven, they are more likely to be based on good-quality research for their future projections – they have an investment in developing plausible scenarios. Their weakness is that they have no interest in challenging or seeking to change those trends that are clearly unsustainable.

Proactive Scenarios. These might begin by scoping demographic, social, economic, and climatic trends, as with reactive scenarios, but they are not over-determined by them. Proactive scenarios are concerned with what might be possible. They are generated by asking questions to prompt reflection on how future circumstances could be different from now, questions like: How can we produce energy and how will we use it? How can we take care of our houses and things? How can we move around the city (Manzini and Jégou 2004)? The strength of proactive scenarios is that they create space for challenging current situations and trends; they open up discussion on sustainable futures. Their weakness is that, if they are not informed by knowledge of current and likely circumstances, they can degenerate into idealistic utopias.

Designing Back from the Future[9]

The challenge is to be able to work across the big and small scales, and to be able to use the strengths of reactive and proactive scenarios, while avoiding their weaknesses. This requires post-disciplinary design thinking. It requires designers to put aside, at least in the early stages of developing scenarios, their professional labels (architect, product designer, graphic designer, interaction designer). And it requires another step: designing back from the future, in which the scenario is taken up as a design brief.

A specific place and time is set for the scenario. The place needs to be relevant to those concerned and the timeframe needs to sufficient to allow for "designing back," for example fifty years from now. The scenario is built up by imagining how the large-scale forces could play out at small-scale level – the life of communities, families, individuals. Plausible characters (personas), settings, and events are created – as written narratives, role-plays, animations. If it is a negative scenario, in other words an undesirable future (remembering that the scenario is not pure fantasy, but has been developed through research, by extrapolating current trends and envisaging random but nevertheless plausible events), what needs to be put in place (designed) between now and the scenario's date, to avert or at least minimize the worst consequences? And if it is preferred scenario, again, what needs to be designed now that will unfold over time and contribute to its realization? This is where the "designing back"

starts – which is about designing a process rather than just things or physical structures (though they could be part of the process). The design outcomes can include new narratives, imagery, information, policies, campaigns, organizations, as well as new services or products. Infrastructure, buildings, and built environments could also eventuate from the implementation of the process; the difference is that these traditional design forms are not the starting point.

Designing Back from the Future: Egypt 2060

These three approaches to scenario creation – reactive, proactive, and designing back from the future, were incorporated into a project I set for final-year design students at the German University in Cairo in 2013–14.

It was a conceptual design exercise where students worked in teams to develop scenarios for Egypt in 2060. This distant date was chosen precisely to encourage students to think beyond the current circumstances of political uncertainty. They researched climatic, economic, demographic, and technological trends to create plausible scenarios. The project brief asked them to communicate the scenario in an effective way – as a story with settings, personas, and situations of everyday life. If the scenario was negative (they mostly were), what would need to happen between now and 2060 to make it positive, or to lessen the negative effects? The next step was to develop an alternative (desirable) scenario and interrogate it to determine what needed to be designed that could unfold over time to get to the desired future.

The students worked in interdisciplinary groups of ten (graphics, product and media design) to develop and present their scenarios by the end of the semester. What follows is extracted from the brief they were given at the start.

The Brief

Your task as a group is to undertake research in order to create plausible scenarios of what Egypt might be like fifty years from now. And from these scenarios identify and develop "design interventions" that could enhance positive trends and counteract negative trends.

The Process

1. *Scoping*. Identify all the possible aspects of what Egypt could be like in 2060. For example: climate, geography, the people, the economy, lifestyles, forms of social organization, technologies, its relation to other parts of the world, … whatever other aspects of "the future" you can think of. This is to get a sense of what there is to research.

2. *Exploratory research*. Do initial research – keep it broad, divide up the areas to research among group members. How to research that which hasn't happened yet? There's lots of information by government agencies, the UN, international organizations on, for

example, population, climate, resources/ environment, technology, economic forecasts.

3. *Analysis and synthesis*. Bring all the research material together – identify trends, priorities, and what else you need to know in order to develop plausible scenarios.

4. *Scenario outline and development*. Use the research to create a plausible scenario for Egypt 2060 (or a selected part of Egypt). Project current trends forward. Allow for unexpected events. Communicate the scenario in an effective way, as a story – for example, "Living in Egypt in 2060" – with settings, characters/ personas, situations (everyday life, work, leisure, and so on).

5. *How do we get to the future?* If the scenario is mainly negative, what would need to happen between now and 2060 to make it positive? Or to lessen the negative effects? Develop an alternative scenario. And ask – what needs to be designed in order to move toward the preferred scenario? It could be material or immaterial, large or small.

6. *Let's go there now!* Develop a staged plan that unfolds over time … to get to the desired future.

Results

Students didn't have to look far to be confronted with information like this:

> The climate is predicted to become even hotter and drier in most of the MENA (Middle East and North Africa) region. Higher temperatures and reduced precipitation will increase the occurrence of droughts, an effect that is already materializing in the Maghreb … An additional 80–100 million people will be exposed by 2025 to water stress … Agriculture yields, especially in rain-fed areas, are expected to fluctuate more widely … In urban areas in North Africa, a temperature increase of 1–3 degrees could expose 6–25 million people to coastal flooding. In addition, heatwaves, an increased "heat island effect," water scarcity, decreasing water quality, worsening air quality … are likely to affect public health, and more generally lead to challenging living conditions." (World Bank 2012)

Many found this depressing and demotivating. Others moved through this stage and became energized by the challenge; this connects to what was said above about post-nuclear scenarios. The scenarios they produced varied: issues of population, water resources, climate change, and social cohesion featured in many, but so too did the isolating effects of ICT. Proposed design interventions ranged from the rollout of renewable energy to behavior-changing campaigns. One of the latter focused on rewarding socially responsible actions rather than punishing the reverse, mapping out a complex national voucher system with incentives for rich and

poor; another group sought to develop stronger regional identities in Egypt through a series of festivals focused on one region each year, highlighting its cultural distinctiveness. Many groups went into considerable detail, producing posters, animations, and long-term strategies. But the outcomes were not the most important aspect; rather the process itself, as attested to by the following essay by one of the students.

Conclusion

As implied, the purpose of design scenarios is not to create futuristic visions or to design future products. Design scenarios are a structured way of connecting the present with distant futures, of imagining, narrating, and picturing how large-scale trends could play out and affect everyday life. In essence, "designing back from the future" is a prompt for designing now – for designing processes and things that could contribute to the arrival of preferred futures. To design back from the future is to design with a different understanding of time – no longer empty and homogenous, but filled with things that "have their own time" (duration) and are thus already filling up the future.

Notes

1. This account is based on my paper "Designing Back from the Future: Scenarios, Fictions, Methods," presented at the *First Jordanian International Conference on Architecture and Design: "Reality and Future Challenges"* in Aman, April 2014.
2. Nizmah Roshdy, "Cairo 2060: Reflecting on the Project," essay for the Advanced Research Methods course at the Faculty of Applied Sciences and Arts at the German University in Cairo.
3. Sponsored by General Motors to the tune of $7 million. Norman Bel Geddes had developed an early-stage concept for Shell several years earlier (Andrews 2009).
4. As well as Roy Sheldon and Egmont Erens, advocates of "consumer engineering" who worked with these designers. For full discussion, see Andrews 2009.
5. "Instead of designing software by listing requirements, functions, and code modules, the designer focuses first on the activities that need to be supported and then allows descriptions of those activities to drive everything else" (Carroll 2000).
6. Intel's Tomorrow Project, orchestrated by Brian David Johnson (described as "futurist and director, future casting, interactions and experience research") commissioned writers; they were given access to Intel's research in photonics, robotics, telematics, dynamic physical rendering, and intelligent sensors, out of which to spin stories. See Rushkoff et al. 2011; Doctorow et al. 2011.
7. This is a massive oversimplification. See IPCC 2013.
8. There are other ways of categorizing scenarios: see Cameron Tonkinwise's essay, "How We Intend to Future," in this volume,

where he discusses "cones of the future" in terms of the probable, the plausible, and the possible. He asks the question of where the "preferred" might fit.

9. This approach has been adapted from working with Tony Fry. See also Fry 2009.

References

Andrews, Tara. 2009. "Design and Consume to Utopia: Where Industrial Design Went Wrong." *Design Philosophy Papers* 7(2): 71–86.

Carroll, John M. 2000. *Making Use: Scenario-Based Design of Human-Computer Interactions*. Cambridge, MA: MIT Press.

Doctorow, Cory, Will.i.am, Douglas Rushkoff, and Brian David Johnson. 2011. *The Tomorrow Project Anthology: Conversations about the Future*. Santa Clara, CA: Intel Corporation.

Fry, Tony. 2009. *Design Futuring: Sustainability, Ethics and New Practice*. Oxford: Berg.

Intergovernmental Panel on Climate Change (Working Group I). 2013 *Contribution to the IPCC Fifth Assessment Report Climate Change 2013: The Physical Science Basis Summary for Policymakers*. September 27, 2013.

Manzini, Ezio, and François Jégou. 2004. *Sustainable Everyday: Scenarios of Urban Life*. Milan: Edizione Ambiente.

Kleiner, Art. 1999. "Doing Scenarios." *Whole Earth* (Spring 1999). Quoted in Anne-Marie Willis, "Editorial: Scenarios, Futures and Design," *Design Philosophy Papers* 3(1): 1–7.

Rushkoff, Douglas, Ray Hammond, Scarlett Thomas, and Markus Heitz. 2011. *The Tomorrow Project: Bestselling Authors Describe Daily Life in the Future*. Santa Clara, CA: Intel Corporation.

Willis, Anne-Marie. 2005. "Editorial: Scenarios, Futures and Design." *Design Philosophy Papers* 3(1): 1–7.

World Bank. 2012. "Adaptation to Climate Change in the Middle East and North Africa Region." Available online: http://go.worldbank.org/B0G53VPB00.