

# How the Future Happens

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Industrial design, for the most part, is about exploiting the potential of new technologies to create functional, usable and desirable products - design is at the heart of future formation.

Unfortunately, this process is mostly devoid of any critical or philosophical foundation.

Some myths taught at design school:

1. Design is good.
2. Design makes people's lives better.
3. Design solves problems.

Of course design can be and do all of these things, but it has become so intrinsically linked to the prevailing demands of consumption and innovation that it has essentially been reduced to a novelty machine.

Constraints - the rules, forces or beliefs that direct the process - are at the centre of design education and practice. As Charles Eames noted in his Design Q&A (1972), design depends largely on "the ability of the designer to recognize as many of the constraints as possible; his willingness and enthusiasm for working within these constraints. Constraints of price, of size, of strength, of balance, of surface, of time, and so forth."

But there are grander, more systemic and pervasive constraints at play. Though often invisible or hidden these factors have a significant narrowing impact on the potential of design, resulting in a paucity of original thinking and a chronic neglect of responsibility.

Here we explore some of the most problematic constraints and the ways in which they influence and narrow the pathways to all of our possible futures.<sup>1</sup>

## Progress Dogma

Progress dogma is unquestioned faith in technology, practiced by those with the power to shape the future. For these dogmatists optimism is endemic, meaning that it has become unnatural to think about the negative implications of (technological) products.

Consumers are programmed to believe that the next generation of a product will be better than the current version - the future, as a consequence, being preferable to the present. Progress dogma keeps us on the current technological trajectory, for better or for worse.

Once we remove the constraints of positive thinking, however, it becomes possible to more realistically apprehend the future in (some of) its complexity, helping us to figure out what to avoid as well as where to aim.

So how can we rethink progress to identify possible implications? How can we disconnect from the utopian mantra and twentieth-century mindset of positivist corporate culture? How do we move toward a more constructive approach?

- Stop assuming that, through technology, the future will be better than the present.<sup>2</sup>
- Do not assume that any of society's problems will be solved by technology alone.
- Do assume that for every benefit a new technology brings there will be unforeseen implications - figure out what these might be before implementing.
- Remember to ask: Progress for whom?
- Remember that progress is easily confused with automation and efficiency.
- Design responsibly - and if your employer doesn't allow this, get a different job.
- Actively start building the future you want, with or without technology.

## Legacies of The Past: Infrastructure and History

We are locked into paths determined by choices made in previous eras, when the world was a much different place. For various reasons these legacies stubbornly persist through time, constraining future possibilities and blinkering us from alternative ways of thinking.<sup>3</sup>

Energy is a prime example. Nikola Tesla's invention of alternating current became the dominant approach essentially because it allowed electricity, generated at power stations, to travel long distances. Tesla's system has, for the most part, been adopted across the world - an enormous network of stations, cables, pylons, and transformers, with electrical power arriving in our homes through sockets in the wall. This system dictates or influences almost everything energy related, and in complex ways: from the development of new energy generation methods (and figuring out how to feed that energy into the grid) to the design of any electrical product.

There are ways to counter these constraints:

- Don't assume that the current system is optimal - there are vested interests operating to retain the status quo. *Challenge* and *transform* them (see e.g. Inayatullah, 2008).
- Avoid the generic solution - create new ecologies and sustainable relationships (see e.g. Ramos & Hillis, 2004, on sustainable infrastructure design).
- Seek out the possibility of bespoke alternatives for specific contexts.
- Take into account terrain, climate, language, local culture and politics, available resources.
- Research history, examine forgotten or obsolete approaches for contemporary potential.
- Make design the medium through which transitional change can occur: from speculation to realisation, passivity to activity, conventions to alternatives, consumption to production.

## Education

In terms of constraints on futures, education is fundamental. Skill sets and thought paths are determined at an early age, shaping and constraining possibilities for entire generations. The replacement of manual tools with digital suites might represent positive progress for a minister or board of education, but this trend has serious implications for the future of material things.

Maslow comes to mind: "It is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail." Today this might be: "Give a child a computer, and everything has to be coded." Or 3D printed. Or laser cut. Or CNC machined.

3D printing holds an enormous amount of potential, including the potential for critical design (e.g. Allahyari & Rourke, 2016), but it should not be the only tool in the box. Deskilling leads to a narrowing of possibilities. The more diverse the tool set (and the skills to use them) the more varied the possible future they build.

- Question what is lost in the rush to digitalisation.
- Reskill rather than deskill.
- Diversify toolset rather than narrowing focus.
- Celebrate the sense of touch (not touch screens).

## Knowledge

Protecting hard-won knowledge is necessary and important - the patent system was developed and implemented for good reasons. But the value of patents comes into question when they hinder preferable futures from happening, when the patents relate to universal challenges like finding sustainable methods for energy generation or better approaches to health care. Knowledge protection should not come at the cost of human comfort or wellbeing.

- Strike a balance between knowledge protection and social responsibility.
- Embrace open source.

## Future Nudge: The Tyranny of Iteration

Comparisons between natural and technological evolution have been made since as far back as Darwin's *On the Origin of Species* (1859). Darwin's revolutionary work inspired philosophers, writers, and anthropologists to suggest that technological artefacts evolve in a manner similar to natural organisms. This essentially means that technological development is unidirectional as new products are simply iterations of their predecessors.

This evolutionary mindset is ideal for the market as it facilitates generational updates and rapid object obsolescence. Product lines become established, bolstering brands and reducing the risks associated with *new* things. But this approach to technological products is problematic from a number of perspectives: it locks consumers into generational purchase cycles, meaning short product life and high expenditure; on a global scale it harms the environment as finite resources are depleted to feed the monster. This does not have to be the way the future happens.

- Step out of product lineages at poignant historical moments to create counterfactual histories (see e.g. Bunzl, 2004). For example, what would today's products look like without digitisation?
- Contemplate genuinely new solutions rather than simply updating old ones.
- Observe iterative change from a god-like perspective to identify negative long-term effects. Use this approach to change your own relationship with products.
- To the consumer - be satisfied with what you have, it's probably fine.

## Means and Ends

In his "device paradigm", the philosopher Albert Borgmann (1987) makes a differentiation between *things* and *devices*. *Things* are inseparable from their context: we engage and interact with them in their worlds; means and ends exist in an unbroken continuum. *Devices*, on the other hand, conceal their contexts through the operation of background machinery. The more advanced the technology, the more invisible the machinery, the more dislocated the end becomes from the means.

The present tendency is that designers and consumers alike obsess over the end - the object of desire - while ignoring the means. Nothing illustrates this dislocation of means and ends better than “smart” products such as the fridge or the driverless car. As objects, these devices still resemble their predecessors - but increasingly the ends are controlled by complex, invisible, multifarious systems and interests.

- Start with the abstract general ends (warmth, shelter, transportation, etc.) and rethink the means unblinkered by current approaches.
- Don’t be blinded by shiny ends, scrutinise the hidden means before acting.
- Work toward truly smart change, rather than iterative products that lock consumers into constrained corporate pathways. (The next smart fridge may not be a fridge, but technology acting to optimise seasonal and local means in a transparent way.)
- Re-involve yourself in the means in order to create more ambitious and satisfying ends.

The fundamental questions asked here relate to the role of design in contemporary life and its responsibility to the future. Design is a fundamental part of a postmodern socio-economic system, inextricably linked to entrenched notions of capitalism and conspicuous consumption. This role constrains the designer - and as a consequence the user of designed things - to the narrow path.

But a different form of design is possible. The “big” constraints described above are not immutable. Once revealed they can be challenged, or countered to facilitate the design of fresh approaches. We should expect design to contribute to the shaping of future narratives and aspirations, instead of merely implementing them. Design must provide imaginative, inclusive and sustainable goals to offset the uninspired visions and colourless futures presented by policy makers and corporations.

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## Notes

1. Useful here are the concepts of “alternative” and “preferred” futures described by Inayatullah (2008), Dator (2009), and others.
2. For a discussion of pro-innovation bias, see Rogers (1995).
3. These legacies of the past bear some resemblance to the “used futures” described by Inayatullah (2004); ill-fitting and outdated futures that are handed down especially to the developing world, but which also persist as a hindrance to change in the developed world.

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