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GUEST AUTHOR ARTICLE

In April 2019 I was invited by V!RUS Journal to contribute a text on the theme of participation and collaboration, which are topics that I've spoken about quite a lot in public lectures. A couple of years ago, I started contemplating how to design for "mutually assured construction" (rather than "destruction" as the 1970s wargames warned us) and in this piece, originally produced to provide further detail to accompany a public talk I had given, I describe what that might look like, and why it seems necessary at this time.

Notes on participatory design from the introduction to [my talk at re-publica 2017](#).

I'm going to talk today about designing participatory systems. I'll talk about some of my work over the last 15 years, some of the things I noticed along the way, and some of the things I'd like to work more on in future. In particular I'll talk about a design strategy I'm calling **mutually assured construction**.

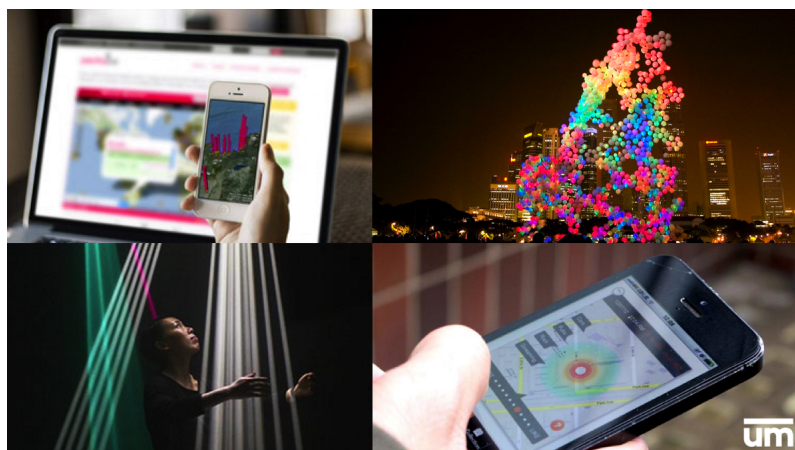


Fig. 1: Some urban technologies designed by Umbrellium: Pachube (top left), Mini Burble (top right), Assemblance (bottom left) and Listening (bottom right). Source: The author.

But first a reminder: in the 1970s and 80s the idea of "[mutually assured destruction](#)" was pretty central to cold war conflict management. It was a doctrine that essentially said that, since I will fire my nuclear weapons if you launch a nuclear attack on me, and since you will fire yours if I attack you (and since either outcome results in total annihilation), therefore, neither of us has any incentive to attack the other (or, for that matter, any incentive to disarm of course!). You could spend thousands of [game theory](#) hours examining this dynamic, but the essential point was **that the condition helped bind together our futures** and assured that we didn't destroy each other. I've been looking at how you take that dynamic a step further, albeit at a much smaller scale. I'm interested not just to agree that we won't destroy each other, but more to use the consequences of apparent paradoxes or contradictions to be positively constructive together. The frictions to cooperation exist at every scale you might look at, even when the benefits of cooperation seem so self-evident; and my interest, as a designer and more specifically as a [designer of participatory systems](#), is in figuring out how to deal with such frictions effectively, to structure participation in order to account for them, and even thrive on them. **Mutually assured construction is essentially a set of design strategies for building, acting & deciding a future together, without requiring consensus on that future.**

...

If you're interested in the structures of participation, the question of design, and more specifically who designs, is a tricky one: because the extent to which a system is participatory is partly also the extent to which it is not centralised around one single designer. The dilemma is how you design for participation, when being a designer means to a certain extent making decisions on behalf of others.

The way that I have dealt with this dilemma (after much angst!) is by realising that no matter what design act we make in this world, there is always someone, or some group that makes decisions about that act and that get affected by the decisions—you cannot get away from the fact that you will make designs/decisions/distinctions that impinge upon other people. What is important, however, is to ensure that the decisions you make, and the designs you make, open up the set of possibilities rather than constricting the set of possibilities—and even better that the decisions/distinctions themselves are open to re-scripting, repurposing, re-deciding and re-appropriating by others. Here I often refer to Heinz von Foerster, and his [Ethical Imperative](#): "Act always so as to increase the number of choices".

This, I think, is a fundamental concept in participatory design: to accept that there is a designer, perhaps a meta-designer, making decisions, but to question constantly how any individual decisions involved in the deployment or manifestation can be made by others instead, either now or in the future. And not to be precious about these. Matthew Fuller and I wrote about this at length in the [Urban Versioning System](#). Such an approach often results in complex initiatives, that are hard to describe and difficult to bound—initiatives that are necessarily described differently by different people. This means there is no definitive, authoritative description—the description is owned by many. I realise this flies directly in the face of philosophies that say design is about clarifying or solving problems (which assumes the world is knowable and solvable) or that design is about simplifying (which assumes that simplicity is desirable and achievable). I'll leave critique of those to another time (though I like what [Jack Schulze had to say about it](#)).

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But why is a participatory approach in design so important right now? For me it's pretty pragmatic. We are faced with a number of potential crises that are in many ways inter-related.

Our democratic institutions look increasingly creaky because voting outcome is essentially being affected more by the number of people that don't vote than those who do vote.



Fig. 2: Democracy_decided by those who don't participate. Source: The author.

Our environmental infrastructures have to respond to the conflicting impacts of climate change, mass migration and the fickle boundaries of geography.

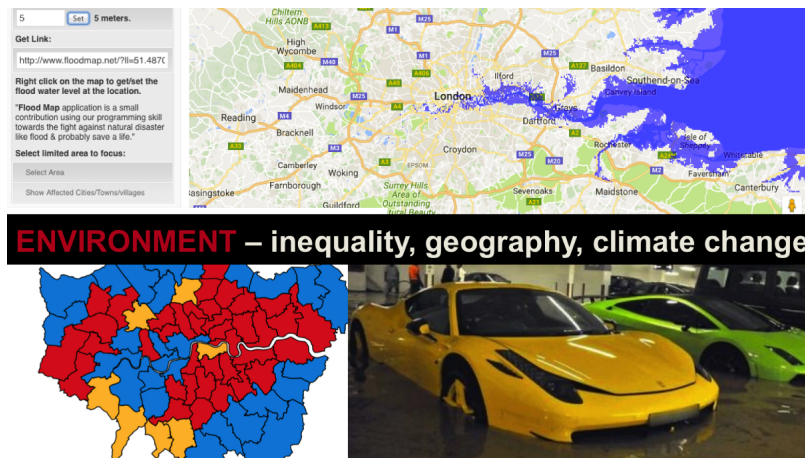


Fig. 3:Environment_inequality, geography, climate change. Source: The author.

Our financial systems see global debt at the absolute highest level it's ever been—and when you throw in tax evasion and crypto-currencies, questions about the future of fiat money must be raised.

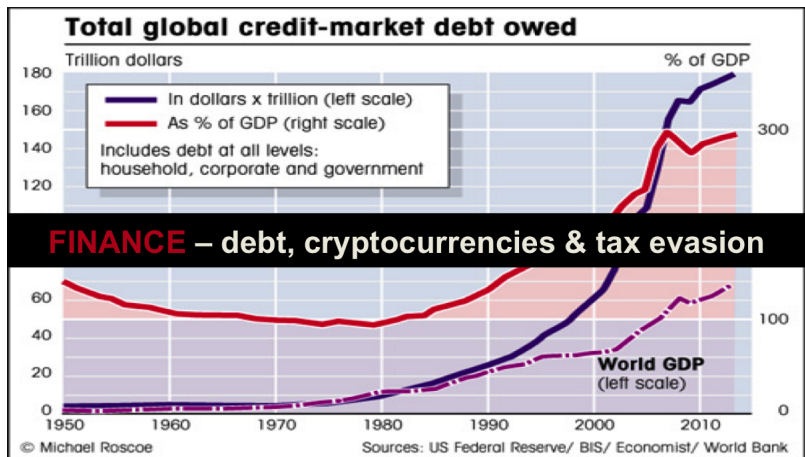


Fig. 4: Finance_debt, cryptocurrencies & tax evasion. Source: The author.

And in the midst of all this, [technological solutionism](#) sees propositions, largely by Silicon Valley corporations, that through their 'smartness' throw open arms towards [mass-surveillance](#), [mass-hacking](#), [mass-deception](#), [mass-insecurity](#) e [mass-delusion](#).

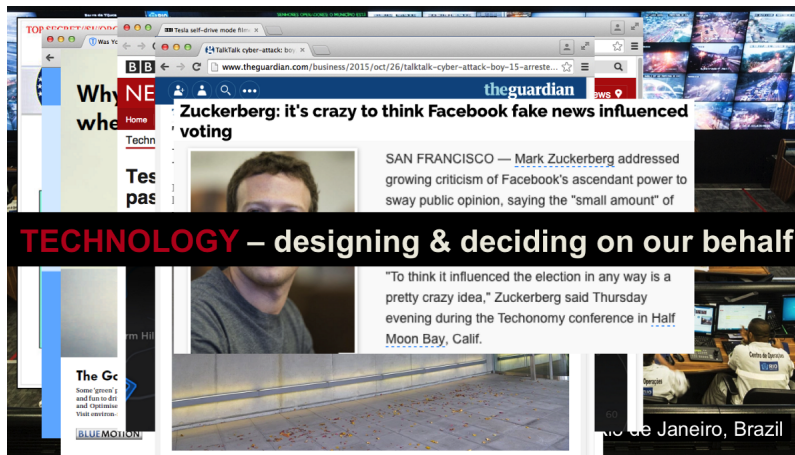


Fig. 5: Technology_designing& deciding on our behalf. Source: The author.

Any of these, but especially all of them together, mean that we are faced with needing to redesign, radically, our everyday lives in the near future. How are we going to do that? Who is going to design that future? Do we outsource the fundamental decisions to Silicon Valley corporations, technologists and algorithms who see humans as problems to solve? Or do we take ownership of our combined and collective futures? No single voice or even small selection of voices is going to resolve all these complexities. Yet, we cannot wait to act until we all agree on what to do about them. So working together, in the absence of agreement, is essential; and designing systems so that they don't break if we don't agree is crucial.

...

In order to do this we might work through "mutually assured construction", which means designing systems that don't just enable, but perhaps even in their deployment require:

+working together: learning to collaborate without consensus, developing a sense of agency, especially collective agency—I'll talk about my projects that experiment with this, including [Open Burble](#), where people design and build fragments of a much larger structure without needing a shared agreement on the final structure; and [Flightpath Toronto](#), where zip-lines are deployed as a way of rapid-prototyping urban transportation in-situ.

+Deciding together: figuring out how to build a shared responsibility for a collective future—I'll talk about [Natural Fuse](#), in which a network of connected plants enables a community to balance energy consumption and the collective carbon footprint; and [Cinder](#), in which students at a new school interact with an augmented reality cat in order to make decisions about resource allocation (cat food) based on the building's solar panel productivity.

+acting together: embedding accountability and a sense of collective accomplishment, that we can actually achieve something by working and deciding together—understanding that empathy is about listening more than just mere sharing. I'll talk about [VoiceOver](#), which saw a radically public communication infrastructure developed and deployed with a small community in north east England; and what I saw in the [Pachube community](#) following the radiation disaster at Fukushima; as well as a more recent project, the [Urban Innovation Toolkit](#).



Fig. 6: Some urban technologies designed by Umbrellium: Mini Burble (top left), Flightpath Toronto (top middle), Natural Fuse (top right), Cinder (bottom left), VoiceOver (bottom middle) and Listening (bottom right). Source: The author.

This is not about crowdsourcing to find the “best ideas” for the future. I’m arguing that the only way we will have a future is by working together on complex projects that embrace the messiness of our conflicting desires and imaginations, that reinforce the notion that we can collaborate even when we don’t agree on everything, and that enable us, through variations on [Ulysses pacts](#) to design and create a collective future. The outcome would not just be that we have a future, but that our future is one in which we have necessarily learned how to co-exist, co-create and co-evolve.

As a designer, I don’t have a clear idea of that future, or how to construct it. Instead I’m working on ways that we can together build a shared memory of a possible future, so that we can decide together whether and how we move towards it.