Faculty of Design

2015

Designing technological apparatuses for confrontation: Transdisciplinary perspectives on the collision of technological agencies and the design of mediations (with special attention to German media theory and the Latourian approach to STS)

Venegas, Diego Gomez

Diego Gomez Venegas

Designing technological apparatuses for confrontation:

Transdisciplinary perspectives on the collision of technological agencies and the design of mediations (with special attention to German media theory and the Latourian approach to STS)

Abstract

This article seeks to contribute to a discussion which could propitiate, in my opinion, the emergence of interesting connections between the Systemic Design field, German media theory, and the work of Bruno Latour on Science and Technology Studies (STS). Based on the invitation of this symposium to discuss at the frontiers of Systemic Design, I will outline this argument in the following four parts: profession versus discipline; things and obstacles; ANT and confrontational agencies; and (un)designing technological apparatuses for confrontation.

Introduction: Profession versus Discipline

To begin this discussion, probably one of the first aspects to consider relates to the question about whether design is understood (mainly) as a professional practice or rather as a discipline. In this sense a conversation we had last November in the city of Valparaiso, Chile with the French philosopher and anthropologists, Bruno Latour, can be illustrative. He said to us, with complete clarity and without inhibitions, that "[a]rchitecture and design are completely hybrid professions. Not disciplines in the scientific sense" (B. Latour, personal communication, November 9, 2014). Such affirmation can be, undoubtedly, something harsh to hear for the designers (and architects) that have been categorizing their respective fields as disciplines; even more for those whose academic work has been developed in research universities. But, what sort of criteria could professor Latour have used to formulate such a statement?

In my opinion, a key aspect here relates to how designers approach the notion of problem; more specifically, if this is understood as a problematic situation to be solved, or otherwise, if the concept is conceived actually as research problem (Boudah, 2011, p. 22). Right here is the (sometimes thin) line that separates the professional practice which acts in society, and the epistemic disciplinary field which seeks to develop knowledge in (and for) culture. As we know, this is a particularly relevant matter for the Systemic Design field, which has built its conceptual framework around the idea of problem conceived as problematic situations, which must certainly be defined and resolved in a systemic manner. This undoubtedly has allowed to maintain a consistent connection and attention to the professional practice; hitherto, a central and defining aspect to understand what design is.

However, it is possible to argue that for any field to establish itself as a fully developed discipline —in the scientific sense of the term— is has to advance toward seeking and developing knowledge as its general purpose; and this of course, applies also to design. Thus, this field could (or should) move its ultimate goal from the systemic definition and resolution of problems, to a systemic approach on research problems. It is also true that at this point we have to pay attention to the tradition that has supported the growth and development of the Systemic Design field; namely, systems theory and the applied sciences in general. The latter; alongside physics and mathematics as basic sciences; have in problematic situations to be solved, a constitutive element of their research work, and of course it would be just wrong even trying to critique their disciplinary qualities, and certainly, any attempt to analyze that complex exceeds the possibilities of this article. Nonetheless, it is my intention at this point to propitiate a discussion around the idea of scientific discipline and its connections to the

concept of problem, because I believe this is a key aspect to later find bridges that can interconnect the Systemic Design field to other epistemic spheres. In fact, as we know, Herbert Simon himself reminded us about the hybrid nature of applied sciences regarding their relation to practice and commitment to scientific knowledge —even though he was, perhaps, arguing in an opposite direction (Simon, 1996, pp. 111–114; Huppatz, 2015). Yet, applied sciences seem to have a rather methodological relation to problematic situations and the need to solve them, and their ultimate goal seems to be in the knowledge they can develop through such methodological processes.

An element that could support this brief diagnosis, is the existence of the *wicked problems dilemma* (Rittel & Webber, 1973) as a relevant aspect of the Systemic Design field's frame of reference. If we consider that this type of problems, due their inherent complexity, can't be solved in (professional) practice, perhaps we may agree that most of the time these problems could be addressed and characterized through a diversity of scientific research methods. A case I would like to bring into discussion here, relates to irreconcilable political differences, which surely fit in the *wicked problems dilemma*. Thus and as an example, how should be a systemic design approach for an electronic platform which can allow groups of anarchist left-wing students and neoliberal right-wing academics to set up agreements with the aim of formulating a new curriculum for a design program within a public university? At this point I will refer to the political theory developed by the Belgian scholar, Chantal Mouffe, and more precisely to her concept of agonism (2000; 2005); which has been also clearly developed by Carl DiSalvo in his book *Adversarial Design* (2012), perhaps as an important antecedent to consider wicked problems in different ways.

Things and Obstacles

Mouffe has developed her political theory of *agonism* as a revision of the German philosopher Carl Schmidt's work on antagonism and how that defines the relationships between friends and enemies. Thus, and also using some aspects of Martin Heidegger's ideas, Mouffe —whom in addition proposes her research work as a renewal of the socialist ideology— sees *agonism* as the understanding of the political rival as a legitimate adversary who, in opposition to the antagonist thought, is accepted and recognize not by trying to resolve the spaces of differences that separate us from him or her by seeking possibilities of consensus, but rather, allowing the spaces of dissensus to remain and develop. Then, how should be a systemic design approach for the aforementioned platform? Moreover, how this theoretical framework and perspective would relate to wicked problems and the resolution of problematic situations?

In our case —and here I am referring to the *Design and Agonism* research group at the University of Chile— the focus hasn't been on designing methods that allow us to resolve complex controversies as problems (wicked or not) but rather on understanding them as research problems, and investigating how *designed things* participate in such controversies. Please allow me to emphasize two questions here. First; and at the risk of being too reiterative; pointing out that our approach has moved from problem solving toward characterizing and knowing (designed) phenomena. And second, that by *designed things* —based on Carl DiSalvo— I refer to any sort of designed medium, being material and immaterial and which, from a systemic perspective, could range from a simple piece of hardware such as a pencil, until a complex hardware such as a microcontroller, or also, from a simple piece of software such as the menu of a petit-café (not the actual piece of paper) until complex software such as the one used to coordinate the communications between the space probe and the scientific and technical teams in Maryland, Colorado, California, and Washington DC.

Asking for things —designed things— and more particularly for their role and modes of existence in the world (Latour, 2013; Simondon, 2007) may seem a too philosophical task,

especially when the design tradition asks, on the other hand, to use things for solving concrete problems in society. But, what if these problems were produced by things themselves? Or in other words, what if the origin of problems was in designed things, that is, in design (not as the profession but rather as cultural matter of concern)? Czech thinker and scholar, Vilém Flusser, presented this crossroads in his book *The Shape of Things*, by telling us that design implies nothing more than the configuration of obstacles (1999, pp. 17–21). This provocation —it was precisely that— sought nothing but invite us to think about what must be the path design and its branches should follow to become a fully developed (scientific) discipline; moving toward problems or digging below things? This question hasn't a simple answer, not at least through Flusser, because he would say later, in the same book, that design is an obstacle to remove obstacles (1999, pp. 58–61).

Please allow me to remain a few minutes more in the realm of things to emphasize the benefits that the philosophical thought offers to this matter, by recalling the example used by the peerless Michel Foucault to open the preface of his book *The Order of Things*: there Foucault tell us about a Jorge Luis Borges's text which mentions an old Chinese encyclopedia that classified animals as those (Borges, 1952):

> (a) belonging to the Emperor, (b) embalmed, (c) tame, (d) sucking pigs, (e) sirens, (f) fabulous, (g) stray dogs, (h) included in the present classification, (i) frenzied, (j) innumerable, (k) drawn with a very fine camelhair brush, (l) et cetera, (m) having just broken the water pitcher, (n) that from a long way off look like flies.

Thus, the French philosopher not only tell to us about the astonishment and burst of laughter the passage gave him, but above all, how this taxonomy (*taxi*, arrangement and *nomos*, science), this design, this thing, reveals our impossibility of thinking in that way (Foucault, 1989).

ANT and Confrontational Agencies

Things —designed things— are fundamental actors in the complex systems where the problems designers seek to solve, emerge. However, these things are; paraphrasing Flusser and in dialogue with Foucault; the obstacles that give birth to that problems, as well as the potential to discover that within them, our impossibility to think and act differently, is configured. Is then possible, understanding the systemic approach to design as an open field, that studies about the nature of things could be included? Is it possible and coherent to deepen the Systemic Design field in that direction? Some other arguments in such way can be seen also in the realm of social systems, and more particularly in what has been called Actor-Network Theory (ANT), which we approach through Bruno Latour's thought. In general terms, tells Latour, the social doesn't exist as a phenomenon, and what we can actually know are networks of association among multiple actors; which are always —and this is crucial— humans and non-humans (Latour, 2005). Here, we witness an essential turn on the comprehension of social systems, which goes from the anthropocentric gaze (governed by human beings) towards a glance that has been called *critical post-humanism*, which indicates that social acts are not an exclusive matter of humanity, but they rather obey to complex relations where things have an essential role. "Objects too have agency" says Latour (2005, p. 63) reminding us that the artificial doesn't act just as means to a given end within social systems, but rather, that they are also the recipients of intrinsic intelligences (design) that take them to influence other actors in the system (which often are human actors). Again, in other words, *designed things* influence subjects to act in one way or another. This affirmation may seem obvious here, since research fields like Systemic Design, have worked hard in refining models (Jones, 2014) to correct or redefine designs that has ceased to function or simply never did it. Nevertheless fields as the Science and Technology Studies (STS) —precisely the area where Latour speaks from— and

media theory which I will mention again later— suggest that the path to understand the complexities of social systems, and finally being able to resolve their inherent controversies (human, artificial, or hybrid) doesn't start by designing new things, but alternatively, inquiring after their nature, to consequently know their agencies. Latour has presented this ideas through his critique on Modernity and his research about the modes of existence (Latour, 1991; 2013), while media theory scholars have done it through an inquiry method they have called *media archeology* (Huhtamo & Parikka, 2011; Parikka, 2012).

Doing a brief recap at this point, this article seeks to collaborate on opening bridges between the Systemic Design field; always connected to the design practice and the resolution of complex problems in society; and a space of inquiry seeking to fathom the nature and agencies of *designed things*, and thus being able to understand better their role and place in culture. The later, I believe, could really help expanding the systemic goal of the former. If *designed things* are; just as Flusser and Foucault suggested; obstacles and limits in the way humans act and know, then it is reasonable to argue that they might be part of the problem, and even more, it could mean that *designed things* (or at least some of them) had a confrontational nature.

Through the previously mentioned *media archeological* method, the so to speak, Berliner and *Humboldtian* line of media theory, shows us clues that can be illustrative to understand the scope of this perspective. Detecting the epistemic discontinuities that technological developments have introduce (with special attention to Foucault's ideas); and more specifically finding them in the machines themselves; has been the main goal of this research field. In this regard, precursor of this line, the German scholar Friedrich Kittler, alongside his country fellow, Wolfgang Ernst, agree that the transit performed by western cultures from knowledge conditioned by textual media, passing through mechanical machines, to finally arrive to the domain of logic machines; has produced an epistemic collision that undoubtedly affects and conditions the development of culture. In other words, and just as Ernst himself puts it (2013, pp. 69–70):

> Words and things happen within the machine (computers) as logic and hardware. The media- archeological gaze, accordingly is immanent to the machine. Humans beings, having created logical machines, have created a discontinuity with their own cultural regime.

Human cultures that were built upon textual systems of symbols (letters and words) by millennia, passed all of a sudden to be managed by a system of symbols sustained by numbers and mathematical operations. As Ernst points out, a collision between telling and counting [*erzählen* versus *zählen*] (Ernst, 2013, p. 147).

If this indeed implies a major epistemic discontinuity, we ask again: how should be a systemic design approach for an electronic platform which can allow groups of anarchist left-wing students and neoliberal right-wing academics to set up agreements with the aim of formulating a new curriculum for a design program within a public university? Allow me here to briefly speculate by saying that perhaps one way to tackle the problems that the example presents, would be setting up a mediation between the discourses that sustain the thought of both groups, guiding the platform design towards detecting spaces where the discourses' antagonism reaches low or reasonable levels, to then show areas where eventually some consensus could take place. However, from a perspective willing to build a transdisciplinary approach to the collision between technological agencies and the design of mediations, we begin by asking for the nature of the non-human and artificial actors involved in this networks of associations. To put it another way, to what extent wouldn't be the electronic platform itself (and its logic agency) what would collide with the aforementioned discourses (and their verbal

traditions) exacerbating the antagonism among actors? Then, as an alternative path, wouldn't be possible to guide the design of this electronic platform, with its cold and logic agency, to actually show the irreconcilable qualities of this hot and verbal discourses, taking them to an agonistic sphere (or adversarial in DiSalvo's words)?

Closing: (un)Designing technological apparatuses for confrontation

This example —is only that— seeks to illustrate the (systemic) complexity of the knowledge (epistemes) that concur in the design of technological apparatuses in times of logic machines. A point of view that could be classified as a *materialist* perspective (or *object-oriented* to paraphrase Latour once again) about the role that design would be playing in social and cultural spheres. As I have tried to argue through this essay, our research approach is based on the hypothesis that *designed things* (and of course design) are not just part of the solution, but mainly part of the problem. And more than that, I have sought to outline that there would be something intrinsically confrontational in the contemporary technological agencies, and because of that, designing apparatuses and devices as mediations between actors within complex systems, will lead inevitably to collisions among the agencies in question. A wicked problem probably, maybe the wickedest one; that designing solutions to some problems nowadays (maybe just as before) implies the emergence of a few (or many) others. Consequently then, our approach has been moved deliberately away from problem solving, and it has gone through a research path where critical prototyping (Dunne & Raby, 2013) can help on making them more evident. We know that this investigative approach doesn't have direct or immediate application in the spheres where design has sought to position itself (markets, public policy, decision making, etc) nor in the disciplinary traditions that have sustained these trajectories, and that our path has taken us closer to theoretical and conceptual speculation in the human sciences. Nonetheless, at the same time, I think that this perspective can effectively collaborate enriching the systemic analysis we can develop about the role of design in cultural processes, and through that helping to strengthen design practice.

References

Boudah, D. J. (2011). *Conducting Educational Research: Guide to completing a major project.* Thousand Oaks, CA: SAGE Publications.

DiSalvo, C. (2012). *Adversarial Design*. Cambridge, MA: The MIT Press.

Dunne, A. and Raby, F. (2013). *Speculative Everything: Design, Fiction, and Social Dreaming.* Cambridge, MA: The MIT Press.

Ernst, W. (2013). *Digital memory and the archive*. Minneapolis, MN: University of Minnesota Press.

Flusser, V. (1999). *The shape of things*. London, UK: Reaktion Books.

Foucault, M. (1989). *The order of things: An archeology of the human sciences*. New York, NY: Routledge.

Huhtamo, E. and Parikka, J. (2011). *Media Archeology: Approaches, applications, and implications*. Berkeley, CA: University of California Press.

Huppatz, D. J. (2015). Revisiting Herbert Simon's "Science of Design". *Design Issues, 31*(2), 29–40.

Jones, P. H. (2014). Systemic Design Principles for Complex Social Systems. In G. S. Metcalf (Ed.), *Social Systems and Design* (91–128). New York, NY: Springer Publishing.

Kittler, F. (2009). *Optical media: Berlin lectures 1999*. Cambridge, MA: Polity Press.

Latour, B. (1993). *We have been never modern*. Cambridge, MA: Harvard University Press.

Latour, B. (2005). *Reassembling the social: An introduction to Actor-Network Theory*. New York, NY: Oxford University Press.

Latour, B. (2005). *An inquiry into modes of existence: An anthropology of the moderns*. Cambridge, MA: Harvard University Press.

Mouffe, C. (2005). *On the political*. New York, NY: Routledge.

Mouffe, C. (2009). *The Democratic Paradox*. Brooklyn, NY: Verso.

Parikka, J. (2012). *What is Media Archaeology*. Malden, MA: Polity Press.

Simon, H. (1996). *The sciences of the artificial*. Cambridge, MA: The MIT Press.

Simondon, G. (2007). *El modo de existencia de los objetos técnicos*. Buenos Aires, Argentina: Prometeo.