Sustainability and democracy
Widespread collaborative design intelligence

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ABSTRACT

The transition towards a sustainable society is a long, wide, contradictory learning process that involves the whole society. In this framework, the paper introduces and discusses these main ideas: (1) democracy, by its very nature, is the political regime in which learning processes can happen at best. (2) The search for a democratic regime converges with the one for distributed sociotechnical systems. (3) To be conceived and put into practice distributed systems require the existence of widespread collaborative design intelligence. (4) Design experts can support all this bringing in the process co-design tools and visions.

Key words: transition, democracy, design, distributed systems

Should a sustainable society also be democratic? Should a genuinely democratic society also be sustainable? Can design help in connecting the search for sustainability with that of democracy (and vice versa)?

I will try to answer these questions by articulating some ideas that derive from my experience as a designer and researcher in the field of social innovation for sustainability. This practice brought me to recognize the existence, and the growing role in a connected fast-changing society, of *diffuse design* (practiced by different social actors - Manzini, 2015) and their interactions with the design experts (those who have been formed as professional designers and/or researchers in the field of design). Of course, to understand these interactions, and enhance their potentiality, the profile of the design experts must be updated considering how it changed in the past two decades - Buchanan,1992; Cross, 2011; Brown, 2008).

What I intend to support with this article is that, together, design experts and other design-oriented actors can create competent and collaborative networks (the designing coalitions – Manzini, 2017), capable of taking steps towards sustainability and, at the same time, regenerating democracy. And vice versa[1].

However, before tackling this issue, in order to reduce the risk of misunderstanding, it is useful to focus on two terms that form the basis of what will then be proposed. They are: *transition* and *democracy*. Obviously these terms refer to complex topics on which the discussion is still open (and on which there is a boundless literature9. Therefore here I will report only few points, just to make clear how in this article they will be interpreted.

Transition (towards sustainability)

We are *already* living in transition phase: the XXI Century sees all of us catapulted into a risky, turbulent and complex reality to be understood as a mesh of long lasting crises (the crisis of all the XX Century social, cultural and economic models. My main reference here are: Stiglitz, 2015; Chomsky, 2016; Harvey, 2017) and/or as a broad contradictory transition towards a new form of society. Hopefully, a sustainable one (see, among the many possible references: **Irwin, 2015;** Eriksen, 2016; Manzini, E., M'Rithaa, 2016).

Given all that, contemporary society can be seen as a huge future-building laboratory where everything that belonged to the mainstream way of thinking and doing in the XX Century is changing and will change: from everyday life and the very idea of wellbeing, to the large socio-technical eco-systems in which they exist. The problem to be asked is: where these changes will lead us? We all hope to be lead to a sustainable society. But, unfortunately, this is not the only possibility: on-going changes can also lead to ruinous disasters or forms of environmental sustainability that are fragile, incomplete and unacceptable in their social and political dimension.

Therefore, the first clarification I have to make is this: from now on, I will use the term "transition" in the sense of a systemic evolution towards sustainability. But, it should be remembered that this is only a possibility: an outcome to be made concrete with our collective design action. And it is precisely on this emerging wide demand for design that I think a second clarification is necessary: the transition we are talking about refers to a highly complex system. More precisely, to an ecosystem whose complexity cannot be reduced. Thus, in fact, this transition cannot be imagined and directed by a single subjectivity, however powerful it may be. In other words, transition requires design action, but there is not and there cannot be an omniscient and super-powerful entity to guide it. Therefore, it must be seen as a *social learning process* driven by a very special form of collective intelligence: *widespread design intelligence* integrating the contribution of both diffuse and expert design. And here the theme of democracy comes into play.

Democracy (a regime capable of learning)

By saying "democracy" I mean a political regime characterized by a balance of powers between institutions and by the dual tension towards the values of freedom and equality. A complex political system that, in fact, would be best defined as an ecosystem (Spadam Allegretti, 2016): a democratic ecosystem in which different forms of democracy

1 This paper background is more extensively proposed in two books: Ezio Manzini, Design, When Everybody Designs (Cambridge, MA: MIT Press, 2015) and Ezio Manzini, Politics of the Everyday (London: Bloomsbury, 2019)

coexist (traditionally we have had representative, direct, council-based and participatory democracy; today, other forms are emerging - Kataja, 2017; Simon, Bass, Boelman, Mulgan, 2017).
The problem is that for several reasons, at the moment, in many parts of the world this whole democratic ecosystem has been hit by a deep crisis and/or is under attack. One of the arguments to criticize democracy is intertwined closely with the theme of transition (on design and democracy in the transition phase, see for instance: Bonsiepe, 2006; DiSalvo, 2010; Margolin, 2012; Ehn, Nilsson, Topgaard, 2014; Manzini 2018).

By its very nature, democracy is the terrain of consensus building and commoning, both time-consuming processes. It is also the place of conflicts and mediation, and thus of time-wasting, if time is considered only in terms of technocratic efficiency.
Given that, nowadays, it seems to many that this intrinsic viscosity of democracy is in stark contrast to the urgency of the issues we must and will have to deal with, and therefore with that of the seemingly urgent need to make strong, rapid decisions. This is giving rise to growing support for authoritarian forms that in the name of efficiency are prepared to sacrifice the fundamental principles of liberty, equality and the balance of powers.

In my opinion, these proposals, and the way of seeing things from which they derive, are wrong. And this not only for ethical reasons, but also for a very practical motivation: in the transition to sustainability, the authoritarian choices do not work. In fact, they do not create resilient societies, they do not release available social resources and, finally, they do not learn from experience. On the contrary, democracy can do that.
First of all because, accepting and cultivating diversity, it is able to bring out alternatives in moments of need, acting as a resilient system. At the same time, because it is by nature open and tolerant, it can liberate the creativity, skills and, at the end of the day, the project-making ability with which human beings are endowed (Dewey, 1903, Donolo, 1992; Manzini, 2018). Furthermore, and for the same reasons, it can enhance their ability to weigh their experiences and, when confronted with evidence and/or convincing arguments, to change their idea, or produce a new one and thus create knowledge. In other words, a well-functioning democratic regime is as an environment where ideas and experiences of small groups can develop and be transformed into values and behaviours shared by the whole community. In turn, these shared values and behaviours can become common goods thanks to which new ideas, new projects and new democratic practices can emerge and flourish.

Because of this, democracy is not only a neutral tool for social conversation. It is also a regime capable of learning. And, doing so, capable of creating the widespread design intelligence needed to support and orient the social learning process we are talking about here.
Therefore, given the urgency of accelerating the transition, there is no doubt that something must be quickly done. But, in my opinion, there are no technological and authoritarian shortcuts. What needs to be done is to regenerate democracy and its way of functioning by conceiving and implementing democratic experiments (Kataja, 2017; Binder, Brandt, Ehn, and Halse, 2015; Bertolotti, Tassinari, 2017), which should be, at the same time experiments of sustainable ways of living.

Distributed systems for a regenerative society

After many years of research and experience on the subject of sustainability, many issues are still quite open. However, some others seem sufficiently consolidated. In my opinion, the first of these is the following: sustainable societies can be many and varied, but all must be based on sociotechnical systems capable of being resilient and symbiotic with the natural ecosystems in which they are located. To move in this direction, a paradigm shift must take place in the way these systems are conceived and the direction we try to make them evolve.

In fact, it is necessary to pass from the centralized hierarchical systems prevailing today, to *distributed systems*: socio-technical systems consisting of a network of interconnected, but relatively autonomous elements (Murray, 2009; Biggs, Ryan, Wisman, 2010; Diez, 2018). And it is necessary to move on from the search for pure economic efficiency (on the basis of which a socio-technical system seems to evolve positively even when this implies unsustainable consumption of environmental and social resources), in the search of eco-systemic improvements (which, by combining sociotechnical systems with the natural ones, guarantee the quality of the first, the regeneration of the latter, and the resilience of the whole).

It must be underlined that the distributed systems of which I speak here are far away from the repetition of the

autarkic models of the past (the quasi-closed local economies of the villages). They are, in fact, virtuous applications of the current scientific and technological possibilities: digital networks and higher connectivity; miniaturized mechanical devices and new manufacturing possibilities; renewable energies and intelligent grids; ecological solutions deriving from physical, biological, agrarian sciences advancement. Finally, but not less important, distributed systems are also the result of the social innovations that have characterized the last decades (Murray, Caulier Grice, Mulgan, 2010), proposing radically new ways of thinking and doing (to which we can more preciely refer with the expression transformative social innovation - Transit, 2017).

Given that, if we observe reality carefully with all its contradictions, we can see that dominant as the centralized system model still is, there are also powerful countertendencies: renewable energies, which are strongly inclined towards distributed systems by their very nature, are the most evident example (Vezzoli, Ceschin. 2018). Food networks, with the diffusion of their locally based production and consumption systems, are another one (Meroni 2018). The makers' movement and the new digital craftsman are experimenting the potentialities of distributed manufacturing (Diez, 2018, Mafffei, 2013). Several examples worldwide show us the possibility of creating symbiosis between natural and sociotechnical systems, developing bioregional projects (Thackara, 2015). All these cases prove the practical feasibility of distributed systems and indicate their convergence with the idea of regenerative economy: an economic system that is inherently sustainable because, instead of consuming environmental resources, it regenerates them.

For my part, on other occasions (Manzini, 2010), I have talked amply about these systems and the scenario deriving from them (which I called the SLOC scenario, where SLOC stands for Small, Open, Local, Connected): a scenario in which the socio-technical systems, being distributed systems, can optimize the use of local resources, reduce the intensity of transport (of people and raw materials, semi-finished and finished products), locally create forms of industrial ecology and apply the principles of circular and regenerative economy in a non-trivial way, creating symbiotic relationships with the natural ecosystems in which they are found.
It follows that precisely because these systems redistribute complexity in their nodes (Murray, 2009), they can cultivate diversity and a (relative) autonomy of their different parts. And, for this same reason, they also behave as resilient systems (as opposed to centralized and hierarchical systems that, by their very nature, are intrinsically fragile). Finally, by operating in this way, distributed systems also produce favourable contexts for the regeneration of democracy.

Distributed power for a participative democracy

If democracy means also that people should have power to decide what to do, there must be themes on which they can take decisions, and arenas in which this can happen. That is, they should understand them, know what to do and how, have the capability and power to implement what they have decided. The pre-condition for this to happen is that the systems with which they interact have (also) a local dimension.

This is exactly what happens with distributed systems. In fact, they offer different social actors the opportunity to focus on common goals and form decision-making and project-cenntered networks (Latour, Weibel 2015; Ehn, 20008). Doing so, i.e in returning a certain quota of power to local communities, they generate opportunities for democracy regeneration, at its deepest roots. For example: local agricultural-food networks that connect citizens and farmers, as in the case of community-supported agriculture; local production chains that connect farmers, producers and processors, distributors and consumers of some food products; energy networks in which groups of users and technicians are associated for the production of renewable energy; local associations for the water in which the inhabitants of the same water catchment create a coalition for an optimal use of the waters. The examples could continue, but let's stop here.

If, how and how distributed systems will mature and spread, and if, how they will contribute to the regeneration of democracy, it will depend on a combination of factors. Among these, the most crucial will be the attitude, choices and abilities of potentially involved people.

Widespread design intelligence

The development of distributed systems is certainly a huge field of activity for design, both diffuse and expert. It is a matter of co-designing and co-developing a new generation of products, services, communication systems, suitable spaces, and different types of distributed infrastructures. For this to happen, a large number of people should recognize their value (and the one of the sustainable and democratic society they make possible), be motivated by this recognition and, most importantly, be able to play their part using at best their design capabilities. In the face of all this there is also a new role of design experts. Beyond conceiving and developing products, services and infrastructures for these distributed systems, they should also help other social actors in building shared images on what to do and how. And, from here, in forming *collaborative and competent coalitions* capable to make them real.

The by now long experience in the field of design for social innovation and co-design can help by making numerous tools available for triggering, supporting and orienting these widespread co-design processes. These tools should be brought to a wider public, making them more accessible and easier to use, and hopefully become part of the normal basic culture of citizens (see, for instance: Hillgren, Seravalli, Emilson 2011; Selloni, 2017). In addition, since every design activity is not only a question of tools, but also of ideas, values, knowledge, critical sense and creativity, it is necessary to develop some basic competence along these lines too. In other words, people also need cultural tools that enable them to recognize the current problems and opportunities, and to imagine possible futures (other than those normally proposed). Therefore, it seems to me that collaborating to weave these competent networks is today the main task of the designers.

Indeed, these networks, of which today we observe the first signs, indicate the emergence of the widespread design intelligence that has been proposed at the beginning of this article, speaking of transition as a social learning process.
Of course, today they are still the expression of active minorities. But their current status should not discourage: collaboration, expertise and design skills, which are ultimately the most important resources for creating a sustainable and democratic world, are potentially abundant. What needs to be done is to co-create an environment in which this potential can be translated into reality. Which is possible, but, unfortunately, not so simple.

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